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A Business Plan for Tugu Mandiri of Jakarta, Indonesia to Establish a Health Insurance and Health Maintenance Organization

USAID/Jakarta

October 13, 1986 - January 4, 1987

Resources for Child Health Project

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A BUSINESS PLAN FOR TUGU MANDIRI OF JAKARTA, INDONESIA TO ESTABLISH A HEALTH INSURANCE AND HEALTH MAINTENANCE ORGANIZATION

October 13, 1986 - January 4, 1987

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FOREWORD

During the past few years, the United States Agency for International Development (AID) has devoted increased attention to the ways in which the organization of heath services delivery in developing countries affects their capacity to finance those health services. In order to explore innovations in health care financing in developing countries, the Office of Health in AID's Bureau of Science and Technology established the Resources for Child Health (REACH) Project. As part of its mandate, REACH has been exploring whether alternative delivery systems and the involvement of the private sector offer mechanisms for improving their capacity to finance health. Health maintenance organizations (HMOs) are thought to offer particular promise for the rapidly evolving health sectors of some countries.

This report contains a plan for the development of a health insurance and HMO by Tugu Mandiri, a life and health insurance company in Jakarta, Indonesia. It represents the culmination of a series of technical assistance activities which were a collaborative effort of the REACH Project, AID/Washington, and USAID Mission in Jakarta, the Government of Indonesia, the PERTAMINA Oil Company, and Tugu Mandiri. The market study and business plan presented here as the final result are intended to form the basis for establishment of the first large-scale HMO in the private medical sector in Indonesia. The plan proposed to Tugu Mandiri is tailored to the needs of the 250,000 employees and dependents of PERTAMINA, and is dependent on their participation.

This effort was initiated early in 1986 when USAID/Jakarta sponsored a 10-day tour of US. HMOs for four Indonesian health officials. This "mobile seminar" was followed by a visit to Indonesia by a three-person team of consultants to conduct a pre-feasibility study of a proposed HMO. This team of consultants, provided by REACH and sponsored by the USAID Mission, completed an analysis of the prospects for "privatizing" PERTAMINA's health benefits program by developing an HMO through Tugu Mandiri. The REACH report of that consultancy in September, 1986, contained a recommendation for the full-fledged feasibility study and market plan that is the subject of this report. REACH asked the three consultants who had conducted the pre-feasibility study to undertake--in collaboration with four additional consultants--the detailed follow-up study. REACH is grateful to the Consultative Group on Development for assistance in putting together the team to conduct both the pre-feasibility study and the study presented herein.

The development of initial options proposed in the feasibility study, and of the detailed plan for the option selected, are the result of extensive and intensive collaboration of the whole team with USAID officials and the broad range of Indonesian professionals involved. The team is to be commended for volunteering to conduct four seminars for government officials on various aspects of third-party financing of health care--a task which was not in their REACH scope of work. The interaction of the team with government officials facilitated the process by which the proposed HMO may serve as a prototype or model for development of other such delivery systems in Indonesia's private medical sector in ways that are consistent with public health policy. REACH wishes to express its appreciation to Dr. Rasnim Djaafar and the staff of Tugu Mandiri for their cooperation and assistance. REACH also appreciates the team's receiving the data provided by PERTAMINA and other private companies, data that was essential in developing the numbers in the business plan. The collaboration and guidance given to the team by Drs. Emmanuel Voulgaropoulos and Tom D'Agnes of USAID/Jakarta's Health, Population, and Nutrition Office were also helpful and appreciated.

Alan Fairbank
Deputy Director
The REACH Project
January, 1987

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REPUBLIC OF INDONESIA

Basic Data Sheet

A. General Country Data		Year
1. Total Population (millions)	166.4	1985
2. Population Projections(estimated millions)	212	2000
3. GNP Per Capita (US$)	540	1984
4. Urban Population as Percentage of Total	25	1985
5. Percentage of Labor Force in Agriculture	58	1981
6. Percentage of Labor Force in Industry & Services	42	1981
7. Distribution of Gross Domestic Product		
Agriculture	26	1983
Industry, Manufacturing and Services	87	1983
8. Area (thousands of sq. km)	1,919	1985
B. Population Data:		
1. Rate of Population Growth (%)	2.3	1973-83
2. Total Fertility Rate (%)	3.8	1985
3. Crude Death Rate (per 1,000)	12	1985
4. Crude Birth Rate (per 1,000)	30	1985
5. Percentage of Women of Childbearing Age Using Contraception	58	1983
C. Health Data:		
1. Life Expectancy at Birth (Years)	55	1985
2. Infant Mortality Rate (Aged under 1)	79	1985
3. Child Death Rate (Aged 1-4)	13	1983
4. Population per Physician	11,530	1980
5. Percentage of children with low birth weights	14	1982-83

Sources: World Development Report, The World Bank, 1985;
The State of the World's Children 1987, UNICEF.

GLOSSARY

Acronyms Used in this Report

DUKM - Dana Upaya Kesehatan Masyarakat (Fund for Community Health Care) (administered by the Ministry of Health)

ASTEK - Asuransi Sosial Tenaga Kerja (Social Insurance for Private Workers) (administered by the Ministry of Manpower Development)

PKTK - Pemeliharaan Kesehatan Tenaga Kerja (Health Maintenance Fund for Private Workers), a pilot project jointly administered by ASTEK (Ministry of Manpower Development) and DUKM (Ministry of Health)

ASKES - Asuransi Kesehatan (health insurance, original name for health insurance plan for civil servants; the name of the plan was changed first to BPDPKM, and then to Husada Bakti very recently.

BPDPKM - Badan Penyantun Dana Pemeliharaan Kesehatan Masyrakat (Central Body for Funding Health Maintenance Development, later renamed Husada Bakti)

Husada Bakti - reorganized form of ASKES/BPDPKM, making it a perum, or government enterprise, responsible for both revenues and expenditures and having an independent governing board reporting to the Minister of Health and Minister of Finance.

Puskesmas - health center, staffed by physician(s)

A Business Plan for
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I. EXECUTIVE SUMMARY

A. Introduction

Based on information distilled from the June pre-feasibility study and the business plan contained herein, the Team has concluded that Tugu Mandiri, with PERTAMINA'~ assistance, should embark upon a two-phased program to form a health insurance and a health maintenance organization which can introduce managed prepaid health care to Indonesia's rapidly expanding wage-based sector. The entry of PERTAMINA/Tugu Mandiri into prepayment will stimulate greater competition in the national health care delivery system. As the system matures, and as growth continues in the wage-based population, this critical attribute can affect improvements in the quality of care and the cost of care. Moreover, the necessary investment to expand the national system will not be drawn down from general tax revenues, either for capital or recurrent costs.

B. Rationale for PERTAMINA

PERTAMINA has the premier health delivery system in Indonesia, consisting of 20 hospitals in ten locations, serving 250,000 people. Since its inception some twenty-five years ago, employees and their dependents have been receiving the best health care Indonesia has to offer at virtually no cost to individual consumers. Early on, and consistently throughout this period, health resources were targeted on potable water supplies, immunization programs, pre-natal and well-baby care, MCH and family planning services, achieving in the latter case some of the highest acceptor and prevalence rates in the country. Basic health indicators appear to vindicate the cost-benefit rationale of these past investment decisions. Now, with the price of oil declining and the cost of curative care rising, PERTAMINA is compelled to consider alternative ways of maintaining the health of its work-force, their dependents, and retirees (including spouses and dependents under age 25).

The Team believes that PERTAMINA, through Tugu Mandiri, can significantly affect the future pace and pattern of private sector health development by initiating a Health Maintenance Organization. Because of PERTAMINA's special status as a state-owned corporation of the Government of Indonesia, because of its identity and positive image with the people of Indonesia, PERTAMINA/Tugu Mandiri has the opportunity to initiate, organize and manage an examplar of comprehensive health services delivery in the public interest. The successful implementation of an HMO prepaid scheme through Tugu Mandiri can contribute to the knowledge base for informed public policy in Indonesia's rapidly emerging private health sector.

In 1946, Kaiser Industries in the United States divested itself from the direct provision of health services to members, and its physicians formed a for-profit company called Kaiser Permanente. Management and administration of the delivery system was arranged through the formation of Kaiser Health Plans, a non-profit entity. Soon, Kaiser became the examplar

in prepaid health delivery. Every other prepaid plan which followed, whether profit or non-profit, incorporated the basic principles laid down by Kaiser, which now accounts for 26 percent of the HMO enrollment in the United States.

Today, over 25 million Americans are members of Kaiser-type HMOs. Indonesia needs a prototype of this kind and PERTAMINA can and should serve that role. If PERTAMINA moves first and establishes a prepayment scheme through Tugu Mandiri, then all subsequent groups would have to follow the leader. The reason for this is that the legal, regulatory, and actuarial basis for prepayment in Indonesia are relatively unknown at this time. Tugu Mandiri, by paving the way for a large scale prepayment plan, would *de facto* set standards of public accountability for all those who follow. *In this* manner, PERTAMINA can extend its role of serving the public interests of the Indonesian people.

C. Rationale for the Team's Recommendation

There are compelling reasons why PERTAMINA would want to consider this recommendation. Under the GOI's new tax law, PERTAMINA will incur a tax liability of 60 percent on the health benefits it pays to employees. The Medical Bureau estimates that health care costs can reach $190 million in 1990. In that year, then, PERTAMINA could have a total health care cost of $304 million ($190 x 60% for taxes). Since its health care costs are part of the overhead structure, this effectively reduces the amount of productive funds available for exploration and drilling--the primary activities of PERTAMINA. Approximately 64 percent of the GOI revenue is derived from PERTAMINA activities; increased overhead costs adversely affect the state's ability to finance government budgets.

Although the tax issue is an important one, the Team is more driven in its recommendation for Option II-E (see Addendum I) by considerations of equity and social and public responsibility. The health profile of PERTAMINA's population is beginning to match that of Western countries. Its health delivery system is organized, efficient, and delivers quality care to members. While it is unreasonable to use this system for the entire body politic, it is not asking too much for PERTAMINA to reach out and expand its delivery capacity to far more than 250,000 people. The fact that the organizational and management capabilities requisite for conducting a prepaid health delivery scheme are now present within the PERTAMINA delivery system provide Tugu Mandiri with an unprecedented advantage to build an HMO-type health infrastructure upon a foundation which has been tested over the past twenty-five years.

Throughout its stay in Indonesia, the Team was sensitive to the issues raised by any effort to "export" the HMO model from the U.S. setting where it developed. It was the Team's counterparts, however, who relieved many of these concerns by saying, "we don't want *to adopt* the HMO to Indonesia, we want *to adapt* it". Thus, whenever the designation 'HMO' appears in this report, the reader should accept it from the Indonesian perspective.

D. Basis of Cost Estimates

During the June 1986 pre-feasibility study, PERTAMINA's recurrent health care costs for 1984 were estimated at $39.6 million. However, this figure did not include costs for physicians' housing, cars, telephone, education expenses, retirement and other fringe benefits, administration costs of the Medical Bureau within PERTAMINA's accounting system, and the

health care costs of 30,000 retirees and their dependents. On a conservative basis, these costs would add between $15 and $20 million to the $39.6 million operating costs given for 1984.

These estimates went unchallanged by the Medical Bureau during the October-November field visits. Nontheless, the Team felt it would be appropriate to use a lower range of estimates for 1984. Thus, rather than taking $15 million as the lower figure for overhead costs to the 1984 budget, we have taken 1/3 of that figure, or $5 million, and added this overhead to the operating costs of $39.6 million. Using 1984 as a base year, then, the Team estimates PERTAMINA's operating health care costs at a very reasonable $45 million.

In this report the Team has based its best estimate of PERTAMINA's current health costs on Chart A, adjusted for the base year of 1984. This Chart was compiled in June by the Medical Bureau when the Rupiah was valued at 1,120 to $1.00. Although the Rupiah was devalued to 1,625 = $1.00 in September 1986, the Team decided to use the pre-devaluation Rupiah when computing costs in order to maintain consistency with the Medical Bureau's projections and the June pre-feasibility study.

The Medical Bureau estimates that if it is successful with cost containment measures, health care costs will be $118 million in 1990; if it is not successful, then costs would escalate to $190 million by 1990. One of the cost centers the Bureau had targeted was drugs, estimating that these expenditures could be decreased by 30 percent. However, since the September devaluation, drug costs to PERTAMINA have increased by 20 percent. Other costs can be expected to increase for the same reason, i.e., foreign exchange costs for equipment purchases, referral services to Singapore, etc.

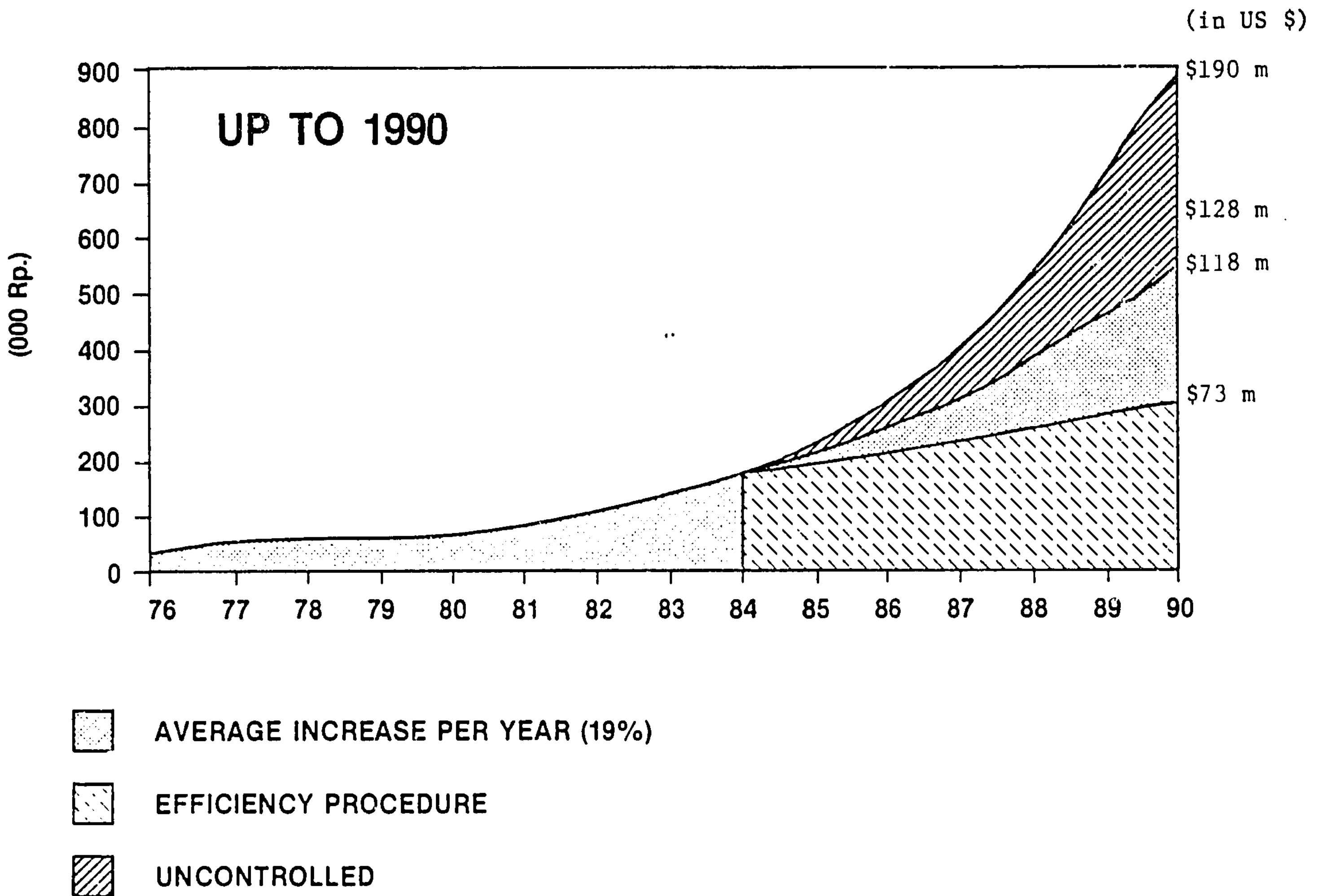
In addition, the June evaluation did not include projected medical care costs of retirees, their spouses or dependents under the age of 25 who were admitted into the PERTAMINA health system in July 1986. Using actuarial data from the United States and adjusting them using Indonesia data, it is estimated that, although PERTAMINA retirees constitute only 12 percent of total eligibles in the delivery system, they consume 35 percent of the health resources. By 1990, they will be 14 percent of the total population and consume at least 40 percent of resources. [Capital expenses are not included in the June estimates.]

Thus, Team estimates of PERTAMINA's health care costs for 250,000 people through 1990 on Chart A are based on an average increase of 19 percent per annum from the base year of 1984. This would bring costs from $45 million in 1984 to $128 in 1990. These figures lie between the Medical Bureau's best case scenario of $73 million for the health care costs in 1990, or its worst care scenario of $190 million in 1990. The projected costs in all scenarios are calculated from the base year.

E. Outline of the Report

The main section of this report consists of the Business Plan. Since financial projections would be different under various levels of member enrollment, eight scenarios are presented. In each of these, revenues and

CHART A



Sumber: Biro Keschatan

Source: Evaluation of Health of PERTAMINA for Strenghtening of Services and Efficiency, Medical Bureau, Jakarta, June 1986.

N.B. At the time of this evaluation, the Rupiah was valued at 1,120 = $1.00. It was devalued to 1,620 to $1.00 in September 1986. Rather than adjust for constant dollar and Rupian value, all figures used throughout this report are calculated at 1,120 Rp. = $1.00.

The budget calculations shown above were based on an active workforce, in addition to dependents, of 215,942. Thus, the per capita cost estimation does not include approximately 30,000 retirees, their spouses, and dependents under the age of 25. The latter two groups (spouses and dependents) were added to the PERTAMINA health system in July 1986.

expenses differ according to numbers and types of enrollees, i.e., PERTAMINA only; commercial accounts only; or PERTAMINA, plus its production sharing companies, etc. A brief explanation is provided for each of the Scenarios.

The Business Plan is followed by a description of the Special Funds which will be created as part of the Tugu Mandiri health premium from PERTAMINA. In this manner, the Team felt that PERTAMINA/Tugu Mandiri could begin to set an example of social responsibility and accountability for all HMOs which follow in the future. For instance, two of the Special Funds -- which match closely USAID and Ministry of Health program objectives -- would yield $5.2 million by 1991 for Community Service and Health Demonstration projects if only PERTAMINA employees joined the HMO (see Scenario 2). However, if other parastatals and commercial accounts join the HMO, these same two funds would yield $14.6 million by 1991 (see Scenario 5).

Addendum I is a Discussion of Options which were drawn from the field visits. Central to these visits was the PERTAMINA delivery system and the role it could play in the initiation of pre-payment among other wage-based employers. In order to shape our thinking and to frame our perspective on contemporary conditions facing PERTAMINA policy makers, the Team first decided to develop a series of options and then from among these select one which would be the basis of the Business Plan. This was Option II-E, as described in the Addendum.

F. Summary

The Team has used very conservative figures in this report to dramatize a point: the great potential for the initiation of organized, managed, prepaid health care in Indonesia. APINDO estimates that the size of the wage-based sector is 15 million workers, of whom 30 percent have incomes sufficient to be taxed, or 4.5 million workers. The figures listed in Chart A cover only those from PERTAMINA, some 50,000 (the remainder of the 250,000 being dependents), or approximately 1 percent of the taxable work force in Indonesia.

If PERTAMINA joins the Tugu Mandiri HMO, we estimate its participation could draw in from other parastatal organizations and the commercial sector, a membership sufficient to have total prepaid coverage for 700,000 enrollees by 1991. This membership would constitute approximately 138,000 workers, the remainder being dependents (the family is calculated at 5.1 per worker). If the size of the taxable work force is held constant from 1987 to 1991, 138,00 workers would represent only 3 percent of the wage based economy. The Team feels that 700,000 is a reasonable number of enrollees during the first five years from a management perspective. However, financial projections for an enrollment of 1.4 million are offered for illustrative purposes in Scenario 6.

Under Options I or II, there would be several cost considerations for PERTAMINA. If PERTAMINA elects to maintain its health care system intact, that is, to select Option I, it will incur the following costs through 1991 (in $US millions):

Option I-A&B

	1987	1988	1989	1990	1991	TOTAL
Current PERTAMINA system	$76	$90.4	$107.6	$128	$152	$554
@ 60% tax liability	45.6	54.3	64.6	77	91.2	333
TOTAL	$121.6	$144.7	$172.2	$205	$243.2	$887

If PERTAMINA converts its present health benefits program to a premium base through Tugu Mandiri, (Option II-E), the aggregate comparative cost difference would look like this (in US millions):

Option II-E

	1987	1988	1989	1990	1991	TOTAL
Current PERTAMINA system @ 60% tax liability	$121.6	$144.7	$172.2	$205	$243.2	$887
Same system converted to a premium base at Tugu Mandiri	$ 82	$ 97.7	$120.5	$133.5	$149.1	$596.5
Net Savings to PERTAMINA	$ 39.6	$ 47	$ 51.7	$ 71.5	$ 94.1	$303.5

The Tugu Mandiri annual figures include a tax liability of 35% on corporate surpluses. The new GOI tax law is rather complex and it has not yet been defined adequately. Thus, it may be that PERTAMINA would realize less than a 60% tax savings if it converted its health benefits program to a premium. A worst case scenario would have PERTAMINA gain only a 30% tax reduction on the premium:

Option I compared to Option II-E

	1987	1988	1989	1990	1991	TOTAL
Current PERTAMINA system @ 30% tax liability	$ 98.8	$117.5	$140	$166.4	$198.2	$720.9
Same system converted to a premium base at Tugu Mandiri	$ 82	97.7	120.5	133.5	149.1	528.8
Net Savings to PERTAMINA	$ 16.8	$ 19.8	$ 19.5	$ 32.9	$ 49.1	$138.1

Estimated total net savings to PERTAMINA through conversion to a premium-based health care system during the period 1987-1991 is $303.5 million at the 60% tax bracket, and $138.1 million at the 30% tax bracket. If, in fact, these savings are realized, they would reduce PERTAMINA's overhead base, and thus increase budgets for exploration and drilling of new oil and gas fields.

In addition to these savings, PERTAMINA can use its current operating health budget through Tugu Mandiri to directly fund administrative costs, (which are now funded outside the Medical Bureau), develop a capital depreciation account, a community service fund and a health demonstration fund, and initiate a legal reserve account. All of these accounts would be financed at less annual costs than PERTAMINA is now estimating for its health budget if Option I is selected. Moreover, Tugu Mandiri's after tax surpluses would be paid to the PERTAMINA and PT Tambang Timah (tin mine workers) Employees Retirement Fund. For instance, in Scenario 4, Tugu Mandiri's after tax surplus in 1991 would be $2.2 million. Since the employees' retirement funds of both PERTAMINA and PT Timah own 60 percent of Tugu Mandiri's stock, each would share in its annual surpluses. As surpluses increase from higher enrollment revenues, these retirement funds should benefit commensurately.

"McGraw Hill Business" (a U.S. business newsletter), in its December 19, 1986 issue, recommends three nations as targets for future large-scale commercial investment opportunities in health: Germany, Japan, and Indonesia. With the world's fifth largest population, Indonesia is responding to a socio-economic transition which has resulted in changes in demand and treatment needs of its people. PERTAMINA's service population, although small in number, has a health profile which closely matches that of western countries. In microcosm, this profile illustrates where and how increasing numbers of the general population will be in the future in seeking services for their health needs. The response to this transition by policy makers, and the investment to handle it, should be drawn from Indonesia's private sector so that expansion of health service delivery capacity is not dependent on general tax revenues.

PERTAMINA, through Tugu Mandiri, should engage with the government in a collaborative process to choose among difficult and imperfect options an action agenda to creatively respond to the rapidly changing health needs of the population. Indonesia's health sector is moving into a dynamic period. Its driving force can be attributed to the considerable public investment for health services infrastructure over the past 30 years. The strength of this force has provided the basis for emergence of the private and semi-public sectors as complementary systems. Now, the GOI can take advantage of past investments to encourage the continued development of alternative systems as options which reflect the contemporary diversity of the sector.

The Team believes that the public interest in health services expansion can best be secured by PERTAMINA's active participation in the formation of a prepaid HMO-type delivery system through Tugu Mandiri.

II. BACKGROUND AND SETTING

A. Introduction

Indonesia, like many non-Western countries, is moving rapidly into a socio-economic transition. The continued expansion of the country's industrial, manufacturing and service sectors has, in effect, removed a growing number of people with wage-based income from the need to seek their health coverage through government channels, thereby creating the opportunity for alternative delivery systems in the semi-public and private sectors.

The movement of groups away from publicly-provided services to alternative delivery systems is rooted in three significant events since 1960:

1. the shift in the structure of production from agriculture to industry, manufacturing, and services (in 1960, Indonesia had 54 percent of its GDP in agriculture; it declined to 26 percent in 1982);

2. the decline in fertility, the main determinant of population aging (in 1967, fertility was 5.6; it decreased to 3.8 in 1985. In 1960, life expectancy was 41; it was 55 in 1985; and

3. the change in the composition of morbidity, from infectious and parasitic diseases to chronic, degenerative diseases (in 1960, the crude death rate p/1000 population was 23; the infant mortality rate was 150, and the child death rate (aged 1-4) was 23; by 1985, these rates declined, respectively, to 13, 79, and 12).

The "modernization" of the cause-of-death structure has important implications for national health policy in general, and for PERTAMINA in particular. The effects of this transition can be seen within the PERTAMINA health system. During the period 1960-1984, birth rates p/1000 decreased from 40 to 22; infant mortality rates declined from 58 to 13 (now lower than in Washington, D.C.). In 1985, the main causes of death were cardiovascular diseases, cancer and automobile accidents, accounting for 52 percent of the mortality. The changing patterns of morbidity and mortality are reflected in increased expenditures for the maintenance of employees' health. In 1976, PERTAMINA's recurrent health budget was approximately $8 million; it increased to $39.6 million in 1984. PERTAMINA expects annual health care costs to reach $190 million by 1990.

Changes in the levels of health care contribute to rising utilization levels and patterns. Whatever else happens, however, it can be expected that the projected changes in the size and age distribution of the Indonesian population would alone have a significant influence on utilization and consequently on the pace of national expenditures. In this regard, there is legitimate concern within PERTAMINA that the pattern of health services development set now should be appropriate for future patterns of health needs, service consumption, and financing arrangements.

B. Purpose

The specific purposes of this study were to determine if the current PERTAMINA health system could be transfered into the private sector as a Health Maintenance Organization (HMO), and if other parastatal organizations and commercial groups would be interested in HMO-type health financing mechanisms. The study took place in a swiftly changing environment within the Indonesian health sector, and at a time when the government is beginning the process of formulating public policy guidance for private health institutions and providers.

The emergence of private health care organizations portend an incipiently competitive health care system linked to a number of issues, including (1) the increasing importance of attention to economic incentives, (2) the social responsibilities of health care organizations, (3) the growing problem of patients being unable to pay even minimum fees established by the government, (5) questions of capital investment policy, particularly with rising levels of urbanization, (6) the future of a growing number of retirees--with a chronic care case distribution cost disproportionate to their reduced income levels, placing greater strain on public facilities and budgets, and (7) the need for careful monitoring of future development so that the results of HMO-type programs in the private sector can be objectively evaluated and passed on to national socio-economic planners in the form of policy and program recommendations.

These inter-related issues within the overall health sector served to guide the Team toward a perspective which frames this report around the following eight principles:

1. The selection of the HMO concept by PERTAMINA/Tugu Mandiri is correct; however, there are several options and organizational mechanisms through which this concept can be realized.

2. Sustaining the high standards of professional conduct set by physicians in PERTAMINA's Medical Bureau is imperative. Their successes in reducing infant mortality, promoting public health practices, ensuring occupational safety, securing high acceptor levels in family planning programs, and in designing appropriate treatment programs to maintain the productivity of the workforce have been noteworthy. The medical community within Indonesia stands to benefit greatly from this example in the future.

3. The development of a private health care system that is excessively responsive to short-term economic incentives would be unacceptable in terms of important social values, but a delivery system that disregards economic constraints would quickly seal its own doom.

4. The drive for a surplus of revenues over expenses is an essential goal of PERTAMINA/Tugu Mandiri, but, however necessary for self-sufficiency and growth, it should not replace broad goals regarding access to care, cost-effectiveness, quality of care, protection of the patient, and the process of education and research to benefit the larger community.

5. Adequate public policy attention should be directed to some of the key topics in this study--the needs of the poor in regards to access, the development and maintenance of preventive care, and the unfunded liabilities being accrued by an increasing number of retirees.

6. The willingness and capability of PERTAMINA/Tugu Mandiri to share its knowledge and expertise with other emerging prepayment plans in the public and private sectors are conditions which the GOI should monitor.

7. The extension of PERTAMINA's social development role should continue to improve the well-being and health status of the Indonesian people. Because of its special status as a state-owned cooperation of the Government of Indonesia, PERTAMINA is in a favored position to develop the legal, regulatory and actuarial basis for prepayment.

8. There is a need for a model of a balanced preventive and curative program approach to health system development in Indonesia. Without effective curative care there will be neither political support nor consumer acceptance of preventive care; without preventive care there will always be unmet demands and unacceptably high resource consumption of health services, independent of their contributions to improved health status.

C. Objectives of the Consultancy

During the past year, USAID/Jakarta has engaged Tugu Mandiri, a life and health insurance company partially owned by Indonesia's state oil corporation, PERTAMINA,* in a policy dialogue on privatizing the health benefits for its 250,000 employees and dependents. In January-February, 1986, USAID sponsored, through the REACH Project of John Snow, Inc. and the PRITECH Project of Management Sciences for Health, a 10-day 'mobile seminar' for Tugu Mandiri and Ministry of Health officials to visit prepaid health programs in six cities throughout the United States. As a result of these visits, USAID and Tugu Mandiri continued their discussions on useful next steps in the privatization process. In June 1986, USAID/Jakarta requested the REACH Project to provide three consultants to visit PERTAMINA health delivery sites and to meet with Tugu Mandiri senior staff in Jakarta. The purpose of the pre-feasibility visit was to determine if Tugu Mandiri should offer to develop, and if there was the basis for, the establishment of a prepayment scheme for PERTAMINA employees, their dependents, and other employer groups.

Based on the findings of the June consultancy, USAID/Jakarta asked The REACH Project for a larger team to undertake a Market Study and a Business Plan, both of which would serve as a blueprint for PERTAMINA/Tugu Mandiri to launch a Health Maintenance Organization. Initially, this HMO would be for PERTAMINA employees, its Production Sharing Contractors, other parastatals, and then, finally, to open enrollment to Indonesia's commercial and industrial sectors.

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* Tugu Mandiri is owned by PERTAMINA's Employee Retirement Provident Fund (40%); PT Nusamba (30%); PT Tambang Timah (20%); and PT Tugu Pratama (10%).

The Team arrived in Jakarta on October 13th and conducted its field studies until November 22, 1986. During the period November 19-21, the Team met with officials from the Ministry of Health, PERTAMINA's Medical Bureau, Tugu Mandiri, and USAID/Jakarta to discuss its preliminary findings, which were framed in a series of two options with five organizational models (see Addendum I). Upon returning to the United States, the Team completed its report in December.

D. The Team

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III. BUSINESS PLAN

A. Introduction

PT Tugu Mandiri is a private company licensed to provide life insurance products to private and parastatal companies of Indonesia. The following business plan is designed to establish for Tugu Mandiri a health insurance division that will serve the Indonesian employer market.

There is a growing need in Indonesia for a private health care insurance system. By developing Tugu Mandiri, initially as the fiscal intermediary in Phase I, and then as a fully operational HMO in Phase II, and by developing the PERTAMINA medical care system as the delivery arm, a new and potentially very successful program can be established that will meet the market demands of the Indonesian people. The Tugu Mandiri health insurance and health maintenance organization is an HMO to provide a new financing system for Indonesian employers. Essentially, this is a health insurance program with direct links to an established delivery system. It is modeled after the U.S. HMO-type experience and has the following characteristics:

1. It is premium-based: employers obtain health care services through the payment of a premium, a fixed amount per employee. The premiums are paid for, either fully by the employer or partially by the employee; the premium buys a predetermined set of health benefits.

2. The delivery system is organized to accept premium revenue in payment for services. Prepayment of services for an established, specific amount of health care benefits places risks on the delivery system. The risk to the system is for the cost of delivering a defined health benefit package to an enrolled set of beneficiaries. If the cost is greater than the premium pool, the delivery system is liable for the additional expenses. If the cost is less, the delivery system achieves a surplus.

3. The insurer, Tugu Mandiri, may share risks with the delivery system at any negotiated level through reinsurance or other methods.

4. Predetermined premium payments and the presence of risks to the delivery system lead to cost controls and a focus on preventive medicine. Ultimately, this should result in a cost saving to purchasers of such insurance. The greater the organization of the system, and therefore the control of the system, the greater the potential for cost savings.

The Tugu Mandiri HMO must be able to assume the following responsibilities:

1. Establish a premium based financing system by determining the price of the premiums and the design of the benefits these premiums will purchase.

2. Market the HMO product to industry.

3. Organize or contract with provider groups or systems, e.g., PERTAMINA, to provide the services required at pre-established prices.

4. Administer the system by developing and maintaining an appropriate chart of accounts, a management information system, a market and research staff, claims processing and billing, etc.

The income for Tugu Mandiri to operate its HMO will come from the following sources:

1. Premium Revenues - The HMO will require a percentage of premiums plus revenues. This is directly related to the total value of the premiums;

2. Interest Income - the HMO will maintain funds in earmarked accounts and will be prepaid premiums that will be dispersed at a later time. Interest income will accrue from these accounts and from the HMO's investments.

The expenses for day-to-day operations of the HMO are as follows:

1. Payroll expenses plus fringe benefits - the cost of HMO staff;

2. Fixed expenses - defined here as all major capital equipment necessary to provide the administrative functions, including computer hardware, terminals, communication systems, etc.;

3. Development costs - defined here as the cost of software programs, management systems, and non-tangible programs necessary to operate the company;

4. Other variable costs - these costs are primarily training costs associated with establishing a new company and are directly related to the number of employees required to serve the market; and

5. Administrative - the overhead costs, including space, space renovation, furniture, office equipment, etc.

B. <u>Market Study</u>

The information developed from this visit to Indonesia confirms earlier impressions that, from a marketing perspective, the conversion of PERTAMINA's medical facilities and personnel to a prepaid operation has definite commercial application in conjunction with the health and life insurance activities of Tugu Mandiri. Given the rarity in Indonesia of health insurance as an employee benefit and the limited purchasing power of much of the wage-based employed sector, the proposed health plan's marketing objectives should be initially quite modest, but, with the weight of PERTAMINA behind the operation, achievable. The market study revealed the following:

1. <u>Pricing of Existing Prepaid Care</u>

The market for many prepaid health care arrangements lies with that portion of the population which has some predictable source of income and some access to care, either through the workplace or through other groups that can pool funds to spread the risks of illness. Some examples of current plans in operation can be seen in Chart B.

Chart B

HEALTH BENEFITS, COST PER FAMILY PER YEAR (in Rupiah)

Name of Company	Cost per family per year	Levels of service/copay	Approx. Persons Covered
Aneka Tambang	300,000 Rp.(nat'l) 720,000 Rp.(Jkrta)	20% copay for care outside of company	10,000 3,000
Batam Island (oil firms)	96,000 Rp.	50% copay for family members varies by company	25,000
British American Tobacco	480,000 Rp.	3 levels of benefits	3,000
Coca Cola	400,000 Rp.	3 plan levels, 20% copay for family members	500 1,000
Husada Bakti	26,000 Rp.	single basic benefit level; government health centers and hospitals with private providers in special situations	13,500,000 inc. retirees
PKTK Pilot (ASTEK/DUKM)	42,000 Rp.	single level of care, 4th class hospitals	10,000
Medical Scheme	640,000 Rp.	outpatient and drugs covered, no inpatient care	5,000
PERTAMINA	700,000 Rp.	comprehensive, some fees for eye glasses dentures	250,000 inc. retirees
P.L.N.	133,000 Rp.	copay for specialists, coverage depends on salary level and years service	250,000
Dept. of Sea Communications	180,000 Rp.	capitation to Port Hospital	5,500
Garuda	420,000	company clinics and contract providers	20,000
Timur Jauh-Aetna	320,000 Rp.	PPO-type idemnity health insurance	3,000
	360,000 - 600,000 Rp.	HMO-like service	
Unilever	360,000 Rp.	3 plan levels	20,000
Tambang Tamah	200,000 Rp. (national) 500,000 Rp. (Jakarta)		

Chart B (cont'd)

Name of Company	Cost per family per year	Levels of service/copy	Approx. Persons Covered
U.S. Embassy survey of foreign firms	500,000 Rp. average	copayments, restrictions on some families	20,000
MOH Survey 173 Jakarta employers	132,000 Rp. average	50% have copay for families, many include company clinics, benefit restrictions	500,000
PTP (plantations)	104,000 Rp.	company clinics and hospitals	15,000
Mobil Oil (PSC)	1,200,000 Rp.	full coverage, company clinics plus outside providers	15,000
Coopers-Lybrand	250,000 Rp.		200

Note: Although PERTAMINA appears to have the second highest benefit program, it is also the most comprehensive, providing all inpatient and outpatient care to active and retired employees and dependents, including referral services to Singapore and the United States.

The chart indicates how varied the costs of health care is to purchasers. As a percentage of payroll, health costs may vary from 30% of payroll for Aneka Tambang and other parastatals to 2% for ASKES government employees. However, a mining or oil company with widely dispersed facilities has special needs, as does a program for government workers which delivers services through public facilities. Most companies appear to have health expenditures in the 15-20% range of base salary. Up to half of this expense is paid to cover the cost of drugs. The market is segmented into plans which may serve those who would otherwise seek care outside the country (the Medical Scheme), high cost plans essentially serving the upper middle class (e.g., B.A.T., Unilever, etc.), those that serve the middle class (e.g., Sea Communications) and those that serve blue collar urban and rural employees (e.g.,ASTEK, PTP, PKTK).

2. Extent of the Wage-Based Sector

The Chairman of APINDO estimated the size of the wage-based sector to be 15 million people, with another 33 million in agriculture.* Not all of the 15 million in wage-based employment can manage the costs of health care either through individual or employer paid premiums. Only 30% of workers in the formal wage-based sector have incomes sufficient to be taxed.

3. Current Medical Arrangements

a. **Prepaid Medical Schemes** - Many prepaid medical schemes exist in Jakarta. However, no systematic survey has been made of these plans which can be characterized as physician sponsored, usually part of a fee-for-service clinic, and mainly providing outpatient physician and drug benefits. Many include dental benefits on a prepaid or fee-for-service basis. Most are not highly capitalized. Thus, there is a consequent lack of stability and high attrition in these small enterprises. Although medical schemes have an insurance function, they are not subject to any insurance regulation. Medical schemes will be Tugu Mandiri's competition for upper-market segments.

b. **Health Insurance Policies** - Current insurance regulation requires that any policy sold by a general insurance company cover only inpatient care to individuals on an indemnity basis. Life insurance companies can sell group health insurance policies as a rider with a benefit three times the face value of the life policy. In order to sell health insurance then, a company has to include life insurance as well. Only four companies in Indonesia now sell group health insurance, covering less than 30,000 individual policies.

Most companies purchasing health insurance have different policies for different classes of a companies' staff, with higher paid workers having limits and more freedom of choice. Timur Jauh/Aetna offered a capitated, prevention-oriented benefit at 30-50,000 Rp. per month per family and found few purchasers interested. The company now sells a fee-for-service package

* The Director of ASTEK estimated that while it covers 16,000 employers in companies with over 25 employees, the actual number of companies in the wage-based sector is 60,000.

using a group of 40 physicians (GPs and specialists) for 30,000 Rupiahs per month and this package is selling better. An official of Bumi Putera feels that the problem for health insurers is the availability of medical resources to guarantee access. A solution to this would tend to favor an HMO-like arrangement but insurers feel uncertain about participation of providers and prefer to stick to indemnity-type coverage. An alliance between hospitals and insurance firms can prove to be formidable competition for Tugu Mandiri in the short run. However, over a longer period, employers would become familiar with the benefits of prepayment, and acceptance should expand.

The new insurance law contains provisions about reserve requirements, solvency, Ministry of Finance supervision, legal issues, directors liability and disclosure. Several of these provisions have implications for health insurance. Tugu Mandiri needs to follow the progress of the law to develop product lines that meet its statutory requirements.

c. **Care in Company-Owned Health Facilities** - No systematic research appears to have been done on the capacity, utilization, costs and potential of company-owned health facilities. These facilities are operated by nearly half of all companies, 7% of which also own a laboratory and 27.5% of which own their own pharmacies, according to a survey done in Jakarta by ASKES. Only 5% of the clinics were used exclusively by employees, but in 40% of companies these clinics were used in conjunction with outside clinics. Many of these clinics are small, staffed by a nurse and used for emergencies. Most are used for occupational health surveillance. In some instances company physicians review outside claims and act as gatekeepers for more expensive types of care. Ministry of Manpower laws require that companies provide for the health care of their employees. Outside of Jakarta, particularly in many remote areas, most health care for the wage-based sector is delivered in this way.

d. **Allowances for Care** - Many companies simply pay for medical expenses as they are incurred by employees. Since these in-kind benefits are now taxable to the firm, more companies are either insuring employees for care or giving a fixed allowance for medical care. The ASKES survey of Jakarta companies noted that most companies post-pay or self-insure. The cost per worker was 11,000 Rupiahs per month. It was higher in small companies while the lowest costs were found in firms with 500-1000 employees. About 81% of these plans cover some benefits for the workers' family with 66% of these limiting services to spouses, often to the first three children, while also imposing copayments on health services utilization of families. All companies with health benefits covered general outpatient care. Only 18% fully covered maternity, 25% covered dental care and 47% covered preventive services. These plans are highly utilized. The survey indicated that there are six visits a year per worker (it is uncertain if this includes the family; if so it would bring the contact rate down to 1.5-2.0 per year). Most of these costs were paid by the employer with only a few requiring cost-sharing.

The majority of expenditures (52.5%) were spent for drugs followed by 22.7% for doctors' fees and 17.9% for hospitalization.*

In absolute terms drugs totaled nearly 70,000 Rupiahs per year per worker, and physician fees were 30,000 Rupiahs per year. It was reported that there was some misuse of these benefits by unauthorized persons and submission of fraudulent or inflated claims. Most abuses were by the member rather than the provider. Tugu Mandiri planners need surveys like this to be repeated, refined and expanded to cover more companies and areas outside of Jakarta.

e. **Arrangements with Hospitals** - In Jakarta several hospitals have been contracted in exclusive arrangements with factories. The Islamic Hospital, on the day visited, had 77 of 315 occupied beds paid by these contracts.** It has 51 separate factory contracts. St. Carolus Hospital also has a number of direct contracts which account for some of the 25% of operating revenue derived from third party payments. With its six health centers around Jakarta, St. Carolus can deliver comprehensive health care and is interested in developing a prepaid system.

Another hospital in Jakarta that has experience with direct contracts is the Port Hospital. Until recently, it had arrangements with the Port of Jakarta and the Department of Sea Communications to deliver complete care for 15,000 Rupiahs/family/month. The recent drop in export earnings adversely affected the finances of the Port of Jakarta and the arrangement was ended. Their employees now go to Puskesmas with ASKES patients. The termination of this contract resulted in a dramatic drop in bed occupancy for the Port Hospital, from 84% to 60%. This reflects the risk of relying heavily on a single purchaser of care in a deflationary economy.

4. The Size of the Market for Prepaid Health Care

One can approach sizing the market in several ways. For the wage-based sector one can look first at employers. Most of the market is concentrated among those working for employers stable enough to provide health care. By this criteria, most companies paying into ASTEK form a potential market. The best prospects are likely to be parastatals and firms that are large and high paying (foreign joint ventures seem to have particularly good benefit programs).

Using aggressive marketing techniques, developing several products and by pricing low-option/high option benefit packages, one could expect to obtain a 30% market share. This would include millions from parastatals (many have their own health facilities but now face the need to reduce

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* In contrast most employer health costs in the U.S. are for hospitalization, then physicians' services, with drugs accounting for 10% of costs.

** This represented 25% of occupied beds; ASKES contracts for another 30%; the remainder of beds are self-paying.

costs and their tax liabilities). These accounts could be supplemented by marketing to individuals who now self pay or buy health insurance. Others such as shopkeepers, etc, represent an additional pool of customers. In addition, an insurance plan could contract with Husada Bakti in some places. Any initial effort would seek to tap the higher income and better educated groups. Later, additional groups could be included through subsidies. The company could purchase units and risk pools for the unorganized sector. This can spread risk while providing access for more people. Appropriate benefit packages would have to be developed to assure affordability.

Another way of looking at the market of enrollees is by extrapolating from current patterns of care. There was a household survey conducted in 1980 and another in 1985, although the data are not yet fully analyzed. Using the 1980 survey, one finds that 6.3% of those interviewed said they were sick in the last month; 30.9% self treated (which could mean no care or the use of some OTC drug or home remedy); 14.7% went to a paramedic in private practice; 14.1% went to the Puskesmas; 13.6% went to a physician in private practice; 10.2% went to a Subcenter; 7.1% went to a public hospital; 6.3% went to a traditional practitioner; and, 3.1% obtained care in other ways.

Let us assume: 1) a prepaid health plan will reach only 25% of the population initially; 2) those who would be attracted would now seek care from modern practitioners; and 3) those who would enroll are technology-oriented. Then it can be said that (using a 1986 population projection of 168 million) approximately seven million people seek care in any 30-day period. Further, if 10% of those seeing paramedics in private practice, and 20% of those seeing private physicians, and 15% of those seeking care in a public hospital would enroll in a prepaid plan, then it is estimated that 400,000 could join per quarter. What the upper limit is would depend on perceived need, geographic accessability, and quality of care.*

Any prepaid, managed health care system will have a cluster of problems that arise at different stages of development. Each of these can effect the size and composition of the potential market. In the pre-operational phase (Phase I) potential problems are:

- availability of capital
- provider relations and contracting
- scheduling of progress toward operations
- availability of staff
- public and customer relations
- relations with licensure and regulatory agencies
- benefit design
- design and location of facilities
- rate-setting
- design of inter-personal communications
- building of administrative infrastructure (accounting, personnel, medical and management information).

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* Now 7 million seek care each 30 days, of which 1 million go to paramedic; 1 million go to private physicians, and 500,000 go to public hospitals.

In the early stages of Phase II these problems may arise:

- o inadequate cash flow
- o slow development of financial control systems
- o ineffective marketing
- o poor government relations
- o adverse public image
- o slow refinement of administrative procedures and policies (claims, billing, enrollment etc.)
- o incompatible hardware (facilities and equipment) and software
- o poor coordination of medical, marketing and informational MIS modules
- o unexpected competition with existing providers (and insurers).

As the plan matures (later in Phase II) and is accepted in the market different challenges may emerge such as:

- o managing provider reimbursement and grievances
- o expansion (geographically and into different enrollee groups)
- o maintenance and modernization of facilities
- o keeping information and communication abreast of growing enrollment
- o epidemiologic and risk selection problems of a stagnant membership
- o new competition in the market
- o maintaining market share and increasing penetration
- o development of new products, services and more efficient procedures
- o maintaining good customer and patient relations
- o keeping track of costs
- o assuring good quality care

5. Market Research

Research on the target market should be started early in the first quarter of Phase I. Tugu Mandiri has several market researchers on staff who have collected baseline information on companies, including addresses, phone numbers, key executives, line of business and hours, and number of employees. Tugu Mandiri needs to collect additional information on employers including, most importantly, benefit levels as well as location of plants, family size, work force stability and employer and employee payments for health care. This information can be collected from APINDO surveys, hiring a benefits consulting firm (confidentiality should be maintained initially) or directly by Tugu Mandiri staff. Soon after receiving survey results they should be analyzed to determine prospects. Prospects can be ranked on the above factors along with how much access Tugu Mandiri has to the account. Thus, life insurance customers, closely related companies (i.e., PT Timah and PERTAMINA suppliers) would be placed among the most likely prospects.

Price (cost) now varies widely among prospective accounts. Foreign joint ventures such as Coca Cola and Unilever pay close to 200,000 Rp per person per year in health benefits with differential copayments by level of employees. Firms such as Sumudra Indonesia use a schedule of medical allowances plus scheduled reimbursement for hospitalization. Although most companies calculate their total medical expenses at 10-15% of their "main" payroll (i.e., net of allowances), some large firms spend 2-3%. Thus, research should focus on determination of price and benefits package. Once

this is done, personal calls should be made on each company executive responsible for purchasing employee insurance and whenever possible, support should be obtained from the CEO and the leadership cadre.

The following concerns have been noted with particular accounts:

a. RMI (a PERTAMINA subcontractor employing 3,000 people) provides medical allowances as do the ASTRA Group, Indocement, American President Lines, etc. How can the bulk of the work force be enrolled in the HMO through PERTAMINA without removing what are essentially supplemental salaries? The new tax laws may well require that medical allowances be paid as "main" salaries or be taxed. In either case the company will have to provide health care. It is very important that the Tugu Mandiri sales staff become familiar with the tax consequences of medical allowances and develop as part of their sales promotion comparisons of how companies can save money in taxes as well as in medical costs and work absences by joining the HMO.

b. PT Sumudra Indonesia has a schedule of hospital payments to supplement monthly cash medical allowances. Medical care costs of the company total 8% of base payroll with one-third being paid for hospital care. In Sumadra, the schedule included five salary levels. The lowest salary level's allowance is half the highest for one person and two-thirds of the highest for a five person family. Allowances are tilted toward small families. In no case is the allowance for a five person family more than twice that of a single employee. According to Price-Waterhouse, this type of arrangement is typical in large private firms. Tugu Mandiri could work with companies to set premiums that are more heavily weighted toward single workers or small families. Employers could be offered 4 or 5 step rates which would enable employers to price rationally.

c. There is a wide variation in company benefits by location, salary level and production unit. For example, Indocement provides medical allowances as well as contracts with physicians in different parts of Jakarta. In their plants, however, this is the responsibility of an in-plant medical unit. The costs to the company can vary five-fold between the field and headquarters. It is probable that headquarters' personnel may be the first target market for Tugu Mandiri. The reasons for this are that: 1) headquarters' personnel are the most influential; 2) they are most receptive to the high quality of PERTAMINA services; 3) they are the most expensive for the companies; and 4) they do not require the dismantling of existing medical programs or lay-off of workers.

d. Many promising accounts have their own hospitals, physicians, nurses, etc., which will eventually have to be reconciled with the HMO. For example, PT Tambang Timah has 12 hospitals. Others like Garuda have their own comprehensive clinics. In most cases providers are not as well compensated as in PERTAMINA. The disposition of existing medical resources will be part of the Tugu Mandiri marketing process. In the case of PT Timah (one of the partners in Tugu Mandiri), one approach might be to integrate PERTAMINA facilities in Palembang with Timah facilities on Banka Island in stages, using a common pool of equipment

and specialists. This could lead to a reduction in bed capacity and lower costs for both companies. The challenge of merging a higher cost with a lower cost delivery system can be met by careful phasing, adopting new personnel policies and differential benefits between the two groups.

If the decision is made to offer several product levels in order to position Tugu Mandiri at several points in the health insurance market, this can be accomplished by developing copayments for dependents, or by restricting choice (using lower cost facilities depending on premium level, or using drug lists, formularies, etc.).

Multiple benefit levels should not be created at the expense of quality of care. This must be monitored lest workers perceive they are losing existing medical entitlements.

The market for Tugu Mandiri's HMO is first PERTAMINA and then its Production Sharing Companies. Commercial accounts would be segmented into those which can compete in price and benefits with PERTAMINA. Many of these are foreign joint ventures and are also a prime market segment for other insurers. Further, many of these accounts are small (100-500 employees) and would require more marketing effort. Finally, a number of state-owned companies with personnel located in Jakarta or other cities with PERTAMINA facilities could be enrolled. This would constitute a prime target for 1989.

Some examples of accounts which would be approached during Phase I are: BCA Group 10,000 employees; Garuda, 20,000; Bristol Myers, 500; United Can (staff), 500; Coca Cola (Mfg), 500; ASTRA Group-Jakarta employees 4000 members; and RMI, 4,000 members. This group could easily yield 50,000 members by 1990 and possibly much more. A second tier are those companies or workers spending 150-300,000 Rupiah per year for health services, including Indocement (10,000); part of Nurtanio Aircraft in Bandung, (20,000); PLN (150,000), and others. Marketing to this second tier would require the development of a low option benefit package.

At a later stage of Tugu Mandiri's HMO development, an arrangement may be worked out with Perum Husada Bakti on a pilot basis to enroll civil servants. Some civil servants may be willing to pay an extra premium, much like Medicare beneficiaries in the US who join HMOs. Many civil servants in the higher ranks already use private medical care. Health surveys are needed if Tugu Mandiri is to meet the needs of populations surrounding PERTAMINA (and Timah) facilities. Finally, research is needed on the market for individuals who currently pay out-of-pocket for their health care, join medical schemes, or buy individual health insurance policies. The cost of marketing and enrollment may be higher to individuals but a substantial number of potential insureds may be present.

6. Community Relations

Even before active marketing is to begin, orientation to and promotion of the HMO plan should take place. This is referred to as internal marketing. he targets of this educational-promotional campaign are the executives of PERTAMINA, the Production Sharing Companies and subcontractors; they should not be taken for granted. They need to be acquainted with the HMO, the potential cost and service implications, and how it will work. Meetings should be scheduled by Tugu Mandiri and presentations prepared.

A second important target group is the PERTAMINA providers. Once approval is obtained to move ahead with the HMO, a series of seminars should be planned, first for the Medical Bureau leadership to educate and convince them that the HMO will enhance their security and professional growth. If provider plans are used, this will require much preliminary work. Primary care providers would need to be oriented to the HMO concept, and specialists would need to be trained in utilization review and quality assurance. Internal marketing would include non-physician providers, other Bureau personnel, administrators and related PERTAMINA departments (EDP, Personnel, Corporate Planning). PERTAMINA Medical Bureau and related personnel will be key to any delivery configuration of the HMO, as well as phasing, community service management of non-PERTAMINA patients, gerontological health maintenance for retirees, and experimental preventive-promotive programs.

Employees of PERTAMINA, PSCs and subcontractors need to understand how to use the HMO. They will have to "buy-in" to any decision to have an autonomous health maintenance organization and serve persons outside the PERTAMINA family. As new PSCs, parastatals, PERTAMINA production units and commercial accounts are enrolled, the process will have to be modified and repeated. Thus, internal marketing forms the basis for future membership services and provider relation functions.

Enlisting community support is a function that involves efforts directed to the business community, the government at all levels, labor organizations, consumer groups and organized providers. Imparting information and developing good will early in the HMO process can create a better understanding with potential enrollees, suppliers, regulators and political supporters. Special presentations should be coordinated with top officials of Tugu Mandiri.

It is well to remember that an HMO starting with a large locked-in membership can become complacent. Lines of communication need to be kept open so that the HMO can adopt to changing conditions, modify its assumptions and be ready to offer new products and serve new populations. Interest in the HMO has already been expressed by firms such as Garuda, Aneka Tambamg, PT Timah and various small foreign companies. The next few months are the time to work with these groups to develop a product that meets their needs at a price that is competitive, in places that are accessible, and with a promotion campaign that convinces decision-makers, patients and government officials of the soundness of the Tugu Mandiri HMO concept and the efficacy of its implementation.

7. <u>Managing the Marketing Department</u>

In Phase I, a marketing director needs to be hired who is familiar with the Indonesian business environment, who is well respected, and who has sales and preferably insurance experience. The marketing director would be oriented to the HMO product and related Tugu Mandiri product lines. This person will be responsible for using market research data, designing products and strategy to capture targeted segments of the health insurance market, understanding the preferences of present and potential members, and working effectively with providers, PERTAMINA staff, Tugu Mandiri financial staff, underwriters, legal staff and policymakers.

Sales materials need to be tested and forms and records designed. By Phase II the Marketing Department should have six professionally trained personnel. A budget for advertizing should be allocated early, and different media messages through newspapers, television and other channels should be used to reach different market segments. The management of the sales process needs to be accompanied by an understanding of incentives in the context of a new product for Indonesia, combining the unfamiliar yet powerful concepts of insurance and controlled health care. In managing the Tugu Mandiri marketing function, maximum advantage should be made of the companies' life insurance capacity as a source of leads, new bundled health-life products, expertise in underwriting, media, common systems and procedures, and as a source of capital.

8. Summary

The field interviews conducted by the Team lead to several general conclusions:

a) **Target Market** - Virtually all interviews indicated that some medical benefits were provided by employers. Most commonly, employers made available a medical allowance which, according to a contact at Price Waterhouse, amounted to a maximum of two months salary in medical benefits. This allowance is frequently, at least in large companies, provided in addition to, or coordinated with, company sponsored polyclinics or other medical schemes. Although the existence of medical allowances would seem to indicate a reasonably progressive view about benefits for employees, there are some negative aspects to the practice. Employers are not particularly concerned about medical costs because their liability is limited to a specific financial amount. Employers are therefore insulated from inflating medical costs or insurance premiums. The noteworthy exception to this point is in the area of prescription drugs which were repeatedly mentioned by employers as being an excessive cost and of major concern.

It is the general conclusion of the site visit team that for reasons of tradition, sophistication, and ease of marketing, the initial target markets of the Tugu Mandiri HMO are PERTAMINA (together with its subsidiaries and client companies), large parastatal companies similar to PERTAMINA, PLN, etc., and multinational companies with large local work forces.

This target market is only a large handful of the sixty thousand employers in the country, but represents some ten percent of the 15 million people estimated by APINDO to be employed in the wage-based sector.

One concern voiced in interviews with Price Waterhouse and Marsh McLennan was the relative newness of the insurance concept among Indonesian businesses which are "not very insurance-minded". However, the local representatives of Marsh McLennan and Aetna-Timor Jauh both agreed that this problem is being solved through the passage of time and that the market continues to grow. PERTAMINA-Tugu Mandiri should be able to benefit from this improving insurance market and rise like a cork on the incoming tide.

b) **Market Positioning** - Recommendations about product positioning are very difficult to make across cultural lines. However, even at this early stage one specific feature of that plan will surely enhance its marketability; the ability to control the cost of prescription drugs. This concern was repeatedly voiced in interviews. Whatever other promise the HMO-type plan may hold in Indonesia, its ability to provide drug coverage at a lower cost will certainly enhance its market position among employers and consumers. Other positioning ideas will certainly be developed as the specifics of the HMO are defined.

c) **Sales Process** - Two points need to be made with regard to the actual sales process. The first in importance is that the full weight and enthusiasm of PERTAMINA will need to be brought to bear on its client companies and, to the degree possible, on its fellow parastatal companies. The education process will be a lengthy one and the wholehearted endorsement of PERTAMINA will go a long way toward overcoming the clear suspicions that the Team encountered in assessing the market.

Secondly, the marketing activities of Tugu Mandiri should focus on the use of multinational insurance brokerages as it seeks to market first to multinational manufacturing firms and then to large local companies. Companies such as Marsh McLennan are located in Jakarta for two main purposes: the first is to look after the interests of their existing multinational clients and the second, is to develop new Indonesian clients. The local staff of Marsh McLennen indicated that some twenty percent of insurance in Indonesia is now written through more than twenty percent of the insurance sold to multinational firms and Tugu Mandiri should take advantage age of this fact.

d) **Product Design** - The design of the product (specifically, the benefits package) will require some care. Given the frequently stated desire of employers to limit their costs, the HMO will need to develop several different levels of coverage to accommodate the varying levels of purchasing power among employers and within individual employers. This is in distinct contrast to the more egalitarian traditions of American benefits packages which usually do not vary according to an employee's status in the company.

Because employers set aside a specific amount for benefits they often do not think in benefit package terms Employees are free to spend their allowance on nearly any health service no matter how vaguely related to health the service may be. An HMO will require substantially more precision in its definitions of covered services if credible premium rates are to be set.

e) **Market Research** - Whatever option for development of the HMO is selected, ongoing market research must be conducted. Efforts to date have been academic and anecdotal, but once the decision to proceed with the project is confirmed by Tugu Mandiri, a full fledged, local marketing research operation must be initiated to feed the sales process.

f) **Market Viability** - There is a market for an HMO in Indonesia and Tugu Mandiri is in a position to develop it. An enrollment of 700,000 members is manageable within five years.

C. Capital Availability and Requirements

Indonesia is in a period of economic stress. The drop in oil prices and consequent balance of payment problems have resulted in several devaluations of the Rupiah. The most recent on September 12, 1986 devalued the Rupiah by 45 percent which significantly increased the price of all imported goods and services. Theoretically, the devaluation will reduce incentives to take money out of Indonesia and will improve the balance of payments.

The situation affects capital availability; private lenders want to get a return on their capital of 25-30% per year. Foreign banks are reportedly pulling out of the country. State banks have money but a shortage of credit-worthy borrowers. Real interest rates (interest rates less inflation) are around 15%, making risk capital is difficult to obtain. Private companies are "over-leveraged" and are wary of incurring more debt. In general, credit was available until 1983. Since then it has become increasingly harder to obtain and lenders are cautious. Asset-rich investments are preferred rather than intangibles such as insurance or prepaid health plans.

The only health-related investment that appears in the "Priority List for Investment" published by the Investment Coordinating Board (DKPW) is drug manufacturing. Individual Indonesian private investors, discouraged by the government, opened hospitals in Singapore, such as Mount Elizabeth, which is used mainly by Indonesians.

With the country facing a negative growth rate (predictions range from 0-1.5% in the face of a 2.2% population increase), the government is embarking on a program of austerity. The Ministry of Health's 1986/1987 Development Budget (DIP) has been reduced by 40% to approximately US $60 million. The routine (operating) budget will also be reduced but not as drastically while special Presidential funds that have both development and operating components (INPRES, BANPRES, etc.) are also being curtailed. Therefore, there is little chance of GOI support for health care financing and delivery reform despite the fact that 45-50% of the MOH's budget is spent to support facilities such as hospitals.

The equity market in Indonesia is very thin and constrained by government regulation. In order to be listed on the stock exchange a company has to show a strong record of profitability, and fluctuations in price are controlled to protect investors. Furthermore, a stock is required to pay dividends -- which are taxable -- at a rate nearly equal to time deposits -- which are tax free after one month, while dividends are taxable. As a result, there are only about 20 companies listed on the Indonesian stock exchange and most of those went public as a means of divesting their foreign share of ownership.

Depending on insurance laws, it would appear that companies such as Tugu Mandiri could generate developmental capital from premiums, reserves, and equity from owners. One way of minimizing capital for new ventures is to build on an organization that already has financing and delivery resources in place. PERTAMINA's Medical Bureau now has most of the human and physical resources to tap this market with minimal additional capital.

Capital to develop the HMO as an operating, surplus-producing, company is required for the following:

1. to purchase the necessary equipment, technology and systems;

2. to train the staff;

3. to pay for all pre-operational expenses, including salaries;

4. to cover inititial deficits in operations; and

5. to establish reserves or contingency funds.

The amounts necessary to cover items 1-5 will depend upon the potential employer base to be served.

The actual capital requirements for the HMO are based upon our assumptions that Tugu Mandiri will operate in a fashion similar to U.S. HMO-type administrations. The HMO will have to market to employers, maintain membership files, track utilization, and dispense premium dollars according to a predetermined formula. Thus, the HMO operational expenses will be the Indonesian equivalent of a similar prepaid plan in the US.

Given this formulation, the capital required to establish the business and to finance medical/administrative expenses and operating deficits until a break even point is reached will be in the range of US $3.5 - $7.0 million. The actual amount will depend upon:

1. the scenario selected for business (this determines annual operating deficits);

2. the depth and sophistication of the utilization-tracking methodology;

3. the form of payments required to the providers;

4. the type of HMO model selected, i.e., closed panel, group, IPA, etc.

Unless Tugu Mandiri's HMO develops a contractural relationship with PERTAMINA, the capital required to develop this new company cannot be recouped within the foreseeable future. If the HMO does serve PERTAMINA and others, it will generate substantial net revenues within a 2-3 year period. Even at the higher levels of capital requirements, the campany could return the investment required for start-up and operating costs within a 4-5 year period at the most.

However, PERTAMINA's delivery system and employee base are essential for the success of this venture. The HMO health care financing system must be linked to a delivery system in order to use the process of prepayment to effect cost-savings. In addition, the quality provider base of PERTAMINA is needed to attract other employers in the parastatal and commerical markets.

Start-up capital for the Tugu Mandiri HMO can be raised in one or more of the following ways:

1. PERTAMINA advances to Tugu Mandiri 6% of the first years premium as the administration expense to initiate Phase I;
2. Tugu Mandiri secures a loan from the PERTAMINA Provident Employees Retirement Fund;
3. Tugu Mandiri acquires a loan from a local bank at commercial rates;
4. Tugu Mandiri raises funds from local investors;
5. Tugu Mandiri seeks a local partner;
6. Tugu Mandiri seeks equity financing from the International Finance Corporation;
7. Tugu Mandiri seeks a foreign partner; and
8. Tugu Mandiri seeks a loan from Tugu Pratama.

D. Key Assumptions

The Business Plan is designed around the following assumptions:

1. Employers and the government are actively seeking alternative methods to help control the rise in health care costs.

2. These alternatives respond to a cost-conscious marketplace by introducing advanced management techniques into existing health care delivery arrangements.

3. A five-year plan is needed in order to achieve the desired outcome. The plan is divided into Phase I (1987-88) and Phase II (1989-91). During Phase I, Tugu Mandiri will develop an indemnity health insurance line of business. During Phase II, it will introduce its HMO product. Efforts undertaken during Phase I will support Phase II.

4. Members will largely be obtained from the current wage-based population. This will leave other risk groups, i.e., retirees and the unemployed, in a less favorable financial/underwriting risk pool. However, our strategy has assumed that these groups will grow in size as the population ages and as the economy undergoes further changes or fluctuations. We, therefore, have addressed this problem in our recommended course of action.

5. PERTAMINA and Tugu Mandiri will have achieved a psychological and competitive edge over any future competitors as they will be viewed as the sponsors of the country's first HMO. Likewise, the involvement of the country's largest oil company in an innovative health care system will lend prestige to the Indonesian Government's commitment to develop its human resources.

6. PERTAMINA and non-PERTAMINA physicians will be willing to enter into new contractual or other forms of relationships in order to implement these programs nationwide if they are allowed to actively participate in design, implementation and management of the programs.

7. With proper management, will generate enough funds from these programs to allow for the expansion and/or replacement of existing facilities and equipment without having to substantially increase revenues or seek outside investment capital. However, there will also be enough

flexibility to introduce new product lines and more elaborate facilities. In this latter case, it may be desirable to seek capitalization from other sources.

8. Once established, PERTAMINA/Tugu Mandiri programs can be aggressively and successfully marketed to other employers.

9. Even if only marginally successful in controlling the cost of health care services (for example, if minimum savings of 10% are achieved), these programs will still represent net savings to participating employers.

10. There will be a continued need to purchase certain advanced health care services outside of Indonesia, (e.g., open-heart surgery). Thus, the formation of larger groups of purchasers will allow for more favorable rates to be negotiated.

E. Constraints

The following constraints have been noted by the Team:

1. There is no substantive experience with health insurance within Tugu Mandiri or any other company;

2. There is, at present, a limited data base on which to develop the actuarial analysis necessary to establish price, operational and investment requirements;

3. There is limited experience within Indonesia of groups of physicians who can work in concert with an insuring organization to provide care to a defined population;

4. There is no assurance that PERTAMINA will participate in this venture, thus forcing Tugu Mandiri to concentrate its marketing on other state-owned corporations and private sector groups; in doing so, however, Tugu Mandiri would not have access to the most respected health delivery system in the country;

5. There may be additional costs for Tugu Mandiri overhead, which will depend on what administrative charges are negotiated;

6. The interposing of a third party may be seen as adversarial by physicians and other PERTAMINA health personnel;

7. Without the full cooperation of PERTAMINA work sites it may be more difficult to develop risk factors tied to performance and to integrate occupational health services;

8. If ASTEK requires payment from private employers for health, it is not certain whether Tugu Mandiri will be able to work out a modus operandi as would a state owned company such as PERTAMINA;

9. It is uncertain whether needed care will be reduced by statutory reserve requirements that are now self-funded by PERTAMINA.

F. Operational Plan

There are a number of policy decisions that are central to a successful strategic plan for health insurance and other HMO product development, introduction and growth. In establishing overall direction, these decisions should maximize PERTAMINA's and Tugu Mandiri's strengths and correct their weaknesses.

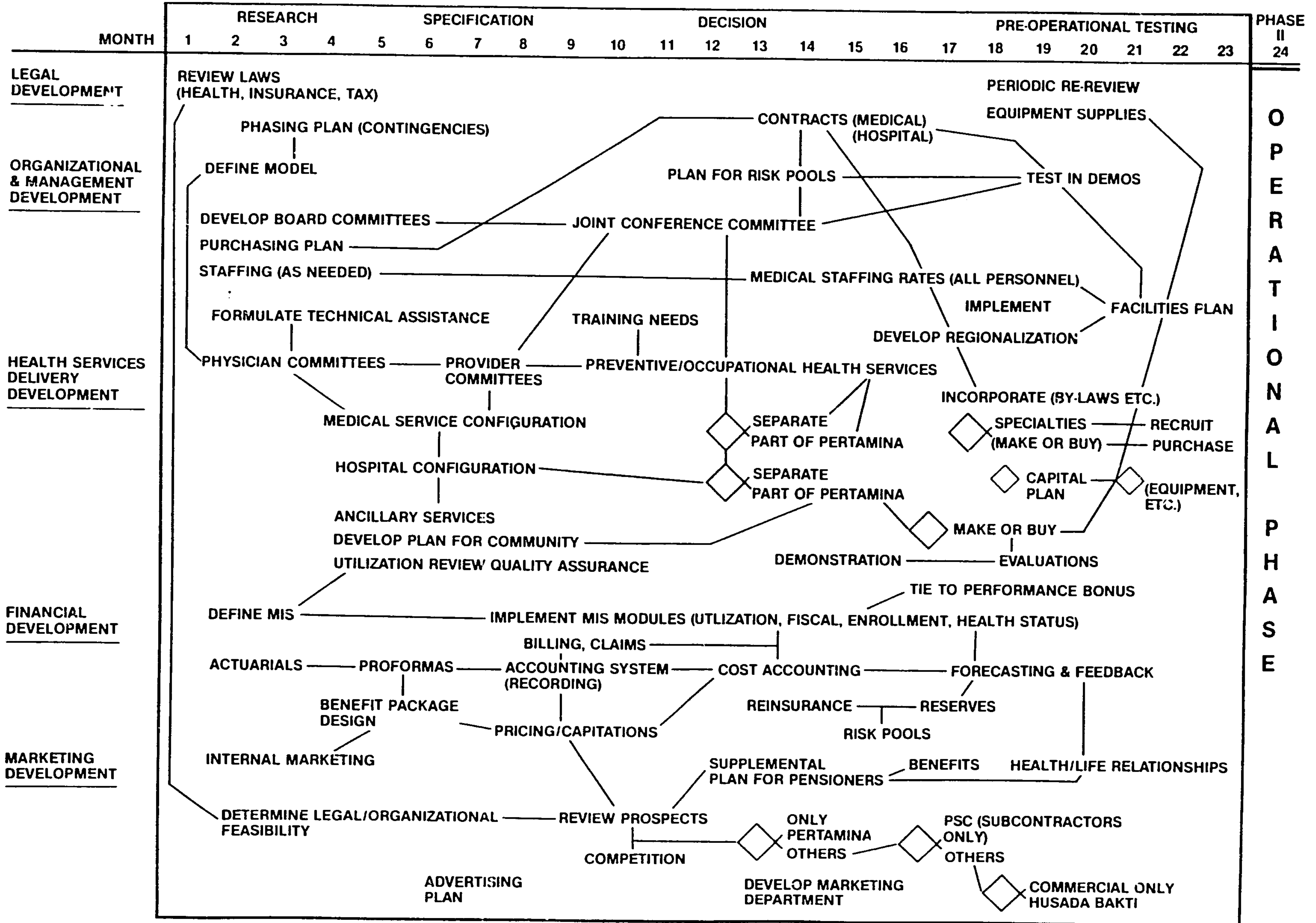
The underlying premise of the Business Plan is that innovative, decisive, and rapid action is needed in order to curtail health care costs. However, recognizing that the concepts of health insurance and HMOs are new to Indonesia, a two-phased strategic approach is recommended; one that will call for the introduction of a pre-operational HMO initially, with a concurrent phase-in of cost controls, to be followed by the full-scale launching of an HMO on a national scale in Phase II. Phase I will cover the years 1987-1988; Phase II will span from 1989-1991. Thereafter, it is assumed that market forces will be at work to allow for the full maturity of Tugu Mandiri's HMO line of business. It is further assumed that after having gained the necessary data and experience from the introduction of health insurance and an HMO product, Tugu Mandiri would be in a position to develop other product lines after 1991.

Chart C is a diagram of key tasks to be undertaken in Phase I, the pre-operational phase of HMO development. A series of sequential tasks are cross-referenced by time and function. It is assumed that development of the HMO in Phase II, when full risks are undertaken, will take 24 months. In some circumstances, where there is full commitment from an existing delivery system, decisions would take less time. Indeed, several U.S. HMOs of the network model, linking existing group practices into an HMO, took as little as 12 months. However, given the current uncertainties about the status of the PERTAMINA Medical Bureau and the PERTAMINA Hospitals a configuration will need to be developed to assure the interests of all concerned.

The Chart is divided into Legal Development, Organization and Management, Health Services, Finance and Marketing Functions. MIS is seen as a subset of the financial function but relates to health services delivery, marketing and enrollment as well. In many ways tne development of an information system is the key to HMO development in Tugu Mandiri.

Many tasks are shown with connecting lines. The review of laws is related to model definition, physician organization, marketing and planning, while capitation development depends on competing prices in the market as well as costs. Physician committees form the basis for a Joint Conference Committee which will decide on the structure of the health delivery systems.

Decision points are noted in the conventional format of a diamond. The chart assumes that decisions about configuration of medical providers and hospitals will be made within 12 months, as will the procedures for risk sharing. Make or buy decisions for specialists, facilities and equipment arise out of configuration decisions within 6 months. Also, marketing decisions about the extent and type of non-PERTAMINA enrollees will be made sequentially in the second year based on discussions with PERTAMINA, the Medical Bureau, and on financial considerations.



PHASE I
TUGU MANDIRI HMO DEVELOPMENT
CHART C
MONTH
RESEARCH
SPECIFICATION
DECISION
PRE-OPERATIONAL TESTING
PHASE II
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
LEGAL DEVELOPMENT
ORGANIZATIONAL & MANAGEMENT DEVELOPMENT
HEALTH SERVICES DELIVERY DEVELOPMENT
FINANCIAL DEVELOPMENT
MARKETING DEVELOPMENT
REVIEW LAWS (HEALTH, INSURANCE, TAX)
PERIODIC RE-REVIEW
EQUIPMENT SUPPLIES
PHASING PLAN (CONTINGENCIES)
CONTRACTS (MEDICAL) (HOSPITAL)
DEFINE MODEL
PLAN FOR RISK POOLS
TEST IN DEMOS
DEVELOP BOARD COMMITTEES
JOINT CONFERENCE COMMITTEE
PURCHASING PLAN
STAFFING (AS NEEDED)
MEDICAL STAFFING RATES (ALL PERSONNEL)
IMPLEMENT
FACILITIES PLAN
FORMULATE TECHNICAL ASSISTANCE
TRAINING NEEDS
DEVELOP REGIONALIZATION
PHYSICIAN COMMITTEES
PROVIDER COMMITTEES
PREVENTIVE/OCCUPATIONAL HEALTH SERVICES
INCORPORATE (BY-LAWS ETC.)
MEDICAL SERVICE CONFIGURATION
SEPARATE PART OF PERTAMINA
SPECIALTIES (MAKE OR BUY)
RECRUIT
PURCHASE
HOSPITAL CONFIGURATION
SEPARATE PART OF PERTAMINA
CAPITAL PLAN
(EQUIPMENT, ETC.)
ANCILLARY SERVICES
DEVELOP PLAN FOR COMMUNITY
MAKE OR BUY
UTILIZATION REVIEW QUALITY ASSURANCE
DEMONSTRATION
EVALUATIONS
TIE TO PERFORMANCE BONUS
DEFINE MIS
IMPLEMENT MIS MODULES (UTLIZATION, FISCAL, ENROLLMENT, HEALTH STATUS)
BILLING, CLAIMS
ACTUARIALS
PROFORMAS
ACCOUNTING SYSTEM (RECORDING)
COST ACCOUNTING
FORECASTING & FEEDBACK
BENEFIT PACKAGE DESIGN
REINSURANCE
RESERVES
PRICING/CAPITATIONS
RISK POOLS
INTERNAL MARKETING
SUPPLEMENTAL PLAN FOR PENSIONERS
BENEFITS
HEALTH/LIFE RELATIONSHIPS
DETERMINE LEGAL/ORGANIZATIONAL FEASIBILITY
REVIEW PROSPECTS
ONLY PERTAMINA
OTHERS
PSC (SUBCONTRACTORS ONLY)
OTHERS
COMPETITION
ADVERTISING PLAN
DEVELOP MARKETING DEPARTMENT
COMMERCIAL ONLY HUSADA BAKTI
OPERATIONAL PHASE
RELATIONSHIP
DECISION POINT

Key tasks as they relate to the Chart for Phase I are listed on the following pages. (The PERT Chart for Phase II is not presented here. This Chart will depend on organizational decisions made in Phase I.)

Phase I Key Tasks

Task	Timing
1. Convert PERTAMINA costs to premiums. Need information on aggregate and unit costs by service.	Months 7-24: Pricing/ capitation (Legal organization management, finance MIS); claims processing (finance, management, MIS).
2. Establish reimbursement mechanisms; design Tugu Mandiri-PERTAMINA money transfers and billing systems.	Months 6-24: Pricing/capitation claims processing, billing.
3. Set Tugu Mandiri administration fee billing, audit, and contractural terms.	Month 2: Cost Accounting Claims (Finance, MIS).
4. Establish Funds; Each fund must be set up as a legal entity. Procedures should be developed, and investment and/or program plan developed.	Months 13-24: Claims Processing, Reinsurance and Reserved, Risk pool development. Month 12: Plan for pensions. Month 18: MIS forecasting development (Finance, Benefit Design, Government Relations).
5. Recruit and train staff.	Months 1-24: Staffing as needed. Month 21: Develop Regionalization; Management and Medical Staff Ratios.
6. Develop claims processing and contracts.procedures; need accrual accounting system.	Month 6: Claims Processing (Financial Planning & Medical Accounting). Month 12: Link to Medical Records.
7. Begin staff training. Both managers and providers need training in procedures in which new activities and skills are required (e.g., use of MIS modules, Medical Records).	Months 1-24: Implement Personnel Policies and Staffing throughout (Management and Medical) Quality Assurance.
8. Assist PERTAMINA Medical Bureau and Hospitals to develop configuration; need inventory of hospital resources, personnel, utilization; this will be worked through provider committees which will form part of Joint Conference Committee with Management and Board.	Months 1-12: (decision within 12 months); (Medical, Financial Management); Legal Studies of impact on physician workload, quality, etc., of different organizational structures; note legal impact, develop contacts.

9. Initiate premium development capitation and cost summaries based on PERTAMINA and other companies cost and utilization. Project market, add risk loading and co-payment to get price of each benefit option.	Month 6: Pricing/Capitation link with marketing, MIS cost accounting utilization modules (Finance, MIS, Marketing); (review with each benefit package and product line).
10. Conduct market studies based on current health plans, interest of employers, location, etc. Project penetration and impact on cost and revenues (see Sequential Decisions months 13, 14, 16).	Months 3-11: (Marketing, Finance, Legal) ongoing from first month internal marketing to staff and to PERTAMINA followed by review of prospects for regular and supplemental benefits, competition; Months 12-24: Develop Marketing Department.

Many of the tasks in Phase II involve separate but related product lines, such as fiscal intermediary functions for other firms, management training, separate programs for the elderly and the community and bundled life-health plans. Each of these products must be assessed as to its feasibility in terms of Tugu Mandiri's capacity, market ability and development cost. Some will arise from the health plan, such as claims, utilization review, and other intermediary functions. Others will require government cooperation to develop programs for communities surrounding PERTAMINA sites and programs targeted to pensioners.

During the period 1987-1988, the immediate task is to establish a separate business entity or cost center within Tugu Mandiri. This is defined as an area of operation with an external market for services and products. Objectives and strategies can be determined for this unit and developed independently of other areas of operation, e.g., life insurance and indemnity health insurance. This structure allows for a more focused definition of a line of business that has different product lines and markets.

Regardless of the outcome of corporate decisions regarding the type of HMO model that will be developed, whether or not PERTAMINA will provide the delivery system, and at what point in time the HMO will be marketed to groups outside of PERTAMINA, planning and operating budgets will have to be developed for Phase I. This Phase represents Tugu Mandiri as a pre-operational HMO preparing to launch a complete HMO product line by 1989. Therefore, a number of activities must be undertaken during this "pre-operational" two-year period to ensure the solvency of the HMO in the third year or Phase II. In addition, an organizational structure must be designed and developed in such a way as to support Tugu Mandiri's health insurance business and to allow it to pave the way for Phase II when the HMO product will be introduced.

The following items should be reviewed carefully during Phase I as they will impact on Tugu Mandiri's ability to develop its products in the timeframe we have established:

- physical plant and functional and space conditions
- administrative and medical management capability
- utilization and productivity levels
- central management support systems
- quality assurance programs
- provisions for monitoring program implementation.

An important element of the operation plan is the development of clinical strategies. This assumes that PERTAMINA will become a partner in Tugu Mandiri's HMO program. If this does not happen, then Tugu Mandiri must still ensure that the activities mentioned below are undertaken.

Existing policies for physician productivity, utilization of services, and quality assurance should be reviewed to ensure that PERTAMINA's health care delivery system is efficient, that it will be appropriately utilized, and that it will allow Tugu Mandiri to meet its overall corporate objectives. It is critical that the physician leadership of PERTAMINA be involved in the development of new policies and performance standards in order to ensure that they are feasible given PERTAMINA's structure. Performance standards should reflect the level and type of staffing,

capacity and utilization of the delivery sites, and the quality standards that should be achieved. Providing financial or non-financial incentives to PERTAMINA physicians in order to improve their productivity and/or commitment to new programs should be seriously considered. The use of other levels of qualified health care providers, for example, nurse clinicians, health educators, and social workers should be considered.

Chart D is a staffing projection for physicians and non-physician providers. These projections are based on staffing models within US-based HMOs, and can be used as a guide by Tugu Mandiri planners. For instance, current physician staffing patterns in PERTAMINA's Health Bureau favor specialists over general practicianers, whereas US HMO's reflect the staffing relations in Chart D.

G. Management Team

The management factor will determine Tugu Mandiri's success as an operating HMO. Charts E and F represent the team's recommendations regarding the structure required to support health insurance and HMO lines of business. They reflect Tugu Mandiri's central office, although some functions can be performed at PERTAMINA during Phase 1 and then transferred to Tugu Mandiri during Phase II. It should be noted that these charts represent functional areas that must be staffed to provide services regardless of enrollment. As growth occurs, however, so does staff build-up at levels below that of Manager and Director. Therefore, the proposed organization for Phase I should be viewed as a fixed cost associated with the start-up of a new business venture, i.e., the introduction of health insurance and the pre-operational phase of HMO development. The table of organization for Phase II is simply an expansion of Phase I. In both cases there are fixed costs; the variable costs relate directly to the extent and nature of enrollment growth.

Charts E and F are based on staffing Tugu Mandiri for centralized operations. Regional offices will be needed in Phase II and beyond. The following staff would be required in regional locations:

Non-medical	Medical
Regional Administrator	Medical Director
Assistant	Deputy Medical Director
Secretary	
Utilization Review Coordinator	
Accountant	
Data Processing Coordinator	
Support Staff	
Member Relations Account	
Supervisor Coordinator	

It is estimated that a regional office would cost $250,000 per annum for salary. Fringe benefits, overhead, and other costs would be additional. Thus, if Tugu Mandiri expanded its operations out of Jakarta to, say, seven locations throughout Indonesia, its decentralized administration and clinical costs would be $1.75 million, plus overhead and medical supplies, equipment, etc.

CHART D

Staffing Projections - Physicians (increments of 40,000)

Enrollment Levels	40,000	80,000	160,000	200,000
Family Physicians	15.6 FTE*	31.2	62.4	124.8
Peds	6	12	24	48
OB/GYN	4	8	16	32
Dermatology	1	2	4	8
Opthalmology	2	4	8	16
Urology	.75	1.5	3	6
Otolaryngology	1	2	4	8
Surgery	3	6	12	24
Allergy	.5	1	2	4
Neurology	.8	1.6	3.2	6.4
Radiology	1.5	3	6	12

Staffing Projections Non-Physician Provider

Enrollment Levels	40,000	80,000	160,000	200,000
Social Work	3 FTE's	4 FTE's	6 FTE's	8 FTE's
Health Education	1	1	2	3
Optometry	1.1	1.6	3.2	6.4
Nutrition	1.5	2.5	5	10
Physical Therapy	1.1	1.7	3.2	6
Lab & X-Ray				

Optional

RN
LPN
NC
PA

Clinical Support

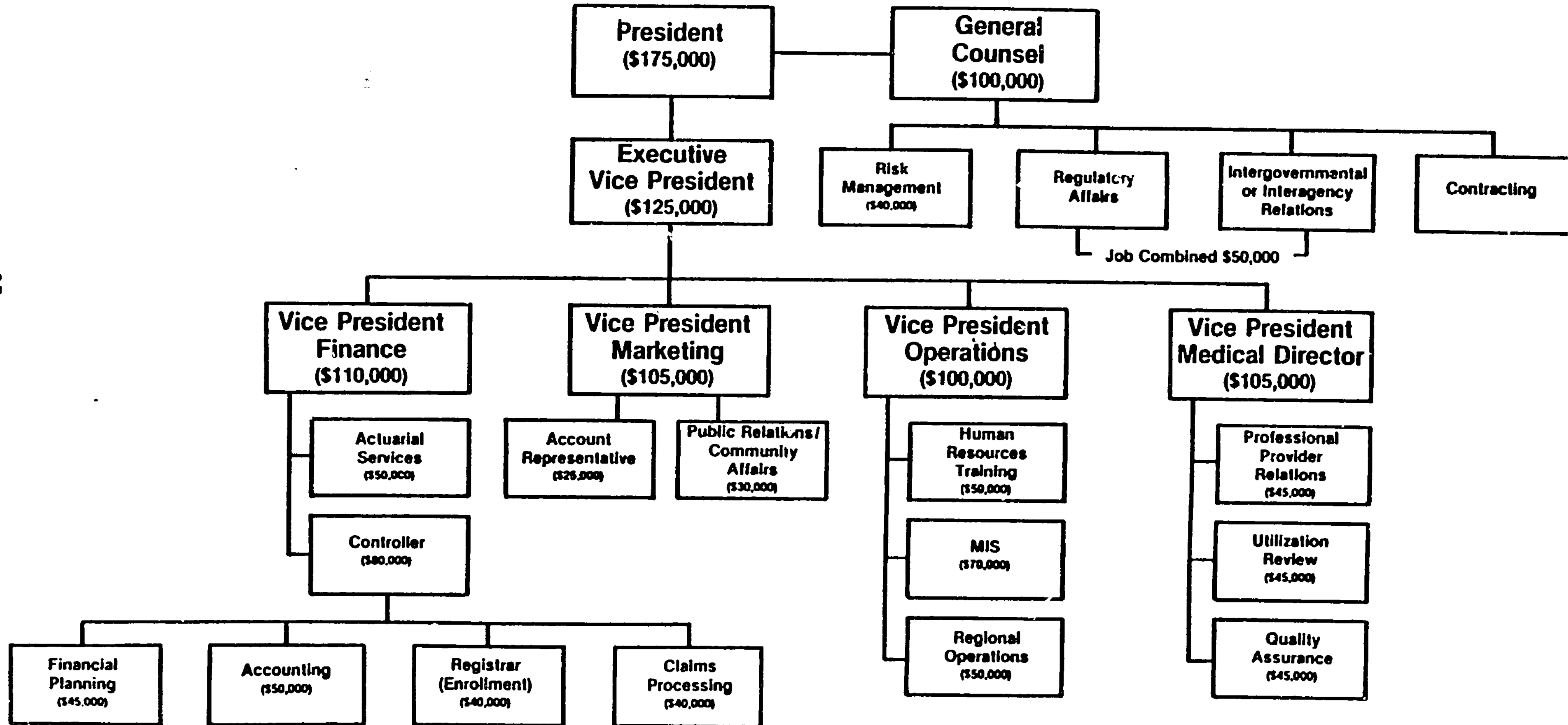
Medical Records
Medical Assistants

*Full-time Equivalents

TUGU MANDIRI HEALTH INSURANCE AND HEALTH MAINTENANCE ORGANIZATION

CHART E

PHASE 1: 1987-1988



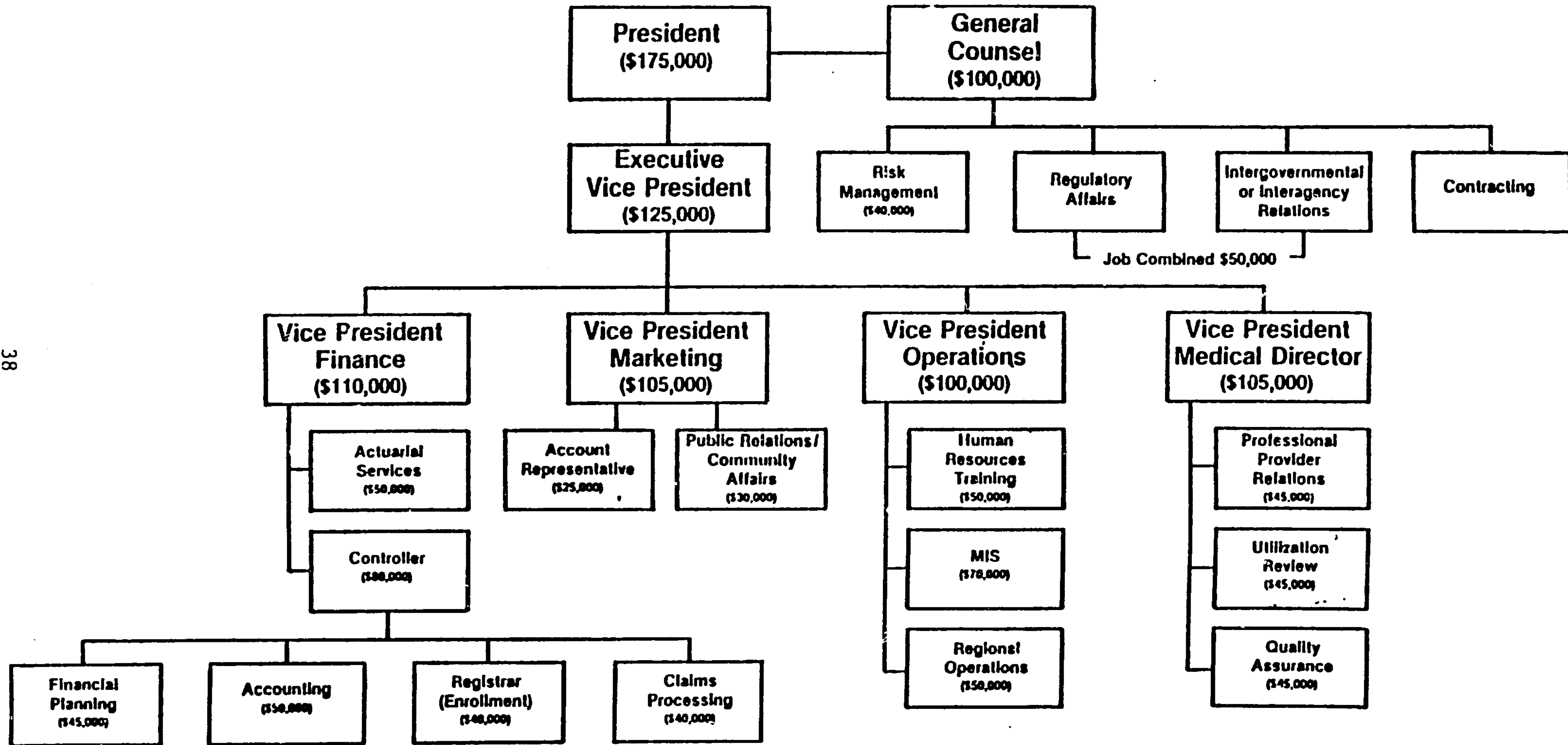
Budget Note: Prices for personnel are calculated on U. S. HMO labor costs. They need to be adjusted to reflect labor costs in Indonesia. Additional costs for overhead, hardware/software systems, staff training, travel and communications, office supplies, furniture and office equip-

Total = $1,720,000

TUGU MANDIRI HEALTH INSURANCE AND HEALTH MAINTENANCE ORGANIZATION

CHART F

PHASE 2: 1989-1991



Budget Note: Prices for personnel are calculated on U. S. HMO labor costs. They need to be adjusted to reflect labor costs for Indonesia. Labor costs are not adjusted for inflation from Phase I. At least 12 new staff members will have to be added in Phase II, exclusive of those which may be needed in regional offices. Additional costs for overhead, office equipment, etc., will need to be calculated.

TOTAL = $2,250,000

Staff training needs will be considerable. The team suggests that key managers and directors be selected for training, and that such training should be undertaken in the United States in order for these people to receive on-line experience in health insurance, HMO organization and operation, and hospital management. It may also be advisable to have certain physician-managers from PERTAMINA go through this training program. Approximate duration would be 6-8 weeks, depending on the academic training and prior experience of the staff member.

H. Management Capacity

One can categorize management capacity into people, training and systems. People with management skills are available within the health sector and from other industries. Training in different aspects of health administration can be developed by existing university programs in management and public health and by provider organizations. Management systems need to be adapted for the Indonesian situation. Tugu Mandiri and PERTAMINA's Medical Bureau have the management capacity to initiate Phase I; this will have to be expanded for Phase II.

The Tugu Mandiri HMO managers of prepaid health care plans will need training in marketing, finance, medical management and underwriting. This can be accomplished through short courses supplemented by on-the-job training. It is probable that some long-term consultation would be needed for rather complex curriculum design and guidance for preceptorships. Much of the substantive skills can be found in other sectors--banking (MIS, verification), insurance (claims processing, underwriting), and manufacturing (cost accounting, personnel and human engineering). These can be adapted to health insurance products. The implementation of an insurance law will require familiarity with review, monitoring and financial analysis. Generic skills, such as those listed above, will require complementary ones for physicians to develop utilization review and other medical management techniques.

With regard to physicians, this requires not only the acquisition of new facts and skills but a change in values and orientation. The concept of peer review requires the acceptance of the patient as a whole person. The concept of risk-sharing means a broadened understanding of medical care. This is best done through the medical education process. Support for the activities of the PERTAMINA Medical Bureau and for the in-plant medical systems of large accounts such as PT Tambang Timah must be planned.

Management techniques must be informed by health orientation and some understanding of the interpersonal, and socio-biological foundations of health care. For this reason, schools of public health will need to cooperate with schools of management. For Tugu Mandiri, this will be an ongoing activity keyed to staffing needs and the acquisition or management of medical care systems of other companies.

The cooperation of the PERTAMINA Medical Bureau is the key to both operating and marketing the HMO. The reputation of the delivery system will be a selling point to employers and individuals. Provider relations will have to assure that PERTAMINA Medical Bureau personnel are secure and can be motivated to practice efficiently. If the decision is made to integrate other firms' medical units, many questions of location, remuneration, etc., will have to be solved. Phase I of the pre-operational process is designed to address these thorny personnel matters.

This is a new and complex venture. The Board of Directors of Tugu Mandiri, the Chief Executive Officer, and Senior Management must review and evaluate the long-term goals and objectives of the corporation. These set the tone and provide the corporate direction and framework within which more specific strategies will be developed.

The following are some of the questions that should be considered in defining corporate strategies:

1. What type of model of HMO, i.e., Group, Staff, or IPA should Tugu Mandiri develop? What is the most efficient and in the long run, most effective way for Tugu Mandiri to deliver services through this HMO?

2. Should business growth be limited to a single region or metropolitan area?

3. Are there benefits to be gained by forming partnerships with other insurers, HMOs, or non-HMO providers at the local, regional, national, or international levels?

4. Would changes in Tugu Mandiri's corporate relationships improve or hurt the organization's public image?

5. Should new product lines such as long-term care, home health care, preferred provider organizations, ambulatory surgical centers, or health clubs be considered?

6. Is merger with another major provider system feasible and desirable?

There will be a need to define new market strategies to support the overall corporate effort. For example, what have been, and what are likely to be, the plans of major providers and purchasers (employers) of health care in the area? Is it beneficial to be the first HMO to establish a presence in a new market in order to beat the competition, even if the move is premature from an internal standpoint?

In order to develop a better understanding of the potential target markets, it will be necessary to develop a marketing profile by geographic region. The data should include at least the following elements:

- primary care physicians per 1,000 population
- acute care hospital beds per 1,000 population
- days of hospital care per 1,000 population
- available technology
- rate of population growth including age/sex distribution
- rate of retiree population's growth (may also include rate of elderly population growth in the general population)
- population density
- extent and nature of other health care providers in the area
- market response (employers and prospective competitors).

The above would be plotted against a profile of the characteristics of targeted employer groups to determine the number of eligible employees, their age, sex, number of dependents, and where they live. Combined, these

data elements allow for the analysis of potential market penetration, market growth, and the ability of the HMO management to provide services with existing facilities and staff versus the need to add additional capacity.

I. Financial Statements

The income and expense statements for the Tugu Mandiri HMO are cast in eight different scenarios covering the period 1987-1991. Each of these scenarios has different assumptions, particularly in the rate of enrollment growth, but also in terms of inflation rates and the percentages used to calculate the Funds. Chart G is a breakdown of PERTAMINA's 1984 health care costs in service utilization categories, which was then converted into a premium claim cost on a per member per month basis.

Chart G

PERTAMINA'S HEALTH SYSTEM UTILIZATION CONVERTED TO PREMIUMS
Util/1000

Hospital	- Inpatient	730 days @ $45	= 2.74
	- Outpatient	200 visits @ $20	= .33
			3.07
Physician	- Inp surgery	65 cases @ $1000	= .54
	- Out surgery	150 cases @ $25	= .31
	- Inp visits	350 visits @ $10	= .29
	- Office visits	7000 visits @ $5	= 2.92
	- Lab tests	1500 proc @ $2.50	= .31
	- X rays	500 proc @ $15	= .63
	- Obstetric	30 cases @ $75	= .19
			5.19
Other	- Prescriptions	6000 @ $10	= 5.00
	- Appliances	50 services @ %5	= .02
	- Misc.	50 services @ $5	= .02
			5.04
		TOTAL:	$ 13.30
Dental visits		500 visits @ $3.00	= .13
			$ 13.43

In this fashion, using Health Bureau data, a monthly health premium per member would have cost $13.43 in 1984. Thus, in that year, it would have cost PERTAMINA approximately $39.6 million in health insurance premiums to provide health benefits to its employees, their dependents, and retirees (250,000 people). The Team added $5 million for overhead costs for a total 1984 health budget of $45 million. This figure was adjusted upward at 19 percent per annum, and all the scenarios begin in 1987 with annual health costs of $76 million. These scenarios will be described briefly:

1. **Scenario 1, Table 1** - This scenario is Option I, as described in Addendum I. PERTAMINA makes no change in its present delivery system and continues to own and operate all its facilities. Total number of active employees, their dependents, and retirees and their dependents, are held constant at 1986 levels. The annual cost inflation is calculated on the basis of the Team's estimate in Chart A, which is lower than that of PERTAMINA's Medical Bureau.

   Under the new tax laws of the GOI, PERTAMINA will incur a tax liability of 60 percent on its health benefits to members. This cost is added to total health care costs for each of the five years. Thus, the annual cost per member (PPM) will increase from $486 in 1987 to $975 in 1991. If cost containment measures fail, then the Medical Bureau's expenses could reach $1,216 per covered person in 1991 ($190 million x .60 = $304 million divided by 250,000 = $1,216). This cost does not include fringe benefits for the Medical Bureau staff, nor the administrative costs of the Bureau, nor overhead and capital costs.

TABLE 1

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 1
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
TOTAL ENROLLMENT	250,000		250,000		250,000		250,000		250,000	
MEDICAL EXPENSES:										
HOSPITALIZATION	16,720,000	66.88	19,897,500	79.59	21,525,000	86.10	24,335,000	97.34	28,957,500	115.83
PHYSICIAN COSTS	29,640,000	118.56	35,272,500	141.09	44,127,500	176.51	53,792,500	215.17	65,537,500	262.15
DRUGS	28,120,000	112.48	33,462,500	133.85	37,670,000	150.68	43,545,000	174.18	48,772,500	195.09
OTHER MEDICAL COSTS	1,520,000	6.08	1,810,000	7.24	2,152,500	8.61	3,842,500	15.37	6,097,500	24.39
DEMONSTRATION	0	0.00	0	0.00	2,152,500	8.61	2,562,500	10.25	3,047,500	12.19
TOTAL MEDICAL EXPENSES	76,000,000	304.00	90,442,500	361.77	107,627,500	430.51	128,077,500	512.31	152,412,500	609.65
INDONESIAN TAXES @ 60% OF TOTAL MEDICAL EXPENSES	45,600,000	182.40	54,265,500	217.06	64,576,500	258.31	76,846,500	307.39	91,447,500	365.79
TOTAL EXPENSES	$121,600,000	486.40	$144,708,000	578.83	$172,204,000	688.82	$204,924,000	819.70	$243,860,000	975.44

2. **Scenario 2, Table 2-** In this Scenario only PERTAMINA members join the Tugu Mandiri HMO and membership is held constant over the five-year period.

Administration income and expenses were determined in the following manner:

a. Interest income is 10% of the sum of Retirement, Reserves, and Capital Set-aside Expenses;
b. Total Medical Expenses are projected to increase by:
   - 19% in 1987 - 15% in 1988 - 12% in 1989 - 12% in 1990 - 12% in 1991;
c. Community Service Fund is 2% of total Medical Expenses;
d. Retirement Health Fund is 3% of total Medical Expenses, beginning in 1989;
e. Demonstration Program Fund (health prevention and promotion) is 2% of Medical Expenses, beginning in 1989;
f. Administration Expenses are 6% of total Medical Expenses in the first three years, and 5% in the last two years;
g. Reserves are held constant at $3 million per annum, beginning in 1989;
h. Capital Earmarked Funds are 2% of total Medical Expenses, beginning in 1989.

The annual premium per member (PPM) increases from $328 in 1987 to $596 in 1991, a sharp contrast to Scenario 1. The decreases in Medical Expenses (the cost escalator from 19 percent in 1987 to 12% in 1991) are achieved through reductions in drug utilization, hospital utilization, and increases in bad debt collections at the PERTAMINA central hospital in Jakarta. HMOs typically make their greatest cost savings on reductions in drug and hospital utilization.

Scenario 2 (revised) Table 3, is a projected Income and Expense statement for Tugu Mandiri's 6% Administration Fee. One item is noteworthy: although deficits are incurred in 1987 and 1988, a surplus accrues in each of the following three years, sufficient to erase all deficits.

Scenario 2-A, Table 4, increases the Retirement Health Fund from 3% of total Medical Expenses to 4% in 1989, 5% in 1990, and 6% in 1991. At the same time, Administration Expenses are decreased from 6% of total Medical Expenses to 5% in 1990-91.

This scenario enrolls approximately 1 percent of the taxable wage-based labor force in Indonesia.

TABLE 2

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 2
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
TOTAL ENROLLMENT	250,000		250,000		250,000		250,000		250,000	
REVENUE:										
PERTAMINA	$82,080,000	$328.32	$97,675,000	$390.70	$119,705,000	$478.82	$132,582,500	$530.33	$148,167,500	$592.67
EST. INTEREST INCOME	0	0.00	0	0.00	820,000	3.28	882,500	3.53	952,500	3.81
TOTAL REVENUE	82,080,000	328.32	97,675,000	390.70	120,525,000	482.10	133,465,000	533.86	149,120,000	596.48
MEDICAL EXPENSES:										
HOSPITALIZATION	16,720,000	66.88	19,897,500	79.59	20,800,000	83.20	22,132,500	88.53	24,787,500	99.15
PHYSICIAN COSTS	29,640,000	118.56	35,272,500	141.09	42,642,500	170.57	48,922,500	195.69	56,100,000	224.40
DRUGS	28,120,000	112.48	33,462,500	133.85	36,402,500	145.61	39,605,000	158.42	41,747,500	166.99
OTHER MEDICAL COSTS	1,520,000	6.08	1,810,000	7.24	2,080,000	8.32	3,495,000	13.98	5,217,500	20.87
DEMONSTRATION	0	0.00	0	0.00	2,080,000	8.32	2,330,000	9.32	2,610,000	10.44
TOTAL MEDICAL EXPENSES	76,000,000	304.00	90,442,500	361.77	104,005,000	416.02	116,485,000	465.94	130,462,500	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	4,560,000	18.24	5,425,000	21.70	6,240,000	24.96	5,825,000	23.30	6,522,500	26.09
COMMUNITY SERVICES	1,520,000	6.08	1,807,500	7.23	2,080,000	8.32	2,330,000	9.32	2,610,000	10.44
RETIREMENT	0	0.00	0	0.00	3,120,000	12.48	3,495,000	13.98	3,915,000	15.66
RESERVES	0	0.00	0	0.00	3,000,000	12.00	3,000,000	12.00	3,000,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	2,080,000	8.32	2,330,000	9.32	2,610,000	10.44
TOTAL ADMINISTRATION EXPENSES	6,080,000	24.32	7,232,500	28.93	16,520,000	66.08	16,980,000	67.92	18,657,500	74.63
TOTAL EXPENSES	82,080,000	328.32	97,675,000	390.70	120,525,000	482.10	133,465,000	533.86	149,120,000	596.48
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	(.00)	$0	0.00	$0	(.00)

TABLE 3

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
BASED ON SCENARIO 2
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
TUGU MANDIRA	250,000		250,000		250,000		250,000		250,000	
TOTAL ENROLLMENT	250,000		250,000		250,000		250,000		250,000	
REVENUE:										
TUGU MANDIRA	$4,560,000	$18.24	$5,425,000	$21.70	$6,240,000	$24.96	$5,825,000	$23.30	$6,522,500	$26.09
TOTAL REVENUE	4,560,000	18.24	5,425,000	21.70	6,240,000	24.96	5,825,000	23.30	6,522,500	26.09
EXPENSES:										
PAYROLL EXPENSES	1,700,000	6.80	2,210,000	8.84	2,762,500	11.05	3,038,750	12.16	3,200,000	12.80
FRINGE BENEFITS	510,000	2.04	663,000	2.65	828,750	3.32	911,625	3.65	960,000	3.84
FIXED EXPENSES	500,000	2.00	545,000	2.18	350,000	1.40	160,000	0.64	150,000	0.60
DEVELOPMENT COSTS	685,000	2.74	800,000	3.20	420,000	1.68	100,000	0.40	75,000	0.30
OTHER VARIABLE COSTS	1,150,000	4.60	1,000,000	4.00	525,000	2.10	200,000	0.80	95,000	0.38
ADMINISTRATION	583,000	2.33	625,000	2.50	675,000	2.70	690,000	2.76	700,000	2.80
TOTAL EXPENSES BEFORE TAXES	5,128,000	20.51	5,843,000	23.37	5,561,250	22.25	5,100,375	20.41	5,180,000	20.72
SURPLUS (DEFICIT) BEFORE TAXES	(568,000)	(2.27)	(418,000)	(1.67)	678,750	2.72	724,625	2.90	1,342,500	5.37
INDONESIAN TAXES @ 35% OF TOTAL EXPENSES	0	0.00	0	0.00	237,563	0.95	253,619	1.01	469,875	1.88
TOTAL EXPENSES	5,128,000	20.51	5,843,000	23.37	5,798,813	23.20	5,353,994	21.42	5,649,875	22.60
TOTAL SURPLUS (DEFICIT)	($568,000)	($2.27)	($418,000)	($1.67)	$441,188	$1.76	$471,006	$1.88	$872,625	$3.49

TABLE 4

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 2-A
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
TOTAL ENROLLMENT	250,000		250,000		250,000		250,000		250,000	
REVENUE:										
PERTAMINA	$82,080,000	$328.32	$97,675,000	$390.70	$120,640,000	$482.56	$134,680,000	$538.72	$151,687,500	$606.75
EST. INTEREST INCOME	0	0.00	0	0.00	925,000	3.70	1,115,000	4.46	1,345,000	5.38
TOTAL REVENUE	82,080,000	328.32	97,675,000	390.70	121,565,000	486.26	135,795,000	543.18	153,032,500	612.13
MEDICAL EXPENSES:										
HOSPITALIZATION	16,720,000	66.88	19,897,500	79.59	20,800,000	83.20	22,132,500	88.53	24,787,500	99.15
PHYSICIAN COSTS	29,640,000	118.56	35,272,500	141.09	42,642,500	170.57	48,922,500	195.69	56,100,000	224.40
DRUGS	28,120,000	112.48	33,462,500	133.85	36,402,500	145.61	39,605,000	158.42	41,747,500	166.99
OTHER MEDICAL COSTS	1,520,000	6.08	1,810,000	7.24	2,080,000	8.32	3,495,000	13.98	5,217,500	20.87
DEMONSTRATION	0	0.00	0	0.00	2,080,000	8.32	2,330,000	9.32	2,610,000	10.44
TOTAL MEDICAL EXPENSES	76,000,000	304.00	90,442,500	361.77	104,005,000	416.02	116,485,000	465.94	130,462,500	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	4,560,000	18.24	5,425,000	21.70	6,240,000	24.96	5,825,000	23.30	6,522,500	26.09
COMMUNITY SERVICES	1,520,000	6.08	1,807,500	7.23	2,080,000	8.32	2,330,000	9.32	2,610,000	10.44
RETIREMENT	0	0.00	0	0.00	4,160,000	16.64	5,825,000	23.30	7,827,500	31.31
RESERVES	0	0.00	0	0.00	3,000,000	12.00	3,000,000	12.00	3,000,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	2,080,000	8.32	2,330,000	9.32	2,610,000	10.44
TOTAL ADMINISTRATION EXPENSES	6,080,000	24.32	7,232,500	28.93	17,560,000	70.24	19,310,000	77.24	22,570,000	90.28
TOTAL EXPENSES	82,080,000	328.32	97,675,000	390.70	121,565,000	486.26	135,795,000	543.18	153,032,500	612.13
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	(.00)	$0	0.00	$0	0.00

3. **Scenario 3, Table 5** - The only change in this scenario is that 100,000 new members are added from the Production Sharing Contractors of PERTAMINA, and at the same premium as the parent company. It is likely, though, that premium costs would decrease with the addition of 100,000 new members, as the PERTAMINA delivery system now has excess capacity. Because the Team wishes to be very conservative on these financial projections, PPM remains the same in this Scenario. All other Expense categories are the same as in Scenario 2, Table 2. In Scenario 3-A, Table 6, Retirement Health Fund moves from 3% in 1988 to 4% in 1989, 5% in 1990, and 6% in 1991. Administration expenses are decreased from 6% in 1989 to 5% in 1990 and 1991.

   In year three, there are increases in payroll, fringe benefits, and other cost centers, i.e., reinsurance, to account for Tugu Mandiri's movement from fiscal intermediary to an operational HMO and the assumption of risks.

   This Scenario enrolls approximately 1.25 percent of the taxable wage-based labor force in the country.

TABLE 5

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 3
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
PRODUCTION SHARING	100,000		100,000		100,000		100,000		100,000	
TOTAL ENROLLMENT	350,000		350,000		350,000		350,000		350,000	
REVENUE:										
PERTAMINA	$81,588,500		$97,090,000		$118,986,000		$131,785,500		$147,280,000	
PRODUCTION SHARING	33,323,500		39,655,000		48,601,000		53,830,000		60,154,500	
EST. INTEREST INCOME	0		0		1,148,000		1,235,500		1,333,500	
TOTAL REVENUE	114,912,000	328.32	136,745,000	390.70	168,735,000	482.10	186,851,000	533.86	208,768,000	596.48
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	27,856,500	79.59	29,120,000	83.20	30,985,500	88.53	34,702,500	99.15
PHYSICIAN COSTS	41,496,000	118.56	49,381,500	141.09	59,699,500	170.57	68,491,500	195.69	78,540,000	224.40
DRUGS	39,368,000	112.48	46,847,500	133.85	50,963,500	145.61	55,447,000	158.42	58,446,500	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	2,534,000	7.24	2,912,000	8.32	4,893,000	13.98	7,304,500	20.87
DEMONSTRATION	0	0.00	0	0.00	2,912,000	8.32	3,262,000	9.32	3,654,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	126,619,500	361.77	145,607,000	416.02	163,079,000	465.94	182,647,500	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	7,595,000	21.70	8,736,000	24.96	8,155,000	23.30	9,131,500	26.09
COMMUNITY SERVICES	2,128,000	6.08	2,530,500	7.23	2,912,000	8.32	3,262,000	9.32	3,654,000	10.44
RETIREMENT	0	0.00	0	0.00	4,368,000	12.48	4,893,000	13.98	5,481,000	15.66
RESERVES	0	0.00	0	0.00	4,200,000	12.00	4,200,000	12.00	4,200,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	2,912,000	8.32	3,262,000	9.32	3,654,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	10,125,500	28.93	23,128,000	66.08	23,772,000	67.92	26,120,500	74.63
TOTAL EXPENSES	114,912,000	328.32	136,745,000	390.70	168,735,000	482.10	186,851,000	533.86	208,768,000	596.48
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	(.00)	$0	0.00	$0	0.00

TABLE 6

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 3-A
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
PRODUCTION SHARING	100,000		100,000		100,000		100,000		100,000	
TOTAL ENROLLMENT	350,000		350,000		350,000		350,000		350,000	
REVENUE:										
PERTAMINA	$81,588,500		$97,090,000		$119,917,000		$133,871,500		$150,776,500	
PRODUCTION SHARING	33,323,500		39,655,000		48,979,000		54,680,500		61,586,000	
EST. INTEREST INCOME	0		0		1,295,000		1,561,000		1,883,000	
TOTAL REVENUE	114,912,000	328.32	136,745,000	390.70	170,191,000	486.26	190,113,000	543.18	214,245,500	612.13
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	27,856,500	79.59	29,120,000	83.20	30,985,500	88.53	34,702,500	99.15
PHYSICIAN COSTS	41,496,000	118.56	49,381,500	141.09	59,699,500	170.57	68,491,500	195.69	78,540,000	224.40
DRUGS	39,368,000	112.48	46,847,500	133.85	50,963,500	145.61	55,447,000	158.42	58,446,500	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	2,534,000	7.24	2,912,000	8.32	4,893,000	13.98	7,304,500	20.87
DEMONSTRATION	0	0.00	0	0.00	2,912,000	8.32	3,262,000	9.32	3,654,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	126,619,500	361.77	145,607,000	416.02	163,079,000	465.94	182,647,500	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	7,595,000	21.70	8,736,000	24.96	8,155,000	23.30	9,131,500	26.09
COMMUNITY SERVICES	2,128,000	6.08	2,530,500	7.23	2,912,000	8.32	3,262,000	9.32	3,654,000	10.44
RETIREMENT	0	0.00	0	0.00	5,824,000	16.64	8,155,000	23.30	10,958,500	31.31
RESERVES	0	0.00	0	0.00	4,200,000	12.00	4,200,000	12.00	4,200,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	2,912,000	8.32	3,262,000	9.32	3,654,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	10,125,500	28.93	24,584,000	70.24	27,034,000	77.24	31,598,000	90.28
TOTAL EXPENSES	114,912,000	328.32	136,745,000	390.70	170,191,000	486.26	190,113,000	543.18	214,245,500	612.13
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	(.00)	$0	(.00)	$0	0.00

4. **Scenario 4 , Table 7** - Other parastatals, such as PT Timah, join the HMO bringing membership up to 550,000 in 1991. The same premium rate structure as PERTAMINA's is used, although high-option/low-option policies will have to be developed. Given a total enrollment of 550,000, it is likely that additional capitalization would be required to expand the delivery system. This is not reflected in the projection, nor is a lower PPM rate for employers which would be due from economies of scale with this membership.

   The Tugu Mandiri Income and Expense statement, Table 8, again shows deficits in the first two years of operation and a surplus in each of the next three years. In Scenario 4-A, Table 9, Retirement Health Fund moves from 4% in 1989, 5% in 1990, and 6% in 1991, and administration expenses decrease from 6% to 5% in 1990 and 1991.

   This Scenario enrolls approximately 2.25 percent of the taxable wage-based labor force in the country.

TABLE 7

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 4
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
PRODUCTION SHARING	100,000		100,000		100,000		100,000		100,000	
PARASTATALS	0		75,000		150,000		200,000		200,000	
TOTAL ENROLLMENT	350,000		425,000		500,000		550,000		550,000	
REVENUE:										
PERTAMINA	$81,588,500		$97,966,750		$119,705,000		$134,172,500		$149,946,500	
PRODUCTION SHARING	33,323,500		39,852,250		47,880,000		52,503,000		58,674,000	
PARASTATALS	0		28,228,500		71,825,000		105,006,000		117,348,000	
EST. INTEREST INCOME	0		0		1,640,000		1,941,500		2,095,500	
TOTAL REVENUE	114,912,000	328.32	166,047,500	390.70	241,050,000	482.10	293,623,000	533.86	328,064,000	596.48
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	33,825,750	79.59	41,600,000	83.20	48,691,500	88.53	54,532,500	99.15
PHYSICIAN COSTS	41,496,000	118.56	59,963,250	141.09	85,285,000	170.57	107,629,500	195.69	123,420,000	224.40
DRUGS	39,368,000	112.48	56,886,250	133.85	72,805,000	145.61	87,131,000	158.42	91,844,500	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	3,077,000	7.24	4,160,000	8.32	7,689,000	13.98	11,478,500	20.87
DEMONSTRATION	0	0.00	0	0.00	4,160,000	8.32	5,126,000	9.32	5,742,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	153,752,250	361.77	208,010,000	416.02	256,267,000	465.94	287,017,500	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	9,222,500	21.70	12,480,000	24.96	12,815,000	23.30	14,349,500	26.09
COMMUNITY SERVICES	2,128,000	6.08	3,072,750	7.23	4,160,000	8.32	5,126,000	9.32	5,742,000	10.44
RETIREMENT	0	0.00	0	0.00	6,240,000	12.48	7,689,000	13.98	8,613,000	15.66
RESERVES	0	0.00	0	0.00	6,000,000	12.00	6,600,000	12.00	6,600,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	4,160,000	8.32	5,126,000	9.32	5,742,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	12,295,250	28.93	33,040,000	66.08	37,356,000	67.92	41,046,500	74.63
TOTAL EXPENSES	114,912,000	328.32	166,047,500	390.70	241,050,000	482.10	293,623,000	533.86	328,064,000	596.48
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	0.00	$0	0.00	$0	0.00

TABLE 8

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
BASED ON SCENARIO 4
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
TUGU MANDIRA	350,000		425,000		500,000		550,000		550,000	
TOTAL ENROLLMENT	350,000		425,000		500,000		550,000		550,000	
REVENUE:										
TUGU MANDIRA	$6,384,000	$18.24	$9,222,500	$21.70	$12,480,000	$24.96	$12,815,000	$23.30	$14,349,500	$26.09
TOTAL REVENUE	6,384,000	18.24	9,222,500	21.70	12,480,000	24.96	12,815,000	23.30	14,349,500	26.09
EXPENSES:										
PAYROLL EXPENSES	2,200,000	6.29	2,618,000	6.16	3,403,400	6.81	3,913,910	7.12	5,501,561	10.00
FRINGE BENEFITS	660,000	1.89	785,400	1.85	1,021,020	2.04	1,174,173	2.13	1,650,468	3.00
FIXED EXPENSES	500,000	1.43	595,000	1.40	684,250	1.37	581,613	1.06	552,532	1.00
DEVELOPMENT COSTS	1,200,000	3.43	2,040,000	4.80	1,530,000	3.06	1,147,500	2.09	925,000	1.68
OTHER VARIABLE COSTS	1,150,000	3.29	1,725,000	4.06	1,897,500	3.80	1,100,000	2.00	875,000	1.59
ADMINISTRATION	1,200,000	3.43	1,978,000	4.65	1,934,600	3.87	1,800,500	3.27	1,500,000	2.73
TOTAL EXPENSES BEFORE TAXES	6,910,000	19.76	9,741,400	22.92	10,470,770	20.95	9,717,696	17.67	11,004,561	20.00
SURPLUS (DEFICIT) BEFORE TAXES	(526,000)	(1.50)	(518,900)	(1.22)	2,009,230	4.02	3,097,305	5.63	3,344,939	6.08
INDONESIAN TAXES @ 35% OF TOTAL EXPENSES	0	0.00	0	0.00	703,231	1.41	1,084,057	1.97	1,170,729	2.13
TOTAL EXPENSES	6,910,000	19.76	9,741,400	22.92	11,174,001	22.36	10,801,752	19.64	12,175,289	22.13
TOTAL SURPLUS (DEFICIT)	($526,000)	($1.52)	($518,900)	($1.22)	$1,306,000	$2.60	$2,013,248	$3.66	$2,174,211	$3.96

TABLE 9

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 4-A
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
PRODUCTION SHARING	100,000		100,000		100,000		100,000		100,000	
PARASTATALS	0		75,000		150,000		200,000		200,000	
TOTAL ENROLLMENT	350,000		425,000		500,000		550,000		550,000	
REVENUE:										
PERTAMINA	$81,588,500		$97,966,750		$120,640,000		$136,295,500		$153,510,500	
PRODUCTION SHARING	33,323,500		39,852,250		48,255,000		53,333,500		60,071,000	
PARASTATALS	0		28,228,500		72,385,000		106,667,000		120,131,000	
EST. INTEREST INCOME	0		0		1,850,000		2,453,000		2,959,000	
TOTAL REVENUE	114,912,000	328.32	166,047,500	390.70	243,130,000	486.26	298,749,000	543.18	336,671,500	612.13
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	33,825,750	79.59	41,600,000	83.20	48,691,500	88.53	54,532,500	99.15
PHYSICIAN COSTS	41,496,000	118.56	59,963,250	141.09	85,285,000	170.57	107,629,500	195.69	123,420,000	224.40
DRUGS	39,368,000	112.48	56,886,250	133.85	72,805,000	145.61	87,131,000	158.42	91,844,500	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	3,077,000	7.24	4,160,000	8.32	7,689,000	13.98	11,478,500	20.87
DEMONSTRATION	0	0.00	0	0.00	4,160,000	8.32	5,126,000	9.32	5,742,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	153,752,250	361.77	208,010,000	416.02	256,267,000	465.94	287,017,500	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	9,222,500	21.70	12,480,000	24.96	12,815,000	23.30	14,349,500	26.09
COMMUNITY SERVICES	2,128,000	6.08	3,072,750	7.23	4,160,000	8.32	5,126,000	9.32	5,742,000	10.44
RETIREMENT	0	0.00	0	0.00	8,320,000	16.64	12,815,000	23.30	17,220,500	31.31
RESERVES	0	0.00	0	0.00	6,000,000	12.00	6,600,000	12.00	6,600,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	4,160,000	8.32	5,126,000	9.32	5,742,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	12,295,250	28.93	35,120,000	70.24	42,482,000	77.24	49,654,000	90.28
TOTAL EXPENSES	114,912,000	328.32	166,047,500	390.70	243,130,000	486.26	298,749,000	543.18	336,671,500	612.13
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	(.00)	$0	(.00)	$0	0.00

5. **Scenario 5 Table 10** - In 1989, the first enrollment from Indonesia's commercial sector is realized and total membership by 1991 is 700,000. These new members have the same premium rate structure as PERTAMINA employees for purposes of illustration. Revenue increases from $114.9 million in 1987 to $417.5 in 1991. The Funds are new yielding significant income: $27 million in 1989 vs. $42 million in 1991.

   Scenario 5-A, Table 11, increases Retirement Health Fund from 4% of Medical Expenses in 1989 to 5% in 1990 and 6% in 1991, and decreases administration expenses to 5% in 1990 and 1991.

   The Team feels that an enrollment of 700,000 members in five years would represent the optimum expectation. If Tugu Mandiri can demonstrate successful management capabilities with this enrollment, then dramatic growth after year five is quite probable.

   This Scenario brings approximately 3 percent of the taxable labor force into one prepayment scheme.

TABLE 10

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 5
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
PRODUCTION SHARING	100,000		100,000		100,000		100,000		100,000	
PARASTATALS	0		75,000		150,000		200,000		200,000	
COMMERCIAL	0		0		30,000		75,000		150,000	
TOTAL ENROLLMENT	350,000		425,000		530,000		625,000		700,000	
REVENUE:										
PERTAMINA	$81,588,500		$97,966,750		$119,276,500		$132,581,250		$149,352,000	
PRODUCTION SHARING	33,323,500		39,852,250		48,219,400		53,031,250		58,079,000	
PARASTATALS	0		28,228,500		71,057,100		106,068,750		120,309,000	
COMMERCIAL	0		0		15,221,600		39,775,000		87,129,000	
EST. INTEREST INCOME	0		0		1,738,400		2,206,250		2,667,000	
TOTAL REVENUE	114,912,000	328.32	166,047,500	390.70	255,513,000	482.10	333,662,500	533.86	417,536,000	596.48
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	33,825,750	79.59	44,096,000	83.20	55,331,250	88.53	69,405,000	99.15
PHYSICIAN COSTS	41,496,000	118.56	59,963,250	141.09	90,402,100	170.57	122,306,250	195.69	157,080,000	224.40
DRUGS	39,368,000	112.48	56,886,250	133.85	77,173,300	145.61	99,012,500	158.42	116,893,000	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	3,077,000	7.24	4,409,600	8.32	8,737,500	13.98	14,609,000	20.87
DEMONSTRATION	0	0.00	0	0.00	4,409,600	8.32	5,825,000	9.32	7,308,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	153,752,250	361.77	220,490,600	416.02	291,212,500	465.94	365,295,000	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	9,222,500	21.70	13,228,800	24.96	14,562,500	23.30	18,263,000	26.09
COMMUNITY SERVICES	2,128,000	6.08	3,072,750	7.23	4,409,600	8.32	5,825,000	9.32	7,308,000	10.44
RETIREMENT	0	0.00	0	0.00	6,614,400	12.48	8,737,500	13.98	10,962,000	15.66
RESERVES	0	0.00	0	0.00	6,360,000	12.00	7,500,000	12.00	8,400,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	4,409,600	8.32	5,825,000	9.32	7,308,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	12,295,250	28.93	35,022,400	66.08	42,450,000	67.92	52,241,000	74.63
TOTAL EXPENSES	114,912,000	328.32	166,047,500	390.70	255,513,000	482.10	333,662,500	533.86	417,536,000	596.48
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	0.00	$0	0.00	$0	0.00

TABLE 11

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 5-A
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	0.36
PRODUCTION SHARING	100,000		100,000		100,000		100,000		100,000	0.14
PARASTATALS	0		75,000		150,000		200,000		200,000	0.29
COMMERCIAL	0		0		30,000		75,000		150,000	0.21
										606.75
TOTAL ENROLLMENT	350,000		425,000		530,000		625,000		700,000	127.41
	=======		=======		=======		=======		=======	
REVENUE:										
PERTAMINA	$81,588,500		$97,966,750		$120,204,000		$134,681,250		$152,901,000	
PRODUCTION SHARING	33,323,500		39,852,250		48,595,700		53,875,000		59,465,000	
PARASTATALS	0		28,228,500		71,613,600		107,743,750		123,172,000	
COMMERCIAL	0		0		15,343,500		40,400,000		89,187,000	
EST. INTEREST INCOME	0		0		1,961,000		2,787,500		3,766,000	
TOTAL REVENUE	114,912,000	328.32	166,047,500	390.70	257,717,800	486.26	339,487,500	543.18	428,491,000	612.13
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	33,825,750	79.59	44,096,000	83.20	55,331,250	88.53	69,405,000	99.15
PHYSICIAN COSTS	41,496,000	118.56	59,963,250	141.09	90,402,100	170.57	122,306,250	195.69	157,080,000	224.40
DRUGS	39,368,000	112.48	56,886,250	133.85	77,173,300	145.61	99,012,500	158.42	116,893,000	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	3,077,000	7.24	4,409,600	8.32	8,737,500	13.98	14,609,000	20.87
DEMONSTRATION	0	0.00	0	0.00	4,409,600	8.32	5,825,000	9.32	7,308,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	153,752,250	361.77	220,490,600	416.02	291,212,500	465.94	365,295,000	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	9,222,500	21.70	13,228,800	24.96	14,562,500	23.30	18,263,000	26.09
COMMUNITY SERVICES	2,128,000	6.08	3,072,750	7.23	4,409,600	8.32	5,825,000	9.32	7,308,000	10.44
RETIREMENT	0	0.00	0	0.00	8,819,200	16.64	14,562,500	23.30	21,917,000	31.31
RESERVES	0	0.00	0	0.00	6,360,000	12.00	7,500,000	12.00	8,400,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	4,409,600	8.32	5,825,000	9.32	7,308,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	12,295,250	28.93	37,227,200	70.24	48,275,000	77.24	63,196,000	90.28
TOTAL EXPENSES	114,912,000	328.32	166,047,500	390.70	257,717,800	486.26	339,487,500	543.18	428,491,000	612.13
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	(.00)	$0	(.00)	$0	0.00
	==========	======	==========	======	==========	======	==========	======	==========	======

6. **Scenario 6, Table 12** - Under the assumption that health insurance will become very popular due to incentives in the new tax laws, the Tugu Mandiri HMO grows rapidly. As stated in Scenario 5, it would be difficult to reach this enrollment by 1991 and the Team does not advise it, particularly from a management perspective. Nonetheless, the projection is run to see the effect of different premiums and copayments on a larger enrollment. The Scenario assumes all PERTAMINA workers, dependents and retirees would be enrolled (albeit under a different budget) in 1987 along with 100,000 members from the PSCs, This will involve serving these employees and their dependents throughout the Republic of Indonesia on a decentralized basis.

   The Scenario assumes that most parastatals will join and that 400,000 members would be employees of state-owned companies or their dependents by 1991. It is assumed that half the parastatal enrollees would have low-option benefits yielding lower per member revenues than other scenarios. However, this would be offset by lower utilization, medical expenses and generation of some co-payment income. Parastatals such as railroads, PLN, PTT and state-owned plantations would continue to use their providers and restrict some services. Some production sharing companies would also have a lower level of benefits. In Scenaria 6-A, Table 13, the Retirement Health Fund increases in 1989, 1990, and 1991.

   The most pronounced growth in this Scenario would be the commercial sector, which is projected to grow by 50% a year largely through enrollment of large companies. Most private companies will maintain several levels of benefits. For this scenario it is assumed that Tugu Mandiri can deliver a benefit at 1/2 to 1/3 of PERTAMINA's through use of existing in-plant delivery arrangements, co-payments and some restrictions on drug utilization, coverage and services. It is expected however, that despite this there will be improvements in the quality and accessibility of services for all groups.

   The growth of commercial accounts under Scenario 6 translates into a 10 percent market penetration of all large employers in the formal wage-based sector, together with a substantial enrollment of small employers (50-100 employees), and individual markets. Enrollment by the end of 1991 would reach 1.4 million. The premiums of these groups would have to reflect the extra marketing expense and could add $2-3 PM/PM to costs.

   This Scenario depends on several factors which affect Tugu Mandiri.

   1. an intensive nationwide advertising campaign;
   2. a perception of the benefits by employees of health insurance under the new tax laws;
   3. extensive contracting or aquisition of existing company delivery arrangements and concomitant restrictions of PERTAMINA facilities according to some prearranged plan;
   4. the use of brokers to market to individuals;
   5. the support of government ministries to increase penetration among state-owned companies;
   6. co-payment revenues of $5 per member per year would be collected from 200,000 members in parastatals and 400,000 members of commercial firms, yielding $3 million a year additional revenues, or $.25 PM/PM for those accounts with co-payments. Mechanisms to collect these would add $.05 to administration; and

7. that personnel are able to be hired and trained to keep up with this level of enrollment.

How to structure benefits to assure a premium that will not raise the costs to employers is a special challenge. Utilization review, restriction of drug products, exclusive use of PERTAMINA pharmacies and hospitals, can reduce costs, but the impact on enrollment must be assessed. The cost of marketing and enrollment may be higher to individuals but a substantial number of potential insureds may be present.

This Scenario enrolls approximately 6 percent of the taxable wage-based labor force in Indonesia; the inclusion of small employers would bring this figure to ten percent of the labor force.

TABLE 12

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 6
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000		250,000		250,000	
PRODUCTION SHARING	100,000		100,000		50,000		100,000		100,000	
PARASTATALS	0		75,000		100,000		200,000		400,000	
COMMERCIAL	0		0		100,000		300,000		650,000	
TOTAL ENROLLMENT	350,000		425,000		500,000		850,000		1,400,000	
REVENUE:										
PERTAMINA	$81,588,500		$97,966,750		$119,710,000		$130,730,000		$149,352,000	
PRODUCTION SHARING	33,323,500		39,852,250		23,940,000		54,094,000		58,286,000	
PARASTATALS	0		28,228,500		47,880,000		108,188,000		240,618,000	
COMMERCIAL	0		0		47,880,000		157,768,500		381,682,000	
EST. INTEREST INCOME	0		0		1,640,000		3,000,500		5,334,000	
TOTAL REVENUE	114,912,000	[illegible]32	166,047,500	390.70	241,050,000	482.10	453,781,000	533.86	835,072,000	596.48
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	33,825,750	79.59	41,600,000	83.20	75,250,500	88.53	138,810,000	99.15
PHYSICIAN COSTS	41,496,000	118.56	59,963,250	141.09	85,285,000	170.57	166,336,500	195.69	314,160,000	224.40
DRUGS	39,368,000	112.48	56,886,250	133.85	72,805,000	145.61	134,657,000	158.42	233,786,000	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	3,077,000	7.24	4,160,000	8.32	11,883,000	13.98	29,218,000	20.87
DEMONSTRATION	0	0.00	0	0.00	4,160,000	8.32	7,922,000	9.32	14,616,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	153,752,250	361.77	208,010,000	416.02	396,049,000	465.94	730,590,000	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	9,222,500	21.70	12,480,000	24.96	19,805,000	23.30	36,526,000	26.09
COMMUNITY SERVICES	2,128,000	6.08	3,072,750	7.23	4,160,000	8.32	7,922,000	9.32	14,616,000	10.44
RETIREMENT	0	0.00	0	0.00	6,240,000	12.48	11,883,000	13.98	21,924,000	15.66
RESERVES	0	0.00	0	0.00	6,000,000	12.00	10,200,000	12.00	16,800,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	4,160,000	8.32	7,922,000	9.32	14,616,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	12,295,250	28.93	33,040,000	66.08	57,732,000	67.92	104,482,000	74.63
TOTAL EXPENSES	114,912,000	328.32	166,047,500	390.70	241,050,000	482.10	453,781,000	533.86	835,072,000	596.48
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	0.00	$0	0.00	$0	0.00

TABLE 13

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 6-A
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
PERTAMINA	250,000		250,000		250,000	0.50	250,000		250,000	0.18
PRODUCTION SHARING	100,000		100,000		50,000	0.10	100,000		100,000	0.07
PARASTATALS	0		75,000		100,000	0.20	200,000		400,000	0.29
COMMERCIAL	0		0		100,000	0.20	300,000		650,000	0.46
										606.75
TOTAL ENROLLMENT	350,000		425,000		500,000		850,000		1,400,000	279.10
REVENUE:										
PERTAMINA	$[illegible]88,500		$97,966,750		$120,640,000		$132,795,500		$152,908,000	
PRODUCTION SHARING	53,323,500		39,852,250		24,130.000		54,952,500		59,458,000	
PARASTATALS	0		28,228,500		48,255,000		109,896,500		246,344,000	
COMMERCIAL	0		0		48,255,000		160,267,500		390,740,000	
EST. INTEREST INCOME	0		0		1,850,000		3,791,000		7,532,000	
TOTAL REVENUE	114,912,000	328.32	166,047,500	390.70	243,130,000	486.26	461,703,000	543.18	856,982,000	612.13
MEDICAL EXPENSES:										
HOSPITALIZATION	23,408,000	66.88	33,825,750	79.59	41,600,000	83.20	75,250,500	88.53	138,810,000	99.15
PHYSICIAN COSTS	41,496,000	118.56	59,963,250	141.09	85,285,000	170.57	166,336,500	195.69	314,160,000	224.40
DRUGS	39,368,000	112.48	56,386,250	133.85	72,803,000	145.61	134,657,000	158.42	233,786,000	166.99
OTHER MEDICAL COSTS	2,128,000	6.08	3,077,000	7.24	4,160,000	8.32	11,883,000	13.98	29,218,000	20.87
DEMONSTRATION	0	0.00	0	0.00	4,160,000	8.32	7,922,000	9.32	14,616,000	10.44
TOTAL MEDICAL EXPENSES	106,400,000	304.00	153,752,250	361.77	208,010,000	416.02	396,049,000	465.94	730,590,000	521.85
ADMINISTRATION EXPENSES:										
ADMINSTRATION	6,384,000	18.24	9,222,500	21.70	12,480,000	24.96	19,805,000	23.30	36,526,000	26.09
COMMUNITY SERVICES	2,128,000	6.08	3,072,750	7.23	4,160,000	8.32	7,922,000	9.32	14,616,000	10.44
RETIREMENT	0	0.00	0	0.00	8,320,000	16.64	19,805,000	23.30	43,834,000	31.31
RESERVES	0	0.00	0	0.00	6,000,000	12.00	10,200,000	12.00	16,800,000	12.00
CAPITAL EARMARKED FUNDS	0	0.00	0	0.00	4,160,000	8.32	7,922,000	9.32	14,616,000	10.44
TOTAL ADMINISTRATION EXPENSES	8,512,000	24.32	12,295,250	28.93	35,120,000	70.24	65,654,000	77.24	126,392,000	90.28
TOTAL EXPENSES	114,912,000	328.32	166,047,500	390.70	243,130,000	486.26	461,703,000	543.18	856,982,000	612.13
TOTAL SURPLUS (DEFICIT)	$0	0.00	$0	0.00	$0	(.00)	$0	(.00)	$0	0.00

7. **Scenario 7, Table 14** - In this scenario, Tugu Mnadiri has to "go it alone" and enroll only from the private commercial market in the wage-based economy. Enrollment starts off modestly with 10,000 people and builds over the five year period to 75,000. Without the PERTAMINA enrollment, the HMO has to offer a competitive benefits package to attract members. Management decides to reduce the PERTAMINA health benefits package and introduce a modest 10 percent co-payment for all services to members. In addition, since a staff model HMO would be expensive, management uses a combination of IPA and network as its delivery system. Even with these consideration, expanses are far greater than income for the first three years. In the next two years, expenses decrease but there is still a considerable deficit, mainly because of fixed costs.

   In order to bring income more in line with expenses, co-payments could be increased -- especially for drugs, hospital days could be limited, deductibles introduced, and limitations placed on enrollments. Although these factors would decrease expenses, they would also greatly decrease the attractiveness of the HMO package to potential enrollees.

   This Scenario has less than 0.3 percent of the taxable wage-based labor force enrolled.

TABLE 14

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 7
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
COMMERCIAL	10,000		25,000		40,000		65,000		75,000	
TOTAL ENROLLMENT	10,000		25,000		40,000		65,000		75,000	
REVENUE:										
COMMERCIAL	$1,641,600	$164.16	$4,883,750	$195.35	$8,986,000	$224.65	$16,354,650	$251.61	$21,135,000	$281.80
OTHER INCOME	164,100	16.41	488,250	19.53	898,400	22.46	1,635,400	25.16	2,113,500	28.18
TOTAL REVENUE	1,805,700	180.57	5,372,000	214.88	9,884,400	247.11	17,990,050	276.77	23,248,500	309.98
TOTAL MEDICAL EXPENSES	1,589,000	158.90	4,727,250	189.09	8,698,000	217.45	15,830,100	243.54	20,457,000	272.76
ADMINISTRATION EXPENSES:										
ADMINSTRATION	900,000	90.00	2,677,500	107.10	4,926,800	123.17	5,173,350	79.59	5,432,250	72.43
AMORT. OF START-UP COSTS	750,000	75.00	750,000	89.25	750,000	102.64	750,000	114.96	750,000	128.76
TOTAL ADMINISTRATION EXPENSES	1,650,000	165.00	3,427,500	196.35	5,676,800	225.81	5,923,350	194.55	6,182,250	201.19
TOTAL EXPENSES	3,239,000	323.90	8,154,750	385.44	14,374,800	443.26	21,753,450	438.09	26,639,250	473.95
TOTAL SURPLUS (DEFICIT)	($1,433,300)	(143.33)	($2,782,750)	(170.56)	($4,490,400)	(196.15)	($3,763,400)	(161.32)	($3,390,750)	(163.97)

8. **Scenario 8, Table 15** - In this Scenario, expenses are dramatically reduced through measures mentioned above. Yet, even if membership is held constant, deficits, while reduced, are still considerable in the first three years. However, respectable surpluses are produced in the next two years. Lower costs are achieved by reducing medical expenses to 50 percent of revenues (vs. 88 percent in Scenario 7).

   Although the points in these two scenarios are rather overdrawn, the Team believes it would be difficult to reach an economic break-even point and produce surpluses in the absence of fixed enrollments from PERTAMINA and/or other parastatals. Moreover, it would be impossible to develop special funds, such as Community Service, Health Demonstration, etc.

TABLE 15

TUGU MANDIRA HEALTH MAINTENANCE ORGANIZATION
SCHEDULE OF PROJECTED INCOME AND EXPENSES
SCENARIO 8
REVISED

	BUDGET 1987	ANNUAL PPM 1987	1988	ANNUAL PPM 1988	1989	ANNUAL PPM 1989	1990	ANNUAL PPM 1990	1991	ANNUAL PPM 1991
ENROLLMENT:										
COMMERCIAL	10,000		25,000		40,000		65,000		75,000	
TOTAL ENROLLMENT	10,000		25,000		40,000		65,000		75,000	
REVENUE:										
COMMERCIAL	$1,641,600	$164.16	$4,883,750	$195.35	$8,986,000	$224.65	$16,354,650	$251.61	$21,135,000	$281.80
OTHER INCOME	164,100	16.41	488,250	19.53	898,400	22.46	1,635,400	25.16	2,113,500	28.18
TOTAL REVENUE	1,805,700	180.57	5,372,000	214.88	9,884,400	247.11	17,990,050	276.77	23,248,500	309.98
TOTAL MEDICAL EXPENSES	902,900	90.29	2,686,000	107.44	4,942,400	123.56	8,995,350	138.39	11,624,250	154.99
ADMINISTRATION EXPENSES:										
ADMINSTRATION	900,000	90.00	2,677,500	107.10	4,926,800	123.17	5,173,350	79.59	5,432,250	72.43
AMORT. OF START-UP COSTS	750,000	75.00	750,000	89.25	750,000	102.64	750,000	114.96	750,000	128.76
TOTAL ADMINISTRATION EXPENSES	1,650,000	165.00	3,427,500	196.35	5,676,800	225.81	5,923,350	194.55	6,182,250	201.19
TOTAL EXPENSES	2,552,900	255.29	6,113,500	303.79	10,619,200	349.37	14,918,700	332.94	17,806,500	356.18
TOTAL SURPLUS (DEFICIT)	($747,200)	(74.72)	($741,500)	(88.91)	($734,800)	(102.26)	$3,071,350	(56.17)	$5,442,000	(46.20)

J. Summary

Given the participation of PERTAMINA, it is quite feasible and practical for Tugu Mandiri to offer an HMO-type option to the wage-based sector of Indonesia. PERTAMINA can thus significantly reduce its own internal overhead costs while at the same time continuing to provide comprehensive, quality health care to its employees, their dependents, and retirees at a cost lower than it is now paying. For instance, in Scenario 1, annual premium per member (PPM) expenses rise to $975 in 1991 if PERTAMINA's delivery system remains in its present form. If PERTAMINA converts its present health benefits program to health premiums through the Tugu Mandiri HMO (see Scenario 2), PPM expenses rise to only $596 in 1991.

IV. DEVELOPMENT OF SPECIAL FUNDS AS PART OF THE HMO PREMIUM

Option II-E would convert the present overhead cost of PERTAMINA's health program to a premium-based system through the use of Tugu Mandiri's HMO. This would reduce PERTAMINA's overhead for health services and increase Tugu Mandiri's tax liabilities by the amount of income it receives from premiums, net of expenses. In return for the PERTAMINA premium income, Tugu Mandiri would create six separate funds as a fixed percentage of total premiums:

1. 3% to create a legal reserve;
2. 6% for administration, decreasing to 5% in 1990 and 1991;
3. 3% for capital depreciation;
4. 2% for community service;
5. 3% for a retiree health fund in 1987 and 1988, increasing to 4% in 1989, 5% in 1990, and 6% in 1991;
6. 2% for health demonstration programs in prevention/promotion.

Chart H illustrates the flow of funds in Phase I from PERTAMINA in the form of premiums, and from Tugu Mandiri in the form of payment for the provision of health services to providers. Tugu Mandiri may secure services from PERTAMINA'a Medical Bureau for its Community Service, Health Demonstration Program, and Retirement Health Funds, but it may also purchase these directly from other providers, including the government. The flow of funds in Phase II will depend largely on the organizational format of the HMO (staff model, group, network, IPA, etc.)

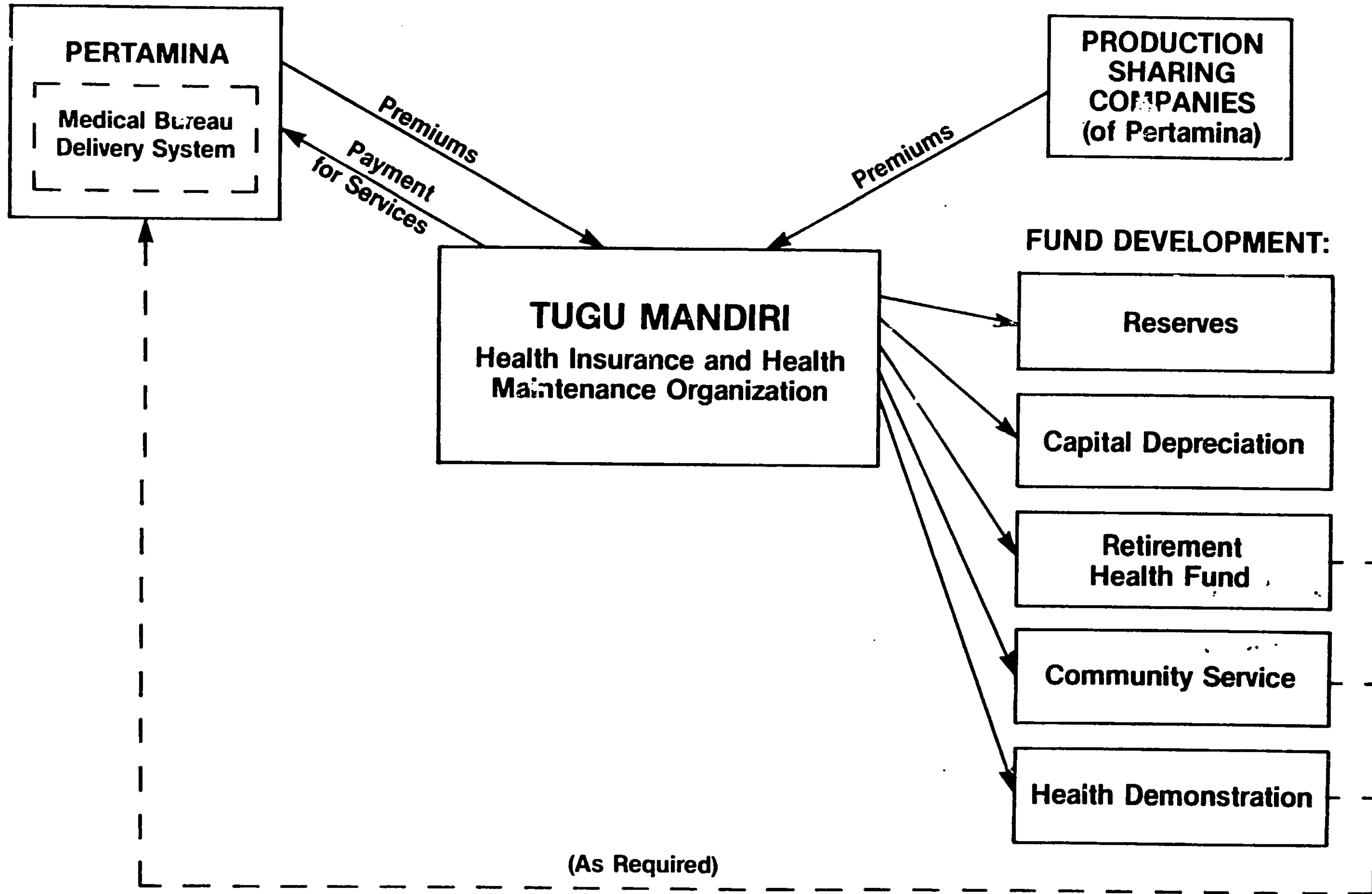
The Legal Reserve Fund will, undoubtedly, be required by law. We have estimated it at 3%. Even if it is not subsequently required by regulation or law, it is good business practice to fund this account from premiums.

In the United States, large health insurance and HMO companies usually have 9-11% of premiums as an administrative cost. We have estimated it at 6% for the first few years, then dropped it back to 5%. At present, the Medical Bureau is administered through PERTAMINA's overall management structure. There is a cost to this which does not now appear in the Medical Bureau's annual budget. Although we are confident it is not as high as 6% of health expenses at PERTAMINA, (because health costs are approximately 1% of PERTAMINA's total overhead structure), this figure is used in the pro forma financial statements.

The fund for capital depreciation is another good business practice. Except for PERTAMINA's central hospital in Jakarta, there is currently no capital depreciation for buildings or equipment. Thus, all new capital costs now come out of the PERTAMINA budget but do not appear in the Medical Bureau's operating budget. Funding of depreciation for capital replacement would link the capital budget to the operating budget. Other than generating cash flow for tax and accounting purposes, depreciation is used to budget for future capital expenditures. The fund should operate on the principle of using replacement cost rather than historic cost as an accurate means of planning and budgeting for the HMO. This fund will begin to remove capital investment in health facilities and equipment from the PERTAMINA budget over time.

CHART H

FLOW OF FUNDS
PHASE I



The other three funds need greater explanation and description:

1. <u>Community Service Fund</u>

PERTAMINA is currently obligated to reserve 25% of its hospital bed capacity for use by those non-employees in the surrounding communities who cannot afford to pay for hospital services. In many cases this "solidarity" contribution to the non-PERTAMINA community is of real benefit to those individuals needing hospitalization. At the same time, however, the primary health care needs of the wider community may be neglected, and the effects of this neglect may indeed be partially responsible for a higher need for hospitalization than would otherwise occur. Instead of contributing subsidized hospital services, a PERTAMINA contribution of an equivalent amount to preventive and promotive health care services in the local communities might well be of much greater benefit in terms of potential improvements in the health status of the community.

The likelihood that PERTAMINA will convert its current health care delivery system into an HMO suggests that considerable opportunities will exist for making more cost-effective use of PERTAMINA's community solidarity contribution. The current method for honoring this obligation will most certainly change, since a principal innovation to be implemented through the HMO will be strict accountability of all costs of services to a defined eligible population. The fact that the solidarity contribution will now have to be a defined amount, explicitly allocated and accounted for, means that deliberate efforts can be mounted to make the most cost-effective use of the funds to improve community health.

<u>Proposed Principles and Objectives</u>

The following are suggested as the principles and objectives to guide the creation of the Community Service Fund.

1. Wherever PERTAMINA health service resources (facilities and personnel) exist, the Fund should make it possible to extend and stretch these resources to improve the health status of mainly non-PERTAMINA populations. (It is not to create new or separate programs, but to make PERTAMINA-based services available to non-Pertamina populations.)

2. Fund resources should support the most cost-effective methods to improve community health status while attempting, where feasible, to promote comprehensive systems of primary and referral care in local areas.

3. Allocation of Fund resources to non-PERTAMINA communities should be decided on the basis of their health needs and their accessibility to other sources of health care relative to other eligible communities (i.e., those near PERTAMINA sites). In places where the Government or donor agencies constructed facilities which are underused or understaffed, PERTAMINA would develop cooperative programs offering staff and equipment loans, program development, and health education to increase access and efficiency.

4. Programming the use of Fund resources should be guided by the need to account for their use in terms of expenditures, units of services delivered, and health status outcomes.

5. The primary function of the Fund's health services should be supplemented in selected areas, where feasible, by complementary research and training functions.

Creation and Control of the Fund

The above principles and objectives of the proposed Community Service Fund are suggested as a framework by which programming and management decisions might be made concerning expenditure of Fund resources. How such decisions would be reached, and who would make them, depend on Fund characteristics which will derive from the manner in which PERTAMINA and Tugu Mandiri agree to create and control the Fund.

The following are suggested as worthy principles for guiding decisions on how to decide on Fund contributions and how to establish authority over its expenditures.

1. Contributions: the level of contribution to the Fund should be in proportion to what the contributors can afford but balanced by a recognition of the substantial needs of the intended beneficiaries. The proposed 2% is an arbitrary proposal, merely a suggestion of the Team.

2. Fund Management: Control of the Fund should probably be shared among representatives of interested parties, namely:

   - Contributors, PERTAMINA employees;
   - PERTAMINA management;
   - PERTAMINA medical staff;
   - Tugu Mandiri management;
   - Ministry of Health; and the
   - Ministry of Interior.

Programming Fund Expenditures: Options and Considerations

A variety of programming strategies can be conceived of for implementing the above proposed principles and objectives. Several strategic options are suggested and described below. Important considerations for deciding among them are discussed after presentation of the options.

A. Options

(1) Subsidies to Free-standing PHC Clinics

Under this strategy, the Fund would support the establishment and operation of free-standing PHC clinics near already existing PERTAMINA health care facilities. Such clinics would use locally available PERTAMINA health personnel and other resources and combine them with appropriate expenditure of Fund resources to serve the full range of PHC needs of the non-PERTAMINA population in the area, including community outreach, preventive and promotive care, and health education.

The model for this strategy is the "civic mission" established by the Mobil Oil Corporation at its oil field in Lhokseumawe, Aceh. The twelve physicians employed by Mobil to care for its employees at the site rotate in turns to staff two PHC clinics "outside the fence" to provide a broad range of PHC services to the surrounding non-Mobil population. Mobil estimated that the annual operating costs of the "civic mission" clinics are $600,000-$700,000, or about 25% of the total costs of medical services provided to Indonesians--employees and non-employees.

The principal advantage of this strategy is that the surrounding community receives the full range of PHC services. There is evidence that the health benefits of this approach are measurable; neo-natal tetanus has apparently been reduced almost to zero in the area served by the "civic mission". The major drawback, however, is that such operations would be extraordinarily expensive to sustain, at least if implemented according the quality of care standards already established for PERTAMINA employees. Moreover, opportunities for cost recovery are relatively insignificant in all of the remote areas where PERTAMINA has operations.

(2) Targetted Support for Implementing PHC Technologies

This strategy would focus on design and implementation of selected interventions to improve the health status of the local populations. The interventions selected should be chosen from among those acknowledged by public health specialists as being among the most cost-effective approaches to improving a population's health status--namely, raising immunization coverage, increasing the use of ORT for diarrheal diseases, improving access to potable water, promoting sanitary practices, and providing general health education, particularly on the benefits of breast-feeding.

Since resources of the Fund will be insufficient to provide ongoing support to any such interventions on a significant scale, the most beneficial use of the limited resources would be to finance highly targetted programs, limited to particular interventions, focused in time on specific population groups. In order for such highly targetted programs or campaigns to have lasting impact, however, it would be desirable to coordinate the selected interventions with complementary activities, organized and financed by other agencies (perhaps USAID, other donors, and the Ministry of Health), designed to institutionalize the capacity to sustain the intervention on a

regular, ongoing basis. Such complementary activities would also seek to build comprehensive systems of primary care at the local level with appropriate referral linkages with area hospitals.

(3) Logistics and Commodity Support to Local Health Facilities

Fund resources could be used to fill gaps in availability of drugs, vaccines, and other medical supplies and equipment in government health facilities in the areas around PERTAMINA facilities. This kind of logistics and supply support might be particularly helpful in the remotest areas where the government's distribution system may be relatively underdeveloped.

The principal advantage of this strategy is to provide critically needed inputs to medical service delivery in areas where there are established and staffed facilities down to the puskesmas and posyandu level but where scarcities and/or gaps in the distribution system lead to irregular supplies of basic medical commodities. Where such shortages may exist, services are likely to be unavailable or nonexistent, despite the presence of government personnel.

B. Considerations

The creation of a Community Service Fund under the auspices of a new PERTAMINA HMO would make it possible to extend PERTAMINA highly developed health care resources to non-PERTAMINA populations. There are significant opportunities, as in examples already discussed above, to implement highly cost-effective programmatic interventions using appropriate combinations of public resources with this private fund. There are also opportunities for studying which privately funded initiatives are most successful and could be replicated by other companies.

To make optimum use of the Fund's resources priority should be given to those programmatic activities which:

- promise siginificant improvements in the health status of the target populations at relatively low cost;
- offer opportunities for realizing lasting improvements in the institutions and systems delivering health care to those populations;
- improve access to basic preventive and promotive health care services to those populations.

If these priorities were adopted, it is likely that USAID would be interested in supporting any initiatives taken by this proposed Community Service Fund, since they would be consistent with USAID program priorities in child survival activities. Such support could fruitfully take the form of technical assistance to the Fund in the process of designing and implementing the interventions to make most cost-effective use of Fund resources. Moreover, USAID and the Ministry of Health together would be interested in being able to document how particular service delivery and/or financing methods actually operate in practice. The findings from program-related studies and evaluations which might be undertaken by USAID and the MOH could be highly relevant to development of other such private

community service funds by other private and semi-public organizations in Indonesia. In addition to serving as a model HMO in Indonesia, the reorganized PERTAMINA health resources could develop a model for other companies to emulate in making more cost-effective use of "solidarity" contributions through a Community Service Fund.

2. Retirement Health Fund

In most industrialized countries, persons retired from the work force use far more medical care, on the average, than do active workers. This is largely because elderly populations are more prone to chronic and degenerative diseases which are expensive to treat. The diseases most associated with old age--heart disease, cancers, and stroke--are often complicated by other conditions such as diabetes, arthritis, and musculo-skeletal trauma. Compared to the disease pattern common to those under age 65, treatments for the diseases of old age require three times the number of hospital days and three times the number of drugs. Moreover, when the elderly fall sick, there is often the need for custodial as well as medical care which could last a lifetime--adding further to costs.

The Retirement Health Fund would begin to budget for the additional expenses resulting from more retirees and their families being covered by the HMO. It is unlikely that the full cost of additional use by retirees can be covered through the Retirement Health Fund. In a sense the use of the Fund is symbolic. Yet the money accumulated in the Fund could be used to develop cost-effective gerontological programs reducing death and disability.

The assumptions used in calculating needs and required contributions for retirees are deliberately overstated using US experience where Medicare, the retirees health program, covers those over the age of 65. In PERTAMINA, people retire at 55 and spouses are often younger then workers. Further, the pattern of high utilization that marks the care of the elderly is not yet adequately documented in Indonesia. Nevertheless, the impact of an aging work force is certain to affect the Tugu Mandiri HMO and it is important to establish the principle of setting funds aside for these inevitable changes.

The importance of this issue to the future costs and quality of health care services for PERTAMINA employees may follow a pattern similar to one already experienced in the United States. How to maintain quality health care for the nation's elderly in the face of an aging population, soaring medical costs, and limited government resources has become an increasingly difficult policy question in the US The expansion of the elderly population in the US and its potential to utilize increasing amounts of expensive health care services has led to growing interest in developing relatively inexpensive ways to meet the special health and social needs of this group.

The present US health care delivery system is heavily influenced by its financing system, which, in its existing reimbursement mechanisms, generally favors hospital care, specialization of manpower, and technology-intensive treatments. Ho er, effective care for the elderly requires creative approaches to preventing and rectifying the physical, psychological, cultural, social and environmental factors

which promote chronic and degenerative diseases. Designing and implementing innovative approaches will be a slow arduous task and one perhaps best addressed by taking a systems perspective on the problems. The recently initiated move in the US to enroll Medicare recipients in HMOs, which generally encourage preventive care and are better designed for integrated, cooperative care among a variety of providers, is a positive step toward meeting the health needs of the elderly in a more wholistic fashion. Efforts in chronic disease management within the HMO structure, however, are just beginning. The current focus is on finding ways to provide appropriate preventive services to the elderly, determine potential high utilizers of services early in their membership, and intervene with appropriate strategies in order to maintain a cost-effective program.

The Tugu Mandiri/PERTAMINA Retirement Health Fund could be a source of funds for adapting these types of programs to the Indonesian environment. Programs currently providing the most effective results are those in the area of:

- psycho-social support groups,
- patient education including diet and exercise, and
- frequent close monitoring by auxiliaries, including home visits.

In order to illustrate the cost of providing medical care for PERTAMINA's retired population, we use "relative cost factors" for the relevant population groups: employee/retiree, spouse of employee/retiree, and children of employee/retiree. The reference group is the group of active employees, whose relative cost factor is thus 1.00. The relative cost factors of all other population groups reveal the average per capita cost of medical care consumed by that group compared to the average used by active employees. For example, the relative cost factor for a spouse of an active employee, being 1.25 (as shown in Table 16), indicates that employee spouses account for 25% more expenditures, on the average, than do employees themselves. The relative cost factor for retirees is 3.00--indicating that medical care expenditures for an average retired person are three times those for an average active employee. The relative cost factors of the other population groups are also shown in Table 16.

When the relative cost factors for each population group are multiplied by the numbers of individuals in the group, the result is the "total relative cost" for that group. When the totals for each of the three active groups (employees, spouses, children) are added together, the result is the relative total cost for 256,734 active covered members--which is 184,832, or 72% of the total cost which would have been incurred if all 256,734 individuals were active employees. When this 0.72 relative total cost factor is multiplied by the overall average of 5.12167 members per contract, the "total relative cost per active employee" is obtained.

This "bottom-line" number indicates the relative costs of covering the different population groups. Thus covering only active members (including spouses and children) would cost, on average, 3.69 times the cost of an active employee as a cost per contract. Covering active members plus retirees would cost, on average, 4.58 times the cost of an active employee--24% higher than the 3.69 for active

TABLE 16

Relative Cost* Impact of Adding Retiree
Medical Coverage

	Relative Cost Factor	Active Members	Total Relative Costs* (TRC)	Active Members and Retirees	TRC*	Active Members, Retirees,& Dependents of Retirees	TRC*
Actives							
Employee	1.00	50,127	50,127	50,127	50,127	50,127	50,127
Spouse	1.25	41,868	52,335	41,868	52,335	41,868	52,335
Child	.50	164,739	82,370	164,739	82,370	164,739	82,370
Retirees							
Employee	3.00		0	15,000	45,000	15,000	45,000
Spouse	3.00		0			13,000	39,000
Child	.75		0			2,000	6,000
Total Members Covered		256,734		271,734		286,734	
Total Relative Cost			184,832		229,832		270,332
Cost per Member (Total Relative Cost ÷ Total Members Covered)			.72		.85		.94
Cost per Active Employee (Cost per Member x 5.12167**)			3.96		4.58		5.39

* These costs are not denominated in currency units since they are pegged to the reference point of "relative cost factor" of an average active employee, 1.00.

** Average number of covered members per active employee.

members only. Including dependents of retirees as well as retirees themselves would boost the cost per contract to 5.39 times the cost of an active member--46% higher than the 3.69 for active members only.

In general, Table 16 indicates that while the addition of retirees or retirees and their families increases the number of members by only 6% or 12%, the total plan cost is increased by 24% or 46%, respectively. This is due to the higher cost of providing care to retirees and dependents of retirees.

Table 17 provides projections of the total relative costs of the plan over the next 10 years, assuming retirees and their dependents are covered. Relative costs are shown both in total and on a per active employee basis. We have shown costs at the current level (time 0) and for each of the next 10 years. Table 17 uses two different assumptions about the retired employee replacement rate and three different assumptions about the inflation rate for medical care costs. In the first case, no new employees are hired to replace employees as they retire; in the second case, 50% of retiring employees are replaced each year. Costs are shown assuming no inflation and assuming 5% and 10% inflation. In all cases, an average of 2.5% of active employees retire each year, active employees have an average family size of 5.12, and retired employees have an average family size of 2.0. It is assumed also in all cases that 4% of all retired employees die each year. The members per contract were assumed to stay at current levels for both actives and retirees. A more accurate projection would require an age/sex census of retirees.

Reading the first line of Table 17, for example, we note that since the relative cost per active member is 0.72 and the relative cost per retired member is 2.85, total first-year costs are 270,348 [(256,734 x 0.72) + (30,000 x 2.85)] and the relative cost of insuring this mix is 5.39 per active member.

In subsequent years, the mix changes due to deaths and retirements. If replacements are hired for half the retirees, there would be nearly 44,201 active workers in ten years, a decline of 12% vs. almost 39,000 (or a decline of 22%) if no replacements were hired.

When inflation is combined with the changes in the work force, the relative total cost increases in five years from 270,348 to 336,785 if inflation were 5% and from 270,348 to 424,981 if inflation were 10%. The total relative costs from inflation are much greater than from changes in the demographic picture alone. In fact, with no replacements, total relative costs decline slightly.

An inflation rate of 10% increases relative costs per active member from 5.39 to 9.62 after five years compared to 5.97 with no inflation. Thus, with no replacement, a 10% inflation rate increases the burden on each worker by 50%. After ten years, this burden increases to 160% as the effects of compounding take effect. This is lessened slightly be replacing half the retiring employees, although total relative costs increase because the total number of members in the HMO increase by the number of replacements and their families. In ten years at 10%

TABLE 17

Medical Cost Projection

With No Replacements Hired For Retired Employees

Time	Active Employees(1)	Active Members(2)	Retired Employees(3)	Retired Members(4)	Total Relative Cost(5) ----- Inflation ----- 0%	5%	10%	Relative Cost Per Active Employee ----- Inflation ----- 0%	5%	10%
0	50127	256734	15000	30000	270348	270348	270348	5.39	5.39	5.39
1	48874	250316	15653	31306	269450	282923	296395	5.51	5.79	6.06
2	47652	244058	16249	32498	268341	295846	324693	5.63	6.21	6.81
3	46461	237958	16790	33580	267033	309124	355421	5.75	6.65	7.65
4	45299	232007	17280	34560	265541	322767	388779	5.86	7.13	8.58
5	44167	226209	17721	35442	263880	336785	424981	5.97	7.63	9.62
6	43063	220554	18116	36232	262060	351185	464255	6.09	8.16	10.78
7	41986	215038	18468	36936	260095	365980	506852	6.19	8.72	12.07
8	40936	209661	18779	37558	257996	381178	553037	6.30	9.31	13.51
9	39913	204421	19051	38102	255774	396789	603102	6.41	9.94	15.11
10	38915	199310	19287	38574	253439	412825	657355	6.51	10.61	16.89

With Replacements Hired For 50% Of Retired Employees

Time	Active Employees(6)	Active Members(2)	Retired Employees(3)	Retired Members(4)	Total Relative Cost(5) ----- Inflation ----- 0%	5%	10%	Relative Cost Per Active Employee ----- Inflation ----- 0%	5%	10%
0	50127	256734	15000	30000	270348	270348	270348	5.39	5.39	5.39
1	49500	253523	15654	31308	271764	285352	298940	5.49	5.76	6.04
2	48881	250352	16266	32532	272970	300949	330294	5.58	6.16	6.76
3	48270	247223	16837	33674	273971	317156	364655	5.68	6.57	7.55
4	47667	244135	17370	34740	274786	334004	402314	5.76	7.01	8.44
5	47071	241082	17867	35734	275421	351515	443568	5.85	7.47	9.42
6	46483	238071	18328	36656	275881	369707	488740	5.94	7.95	10.51
7	45902	235095	18757	37514	276183	388617	538203	6.02	8.47	11.73
8	45328	232155	19155	38310	276335	408273	592349	6.10	9.01	13.07
9	44761	229251	19523	39046	276342	428697	651600	6.17	9.58	14.56
10	44201	226383	19862	39724	276209	449915	716415	6.25	10.18	16.21

(1) Assumes that 2.5% of active employees to retire each year with no replacements hired.

(2) Assumes current ratio of 5.12167 members per contract to remain constant in future years.

(3) Assumes 4% mortality per year.

(4) Assumes 2 members per contract (1 employee, .87 spouses, .13 children).

(5) Based on initial cost per active employee = 1.00. Initial cost per active member = .72 (See Table 1). Initial cost per retired member = 2.85.

(6) Assumes that 2.5% of active employees to retire each year with 50% replaced.

inflation, total relative (or weighted) cost would be 716,415 for a total membership of 330,170 with half the retirees replaced, as compared to total relative costs of 657,355 for 296,066 members with no retirees replaced. Replacement lowers the dependency ratio although total numbers of new employees are small (12% of the existing work force).

Tables 18 and 19 illustrate (using date from Table 17) how total relative costs will change over the next ten years using the two assumed replacement rates -- no replacement (Table 18) and 50% replacement (Table 19). Both tables assume 5% inflation annually during the ten years. Both tables show steady increases in total relative costs because of the increase in retired members from 30,000 in year 0 to 39,000 in year 10. Note that numbers of active members decline in both cases -- more so in Table 18 and in Table 19. But, in both casees, the greater cost of medical care for retirees dominates the total cost picture even though the increase in covered member is relatively modest -- 9,000 in Table 18 and 10,000 in Table 17.

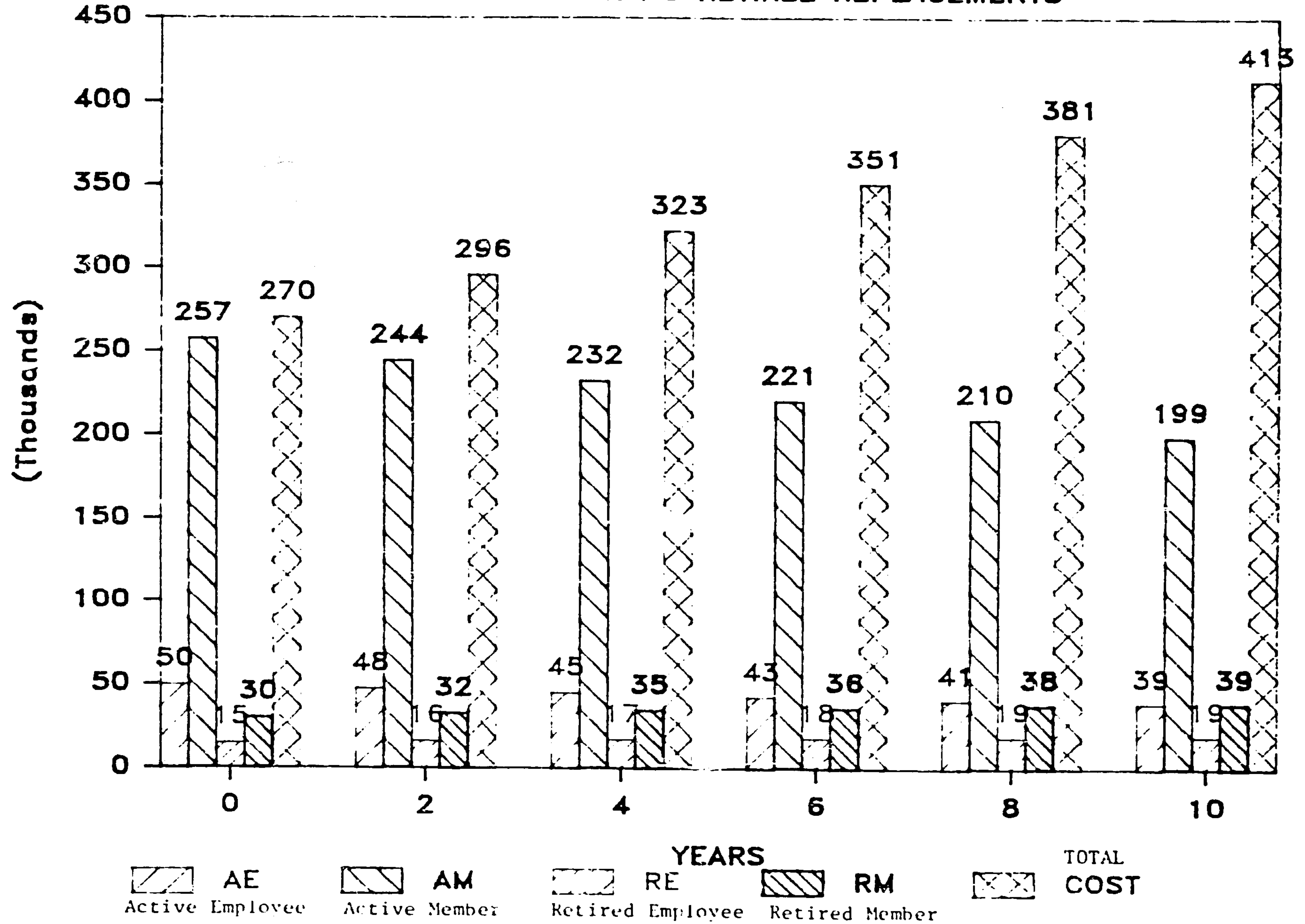
3. Demonstration Programs in Prevention/Promotion

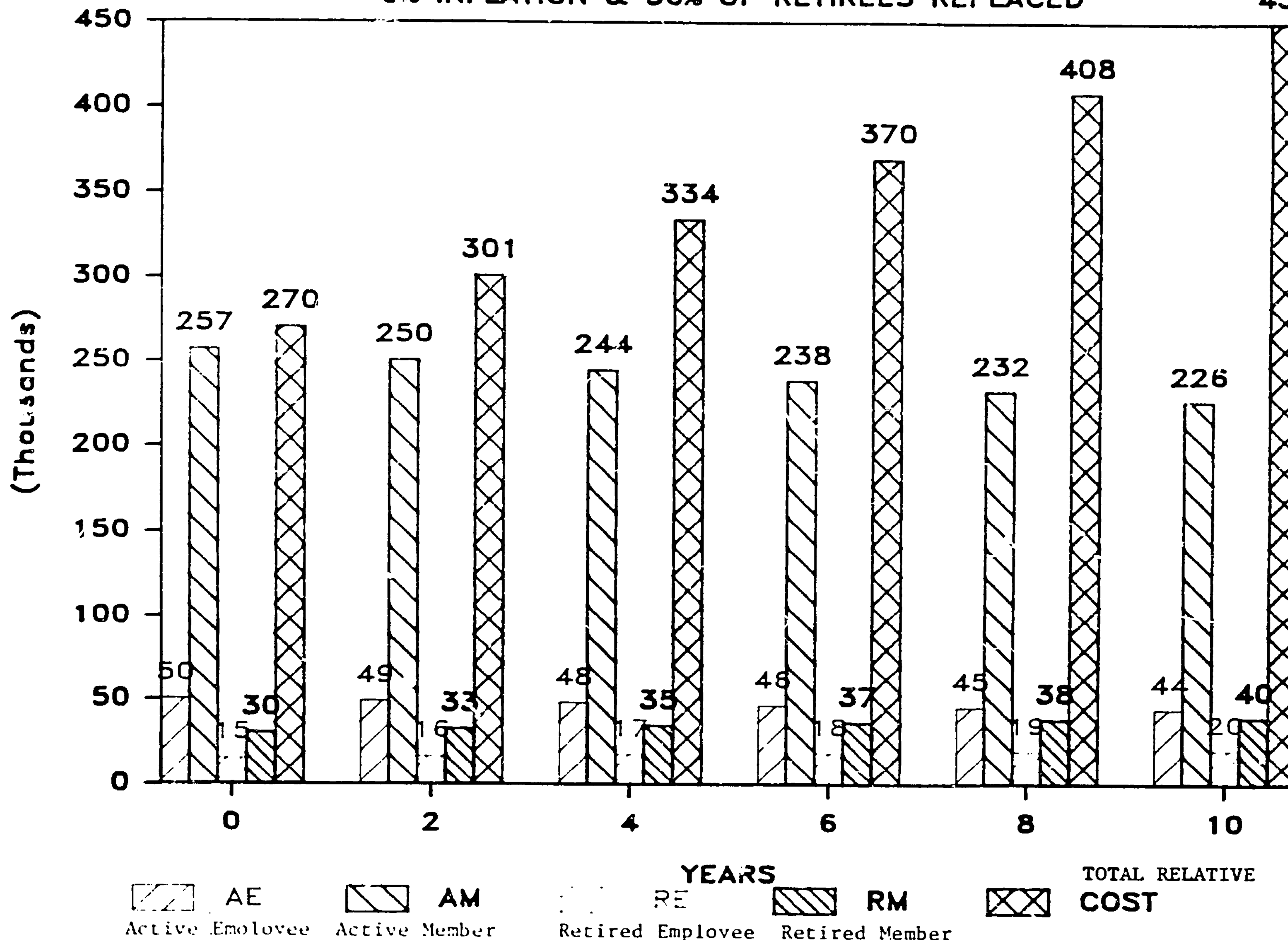
Within virtually any society the official health care system can be viewed as actually two systems which overlap one another. The first system is that of clinical, curative episodic care of patients who generally seek out this medical care on their own during times of illness. The second system is that of preventive services (or public health) which runs the gamut from strictly "public works" i.e.,, housing, piped water and sewage systems at one end through health education to clinical preventive services such as immunizations and prenatal care at the other end of the spectrum. It is at this latter end where the two systems overlap.

The clinical/curative system is fueled by the need to minister to the sick and injured as competently as possible. The preventive/public health system is fueled by the need to optimize the level of health of the population as a whole. Although there is likewise some overlapping of these objectives, just as there is overlapping of the systems evolved to attain them, these systems and objectives remain quite distinct. It is important to point out these distinctions because they underly an important problem which has plagued health care officials in the developing world for several decades. And it is particularly important to draw these distinctions when considering the establishment of an HMO in Indonesia.

Not only are they distinct but in large measure, under current conditions, they tend to work at cross purposes. That is, those in the clinical system compete with those in the preventive sector for scarce resources. This is particularly true in the developing world where preventive care encompasses in principle so much of what in the West has been subsumed by other institutions such as Education, Housing, Public Works, Environmental Education and Commerce. The present PERTAMINA health delivery system is an exception to this statement. During the past twenty-five years, the Medical Bureau has been an examplar in combining effective preventive care with curative care to the point where the health status indicators of the PERTAMINA population resembles those of a Western country.

TABLE 18




PERTAMINA RETIREE MEDICAL COSTS
5% INFLATION & 50% OF RETIREES REPLACED
(Thousands)
450
400
350
300
250
200
150
100
50
0
257
270
250
301
244
334
238
370
232
408
226
450
50
15
30
49
16
33
48
17
35
48
18
37
45
19
38
44
20
40
0
2
4
6
8
10
YEARS
AE
Active Employee
AM
Active Member
RE
Retired Employee
RM
Retired Member
TOTAL RELATIVE
COST

The great appeal of the HMO concept is that it has the inherent capacity to bring these two competing systems together, eliminating the competition between them and consequently greatly improving the effectiveness and efficiency of both. To attain this laudable end, however, a substantial amount of research and development will be required.

On the determinants of physician behavior in the Indonesian health care delivery system, two important questions are: What will motivate physicians to practice more cost-effective medical care? What will motivate physicians to emphasize preventive-oriented care over a strictly curative approach to the treatment of disease?

Evidence suggests that the Western HMO system is just beginning to move towards developing incentive schemes which will reward cost-effective care through a more preventive approach based on improvements in health status. It would appear then that PERTAMINA/Tugu Mandiri through adaptation of the Western HMO has an opportunity to build into its system at the outset incentives that could address these areas of concern, particularly those of chronic disease.

In order to determine if this is a viable approach for PERTAMINA/Tugu Mandiri to consider in adapting the HMO, a careful analysis of current determinants of physician behavior will be required. However, preliminary discussions with PERTAMINA physicians and other Indonesian and non-Indonesian residents of Jakarta, and a review of the data available suggest that there is a mechanism operating in the current environment which appears to have a significant impact on physician practice patterns and behaviour. This can best be described as the existence of a "more prevention-oriented" approach that exists in the West by the physicians to the practice of medicine. The desire of Indonesian physicians to practice more preventive medicine and PERTAMINA's improved morbidity/mortality statistics certainly support this notion. In addition, medical schools have already incorporated mandatory preventive medicine training programs in their curricula. It is very encouraging to note that all of this exists in an environment in which there is currently no financial reward for this and in which information necessary to measure improvements in health status indicators is extremely inadequate.

Further analysis and discussions with the Indonesians are obviously required to understand all of the determinants of physician behaviour in relation to this aspect of the delivery of health care services. However, it can be hypothesized that through the introduction of (1) effective physician incentives (be they financial, prestige, status and/or something else unique to Indonesia) and (2) a health care management information system that could assist physicians to monitor-evaluate improvements in health status could have a powerful impact on physician behaviour.

The Prevention/Promotion Demonstration Program fund created by the establishment of the Tugu Mandiri/HMO would provide the necessary monies to support this kind of research and development effort. Further there is mounting evidence to suggest that to successfully impact health status in the developing world, effective

monitoring/feed-back information and effective health care delivery service personnel incentives and rewards must be developed. Therefore, the major components of this research and development effort should include the items on the following page:

1. A reliable, valid source of information providing a means for monitoring the impact of health services on the target populations' health status is essential. Examples of simple, but valid health and fertility monitoring systems now exist which could be adapted to fit Indonesian requirements. Two effective examples of these include the "Family Folder System" being used in Northern India and locally administered KAP (Knowledge, Attitude, Practice) surveys used widely through out the developing world. Development of this kind of system would necessitate the designation of an appropriate experimental area. The "Community Epidemiology Program" of the Faculty of Medicine, University of Yogakarta could undoubtedly provide valuable assistance in this process.

2. Once a valid information system is in place it will be possible to monitor the impact of the health care system upon health status at all levels. With that capacity one could then begin to experiment with a range of incentives or "rewards" for those performing in areas showing the greatest gains. It is at this point that the HMO concept offers such enormous potential. Fixed revenues coupled with declining expenditures (due to a healthier population) result in increased disposable income in a given area which could be used for the incentives. Perfecting such a mechanism again will require considerable experimentation.

3. Finally when (1) and (2) are in place and working, the stage will be set for a very rapid expansion of what is now referred to as "Health Services Research". If the information system provides readily accessable feed-back relative to the effectiveness of a given health service and at the same time those responsible for successful outcomes are substantially rewarded for it, we can anticipate considerable activity towards that end.

Those activities with proven effectiveness currently being carried out by PERTAMINA, i.e., ORT Programs, immunization, family planning, and specific, focused "health education" initiatives, will undoubtedly receive most of the initial attention. Following that, one can anticipate seeing more creative and innovative experiments.

ADDENDUM I

A DISCUSSION OF OPTIONS

During the period October 13 - November 24, the Team interviewed Indonesian officials in the public and private health sectors, as well as in the commercial and industrial sectors, to assess current health delivery programs and to obtain observations on practical means for addressing emergent issues on financing service delivery in the future. Central to the field discussions was the PERTAMINA delivery system and the role it could play in the initiation of prepayment among wage-based employees and their dependents across the expanding commercial and industrial sectors. In order to shape our thinking and to frame our perspective on contemporary conditions facing PERTAMINA policy makers, the Team first decided to develop a series of options, then, from among these, select one which would be the basis of a Market Study and a Business Plan. The management choices facing PERTAMINA can be seen in Diagram I.

PERTAMINA is faced with two sequential decisions about reconfiguring its health system. The first is whether to develop an HMO or retain company-managed health benefits, facilities and personnel. Under the present system PERTAMINA owns and manages the hospitals and clinics and employs health providers. Like many company-run health systems, costs have been escalating. The Government of Indonesia has been attempting to reduce costs and increase productivity of many state-owned enterprises by structuring private incentives. For most industries health care is not only a responsibility of employment but essential to productivity and morale. Therefore, a health system should not only operate efficiently but maintain health and improve health status. In the US many companies are contracting with HMOs. These offer the advantage of being able to reduce costs from 10-40% largely through reductions in hospital utilization The HMO is distinguished from a traditional medical care program by autonomy and risk sharing of the provider group and the operation of utilization review mechanisms. The latter serves to promote quality assurance as well as costs containment.

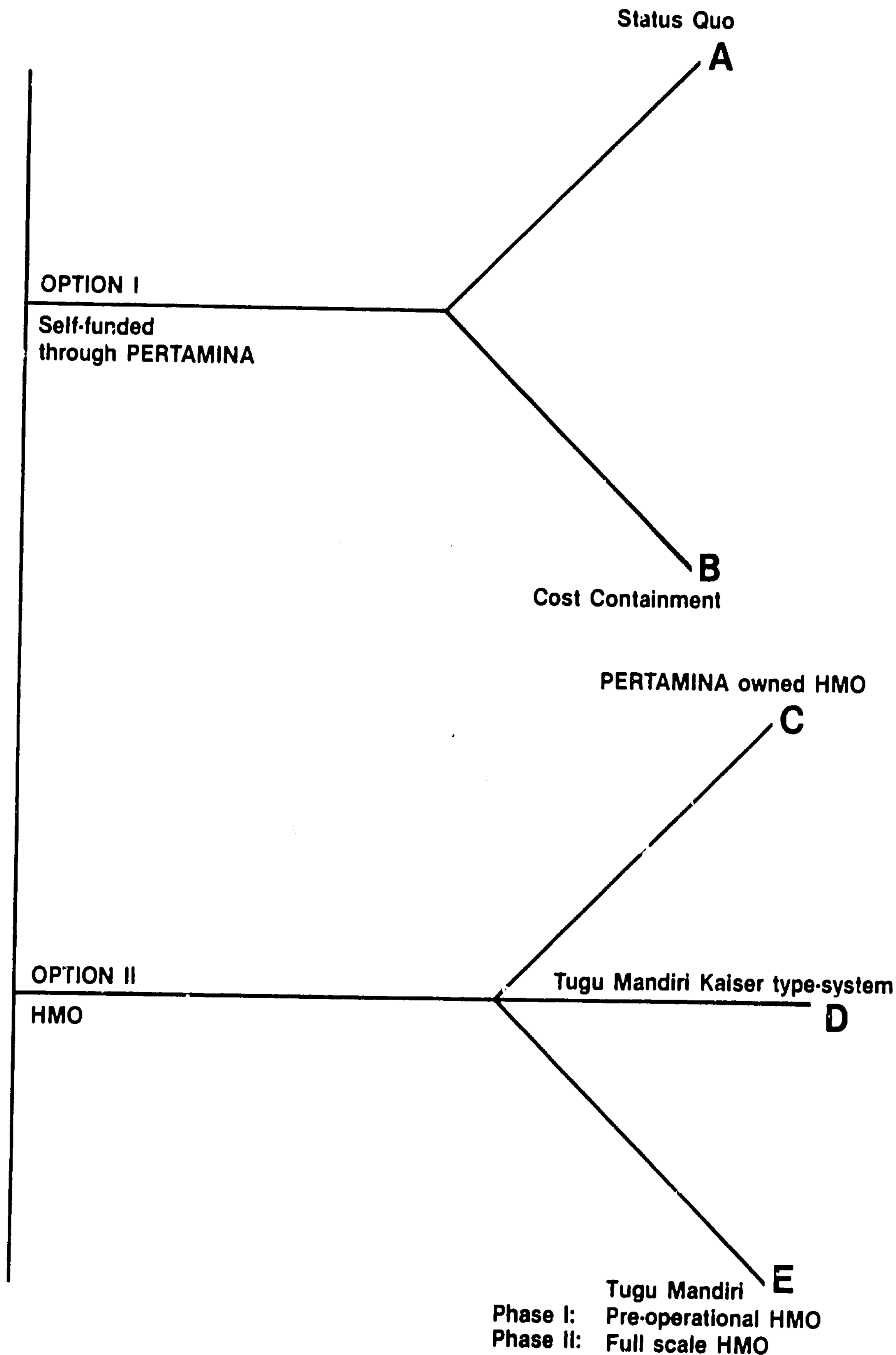
A. Option One: I-A (Status Quo)

The first option to consider was to keep the PERTAMINA Medical System as is with few changes in physician practices and no relationship to PT Tugu Mandiri. The PERTAMINA system has been reported as the premier medical plan in the country, quality is high and a full spectrum of care is provided to employees and dependents from the largest cities to remote exploration and drilling sites. While maintaining the status quo would continue the high morale of PERTAMINA Medical Providers and serve the employees of the company and their dependents with high quality, comprehensive medical care at virtually no out-of-pocket costs, total expenditures would continue to escalate

The costs of medical care to the company have been rising at 10-15% a year in the face of long range decline in oil prices, and is now estimated to increase an average of 19% per year through 1990. There is a need to reduce overhead expenses which adds to the production costs of PERTAMINA. Further, at a time of economic retrenchment PERTAMINA must be willing to bear its share of sacrifices, especially since the company is responsible for more than half of Indonesian foreign exchange. Yet, PERTAMINA has set a standard for employee

DIAGRAM

PERTAMINA MANAGEMENT DECISION TREE



benefits, occupational health and increasing the productivity of the workforce through improvements in health status that should be maintained as a standard.

The situation is complicated by the demographic picture of PERTAMINA in that the number of retirees is increasing. Of the total patient population in 1986, 12% were retirees and their dependents; they consumed 35% of health care costs. PERTAMINA's Central Hospital has been made autonomous and is partially responsible for both expenses and revenues. PERTAMINA can continue on this course for several years but health costs can be expected to rise from $13.50 per eligible person per month or $700 per family per year, to nearly $1200 per family per year in 1990 for a total annual operating expense of $190 million. If PERTAMINA maintains its present system intact, it would be required to pay a tax equal to 60% of its health benefits or $114 million in 1990. Thus PERTAMINA's total costs for health benefits to employees and dependents would then be $304 million.

As budgets rise, the resources devoted to caring for communities surrounding production sites would have to be reduced with adverse effects on equity and accessability of care. Disparity between the care of PERTAMINA retirees and those of other companies and the government could grow, leading to public dissatisfaction. For Tugu Mandiri this option would make it difficult to enter the health insurance business since it would be forced to sell idemnity-type coverage as a rider almost exclusively. It could mobilize non-PERTAMINA providers (or even some PERTAMINA providers on a part-time basis) as preferred providers but this has proven difficult to sell in Indonesia and likely would not prove profitable.

B. <u>Option I-B (Cost Containment)</u>

A second option is for PERTAMINA to develop cost containment mechanisms within its own medical program, including utilization review which could also serve as quality assurance to monitor appropriate types and levels of care. Another mechanism encompasses physician, nurse and patient education programs that might modify providers' behavior and employee lifestyle. The role of PERTAMINA as an employee as well as a health provider could have a synergistic effect.

An additional area of potential cost containment is a monitoring system that tracks costs related to health outcomes such as morbidity, mortality and disability rates. This health information system would enable management of the company to move toward identifying areas of excessive cost and health risk. The cost of such a system would be high, since new types of information would need to be collected from PERTAMINA work sites and health facilities and would need to integrate several existing information systems. This system is costly, but the investment could be recouped if the information gathered were analyzed and used by decision-makers. An information system will be necessary for any of the proposed options, and future benefits will be more a question of proper analysis and political will than hardware and systems costs. Cost containment could be developed under the existing system by developing bonus payments for cost effective behavior. This

would assume the implementation of a health information system and the creation of provider panels (teams) with employees and families assigned to (or choosing) a team. However, these types of incentives are more easy to implement under an HMO-like arrangement.

These mechanisms would increase cost initially. However, they would be balanced by future savings and by cutting current costs such as reducing underused facilities (thus reducing fixed costs) and eventually by reductions in the numbers of personnel. Potential additional expenses could add up to $5-6 million, much of it in one-time capital costs, with the expectations that savings could be effected through:

1) reductions is the cost of hospitals through merger and closure;
2) reducing the variable and supply costs by decreasing hospital use, e.g., reducing hospital use from 735 to 600 days per 1000 per year could save 7% of the hospital budget (assuming variable costs are half hospital costs). Incentives to reduce hospital utilization are difficult to implement however without the risk sharing inherent in an HMO;
3) reduced costs through disciplined purchasing policies for drugs and supplies (a 10% savings in drug prices alone would save $5.00 a year per person or more than $1 million);
4) reduction in use of drugs by the same amount could save $1 million; this change in drug utilization pattern presumes successful efforts in physician and patient education that are more often found in HMOs.
5) reduction in disability averted by 10% could save 0.2 days of absenteeism a year per PERTAMINA worker or 10,000 absentee days per year.
6) reductions in PERTAMINA's medical staff.

Unfortunately, these savings are by no means guaranteed. The management and morale of physicians and other personnel could be adversely affected by some of these changes as could the public image of the company. Thus, many of the more direct methods would be precluded at this time. Nevertheless, there would be a distinct advantage for PERTAMINA providers to manage the cost containment process. The question arises whether they would be motivated to do so.

For Tugu Mandiri, cost containment with no structural or corporate change would have a slight impact. They could be involved in assisting PERTAMINA in underwriting and developing indemnity or PPO health insurance products. But PERTAMINA would still incur a tax liability of 60% of its annual health care benefits costs for employees.

For the Government, any attempts at cost containment could be a learning device and an example. With this option there would be opportunity to contract with Perum Husada Bakti for care of some civil servants as well to contract with DEPKES for community health services in specific rural areas. A tradeoff might be proposed to the Ministry of Finance to support community services in lieu of taxes on the health system or a "solidarity contribution" to improve community health cost containment efforts which would entail shifting resources

from passive, curative services to primary care and outreach. There also could be an agreement to merge hospitals in those areas where hospitals recently funded by donor agencies have created excess capacity.

There will be a temptation under this option to open the PERTAMINA system to non-PERTAMINA patients for additional revenues, through enrolling new members, which would be easier than painful cost cutting procedures. This would be especially timely in the PERTAMINA Central Hospital where demand for beds is high and private practice increasing.

HMO OPTIONS

C. Option II-C: (PERTAMINA Owned HMO)

Another way of restructuring the PERTAMINA Medical System is to split it into a separate HMO-like entity whose purpose is the delivery of medical care. This would parallel the development of the Kaiser Pertmanente Medical Group. In order to reduce costs, information by member-months will have to be kept and integrated with cost information. The development of preventive interventions could by documented and related to per capita costs and benefits.

Under the Option the PERTAMINA Health Bureau could:

1) remain in PERTAMINA but be responsible for costs and revenues and would, for cost accounting purposes, be both a cost center and revenue center (i.e., an accountability center);

2) form a seperate legal entity and contract with PERTAMINA which would continue to own the facilities;

3) alternatively, form a separate entity comprised of their medical personnel to contract with PERTAMINA, and commercial accounts, but PERTAMINA would continue to own the facilities. This would give providers more flexibility in terms of pay scales, etc., but it could also create a sense of insecurity by separating them from their old company;

4) separate (legally or functionally) into three distinct entities. One to administer the system and serve as a locus for its budgetary and insurance functions; a second would be the hospitals and a third the medical group. These entities could contract with each other as well as with PERTAMINA. The contracts could be by capitation or on a capitation plus modified fee-for-service basis;

This Option would include the following changes for physicians:

1) capitation would be shared by physicians group, hospitals and the administrative arm;

2) aggregate risk sharing based on utilization and costs could be implemented after a phase-in period during which the medical group would be oriented. Hospitals would function as autonomous units sharing planning, purchasing and capital costs;

3) individual risk sharing could be implemented based upon performance measures. Included among these measures could be changes in utilization, health awareness, health status and productivity. This would need to be carefully designed with strong provider input. The impact of different incentives would be tested on an experimental basis for several years before full implementation. One interesting possibility would be a capitated occupational health benefits, some means would have to be found to include industrial hygiene as well as medical services.

D. Option II-D: Tugu Mandiri Owned or Managed HMO

This Options is variation of the last. The separated PERTAMINA Medical Bureau (however structured) would be owned or managed by Tugu Mandiri, function on an HMO-like basis with service to a defined population, and operate on a budgeted prepaid basis, with eventual assumption of risk. Risk will have to be phased in and hardware (computers, forms, communications equipment) and software (programs, training, procedures) would have to be developed. This is the pre-operational phase of an HMO. This phasing is a function of how quickly one wants to assume risk, and what additional prepaid programs will be developed.

Tugu Mandiri would acquire the PERTAMINA Medical Bureau through purchase or lease. This would involve large capital or lease acquisition costs and an increase in income to PERTAMINA. Insurance company owned or managed HMOs are becoming more frequent in the US with such carriers as Equitable, Travelers, CIGNA and Aetna starting or acquiring HMOs. In many cases this provides the insurer a chance to offer several types of product to a company buying benefits. Many insurance companies, h however, have little experience in the management of HMOs, which are complex heath delivery systems employing many types of technical personnel and selling many products.

Companies in Indonesia already serving employees through their own health systems could reduce their tax liability and offer a greater choice of providers. PERTAMINA would be able to spread risk and be able to reduce capital as well as recurrent costs. To take advantage of this option, Tugu Mandiri would almost certainly have to open the enrollment of the HMO to other employed groups to fully use its new facilities.

In the US, there are good reasons for insurance firms to acquire HMOs where there are multiple choices of health insurance products; in Indonesia there is less reason to do so. PERTAMINA is a state-owned company with legal responsibilities to its employees, the surrounding communities, and the people of Indonesia. Ownership by Tugu Mandiri may create opportunities for doctors to increase their incomes, but could create insecurities among Medical Bureau employees. Further, it would be difficult to carry out occupational services at the worksite without direct affiliation with PERTAMINA.

For the Government this would serve to privatize facilities in public ownership. Privatization, however, need not mean actual ownership interest in facilities or employment of physicians and other health personnel. This option would have the greatest immediate cost saving to PERTAMINA. However, transfer of ownership also is sought with the greatest risks. While bringing prospective reimbursement, risk sharing, choices between preventive and curative services, health education and lower cost services to the PERTAMINA employees, the change for Tugu Mandiri and the PERTAMINA

Medical Bureau may be too great at this time. The public responsibilities of PERTAMINA to the country and the welfare of the 3000 persons working in its Health Bureau point to a less drastic approach.

E. Option II-E Establishment of the Tugu Mandiri Health Maintenance Organization

At present, PERTAMINA's existing health delivery system operates, in many respects, like an HMO, and thus the feasibility of moving it into a health insurance arrangement with Tugu Mandiri is improved by the following factors:

1) PERTAMINA's system is organized and already contains many of the necessary elements of a prepaid system. This will reduce lead time and costs of transferring the system to an HMO arrangement.

2) The system has a locked-in membership of 250,000 employees, dependents and retirees, and an additional membership of approximately 100,000 from its production sharing companies.

3) PERTAMINA physicians have successfully implemented preventive and promotive health programs; they have h high morale and a positive image of their system, which is shared by non-PERTAMINA groups.

4) The system has introduced efficiencies (i.e., reduction in hospital days), but it now has excess capacity, and this is leading to increases in overhead costs.

Option II-E is designed to slow down the rate of cost escalation and at the same time to introduce an employee retirement health fund, a fund for health services to the community, a fund for demonstration projects in health prevention and promotion, a legal reserve fund, and a fund for depreciation and capital replacement.

In the Option, Tugu Mandiri would initiate HMO operations on a two phased basis. In Phase One, Tugu Mandiri serves as the fiscal intermediary for PERTAMINA but the current delivery system remains in its present form. In Phase Two, Tugu Mandiri moves into a full scale HMO operation in which it can either contract with PERTAMINA's Medical Bureau and Hospital Group, or it can operate these entities directly. The First Phase is both a preparatory stage for Tugu Mandiri to establish a solid foundation in HMO programming, and as a period in which PERTAMINA physicians and staff can determine the most advantageous practice settings for the future. In the latter, PERTAMINA physicians can nominate members to a Joint Conference Committee to evaluate different organizational forms through which professional satisfaction can be maintained. These forms may include:

1) remaining in PERTAMINA and contracting their services to Tugu Mandiri;

2) organizing an autonomous PERTAMINA Medical Group in which present employees maintain their status, and new physician and staff, once the Medical Group is organized, enter under different personnel arrangements; and

3) joining Tugu Mandiri as its Medical Group.

PHASE I - During the period 1987-1988, Tugu Mandiri would initiate pre-operational HMO operations to serve PERTAMINA employees, perhaps its production sharing contractors and PT Tambang Timag (tin mine employees) at no risk.

The PERTAMINA health system presently has 20 hospitals with 1,017 beds and 35 clinics in ten locations (cost centers). The budget year runs from April to April, and the regional budgets are set for 1987. In Phase I of the pre-operational HMO, the easiest and most expeditious way for Tugu Mandiri to disburse monies back to PERTAMINA for health services is to reimburse regional accounts on a quarterly basis, the amount reflecting the previously negotiated budget of each region with PERTAMINA's central office in Jakarta. This would give Tugu Mandiri an opportunity to get its MIS program up and running in the first year and convert to a per member per month cost in the second year of Phase I.

PERTAMINA would retain its present delivery system intact, but convert its overhead health cost structure to a premium base. This premium would be paid to Tugu Mandiri on a quarterly basis. Tugu Mandiri, serving as fiscal intermediary, would provide centralized administrative functions, such as:

1. establish a claims processing procedure;
2. establish a management information system to tack claims from all PERTAMINA units by establishing the following modules:
    - o diagnosis of illness
    - o numbers of x-rays
    - o laboratory procedures
    - o outpatient procedures
    - o inpatient procedures
    - o outpatient drug prescriptions
    - o dental visits
    - o hospital admissions by maternity and non-maternity
    - o occupational injuries
    - o and, age/sex breakdown for all of the above.

    c. Accounting module,
    d. Personnel module,
    e. Demographic/socio-economic profile,
    f. Inventory module,
    g. Occupational profile.
    (The MIS program would network on-line terminals to Tugu Mandiri's new IBM system or to PERTAMINA's main frame.)
3. determine technical assistance and training needs for organizational development requirements, and human resource development for Phase II;
4. assist, if requested, the PERTAMINA Medical Bureau to determine its organization options and practice preferences for Phase II;
5. develop monitoring procedures so that program experiences from all of the above can be shared with DUKM and ASKES. The latter will be particularly important if Tugu Mandiri can formulate effective treatment protocols for chronic care management of PERTAMINA retirees and begin to reduce the resources consumption patterns by this expanding group, as will as for ASKES; and
6. develop preventive/promotive programs by using the PERTAMINA health services model for the rest of the community.

PHASE II - In this Phase, Tugu Mandiri moves into a full scale HMO operation beginning in 1989. Then, Tugu Mandiri should have made critical decisions and be in a position to:

1. assume the PERTAMINA account at full risk;
2. market its products to groups other than PERTAMINA, i.e., PTT, PLN, and private firms. These products would include: claims processing; administrative services; billing procedures; management contracts; data processing systems; and employee health retirement system;
3. negotiate with the PERTAMINA Medical Bureau for service to contract with the Medical Bureau for its services;
4. negotiate similar arrangements with the PERTAMINA central hospital;
5. negotiate provider and hospital contractors with groups and institutions outside the PERTAMINA system so that expansion can occur on a large scale;
6. provide the government with systematic evaluative research on its operations so that policy relevant knowledge can be shared with public, semi-public institution, and the private sector. This will be helpful in the development of regulatory requirements and legal issues involving rights of access;
7. establish a fully staffed HMO open to all groups.

The selection of II-E as the preferred Option includes a number of assumption, among them are:

1. that PERTAMINA will transfer arrangements and/or its health delivery system to Tugu Mandiri;
2. that other state-owned corporations, i.e., PT Timah follow suit, as well as the production sharing contractors of PERTAMINA;
3. that Tugu Mandiri will market its service delivery program to groups in the private sector;
4. that Tugu Mandiri will be able to assume risks associated with full scale HMO by 1989;
5. that insurance laws will be interpreted such as to allow PERTAMINA to convert its present cost structure for health services into a premium payment to Tugu Mandiri;
6. that the estimates of costs herein include only those directly within the Medical Bureau's current budget. They do not include those costs covered in other PERTAMINA budgets for the Bureau, i.e., staff housing, education, personnel allowances, and the capital budget.

F. Summary

During the period November 19-21, 1986, the Team presented all of these options to officials from PERTAMINA's Medical Bureau, the Ministry of Health, and USAID. The strengths and constraints of each option were discussed. The Team concludes now, as it did in these presentations, that Option II-E is the preferred choice.

ADDENDUM II

KEY DIFFERENCES BETWEEN HMO PRODUCTS AND INDEMNITY HEALTH INSURANCE

The underwriting function changes dramatically since risk is shifted substantially away from the insured and to the insurer (HMO) and to the physician. However, the physician, by assuming some risk, can also make more money than through conventional insurance arrangements if the care is managed well and an appropriate market share is achieved by the HMO's marketing efforts. Since risk is shifted, the actuarial/underwriting function becomes more complex because capitation and premium rates have to be developed by age, sex, employer group, and perhaps geographic area. This requires a greater level of data and analytical sophistication than would be required to underwrite conventional indemnity insurance.

Members or subscribers must use participating physicians (unless they are authorized to do otherwise) or they will have to bear direct financial liability for services they receive. The trade-off is that members receive more comprehensive benefits and pay little or no out-of-pocket expenses if they choose the HMO system over the conventional indemnity insurance program.

HMO physicians are held accountable for the quality and quantity of their work in contrast to conventional insurance where the role of the physician is less emphasized. Under conventional insurance, fee levels and hospital rates are the focus of attention. Under an HMO arrangement, the aggregate cost of care over time for a defined group of patients managed by a defined group of physicians becomes the focal point.

Only those physicians who provide quality services in a cost-effective manner can survive in an HMO arrangement. If they do not provide care in such a manner, peer pressure forces them to do so. Alternatively, educational programs could also be introduced by management, to help physicians learn why it is necessary to change certain patterns of delivering health services, e.g., those physicians ordering excessive prescription drugs could be identified for counseling on more cost-effective prescription patterns.

Under conventional insurance programs, there is no incentive for the insurer to monitor quality and cost. Under an HMO arrangement, the insurer assumes some risk and, therefore, must monitor and manage these areas.

HMO arrangements provide financial incentives to emphasize less costly, but equally effective (and in some cases more effective) forms of care. For example, the service delivery site for select surgical procedures are directed away from the more costly hospital setting and into the health center or the physician's office.

The kinds of data needed on an HMO member's use of services and the resultant costs is dramatically different than those required of indemnity insurance. Because both the insurer (HMO) and physicians are at risk, both are concerned about what services are used, at what cost, in which location, and what alternatives exist to stay within a predetermined budget. Therefore, HMOs require on-line data which are readily accessible and comprehensive and which can be easily compared to other systems or to baseline measures so that performance can be evaluated. This is not done under conventional insurance arrangements.

Assumption of Risk in HMO Development

The concept of risk is based on the fact that loss is insurable through prediction of probabilities and costs. Death, casualty, disability and property loss are insurable risks. However, each insurable event while largely unpredictable, contains elements that can be controlled. For example, installation of a sprinkler system or procedures to remove debris can reduct the risk of loss by fire. Health care providers and to some extent patients have control over costs. Physicians admit and discharge from the hospital, prescribe drugs, order tests and determine the number and extent of specialty services. HMOs and other managed health care systems have been operating by requiring providers to bear part of the risk.

For physicians, a proportion of their fees or salary is put into a separate account and, based on numbers of hospital days or the cost of specialty services, they can gain an additional 20% of their earnings. Hospitals are often put at risk through a prospective budget or a cost per episode. In the US some hospitals are not paid by charges for each bed-day or services rendered but by an all-inclusive charge per diagnosis (or diagnosis-related group call a DRG). Hospitals in this system are at risk for keeping patients too long or using too many laboratory, x-ray or other ancillary services. The assumption of risk has reduced utilization in HMOs by up to 50% while institution of payment by DRGs has reduced average length of stay from 7 to 6 days, saving 1 million hospital days and reducing reimbursement to hospitals by $200 million. In Kaiser, risk is shared by the physicians' group and by the hospitals-creating a dynamic tension.

Putting providers at risk for utilization without developing mechanisms for quality assurance can lead to skimping on service and to premature hospital discharge. For this reason, risk reimbursement works best in an HMO system where care is comprehensive and continuity is maintained.

For Tugu Mandiri risk would be assumed gradually by working with PERTAMINA physicians and hospitals. In the first year, the information system would be established which would indicate utilization by physicians and hospitals. The established committees would review aggregate and individual utilization of services. In the second year, a 10% risk pool would be established from which bonuses could be paid. Money is not the only, or even the major, motivator and peer review can give special recognition to physicians who use resources appropriately; the bonuses and data are a way of seeing the results. It is important that this process, which serves as both utilization review and quality control, be managed by physicians. It can be integrated with other cost containment options, such as competitive purchasing of supplies and capital budgeting.

If the decision is made to serve employees of other oil-related or other state-owned companies, this would increase the total amount of revenue put at risk. Further, utilization risk could be combined with performance bonuses tc assure that incentives are not all for cutting costs.

During the development phase there is a need to experiment with ways in which the reward systems can be used to assure the same high quality of medical care for PERTAMINA employees while giving greater autonomy to physicians and reducing health care costs.

In summary, during the first two years, Tugu Mandiri's role as insurer will move from that of being an essentially passive financial conduit to that of being an active manager of health care costs.

ADDENDUM III

THE RELATION BETWEEN LIFE AND HEALTH INSURANCE

In the early twentieth century, the Metropolitan Life Insurance Company began to become involved with health education and health promotion. It is in the economic self interest of a life insurance company to keep its policyholders healthy. Many companies around the world have instituted exercise, nutrition, health education and employee assistance programs. These have demonstrated significant benefits in reduced mortality and morbidity as well as in apparent increases in employee morale and productivity.

PERTAMINA has been more involved in both primary and secondary prevention than most Indonesian companies-- bringing potable water, sewage treatment and maternal and child health programs to their employees and their families. This has resulted in an infant mortality rate 80% lower than that of the country as as whole and concomitant increases in child survival.

Recently PT Asuransi Jiwa Tugu Mandiri, a life insurance company partly owned by the PERTAMINA employees provident fund, has contracted to write life insurance for PERTAMINA employees. At the same time, Tugu Mandiri is looking into the feasibility of managing a prepaid, managed health care system based on HMO-principles for PERTAMINA employees. The opportunities to adjust life insurance premiums (or increase dividends) based on risk factors, including controllable life-style changes, are unique. The fact that the same carrier is responsible for life and health insurance for the same group of employees raises the prospect of tangibly rewarding healthful behaviors. An additional advantage is that data regarding employment, demographic factors, health utilization and health status could be linked into longitudinal data base that could use actuarial and medically determined risk factors to pinpoint acute and chronic disease problems and test a system of health behavior modification. Further, this could be done without co-mingling life and health insurance premium funds.

Insurers in the US and in European countries have lowered or rebated premiums to non-smokers, safe drivers, etc., but nowhere has a single population group been covered by both life and health insurance where education could be used in conjunction with fiscal incentives to maintain health. These countries, moreover, are not in the midst of an epidemiologic transition where marked differences between geographic areas mask the rise of chronic disease while infectious diseases still afflicts many. PERTAMINA and Tugu Mandiri can be a natural laboratory for health maintenance. Indonesia as a nation can benefit from these innovations if they are successfully implemented through a PERTAMINA/Tugu Mandiri HMO.