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Report No. 2379-IND

Indonesia
Health Sector Overview

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February 20, 1979

East Asia and Pacific Regional Office

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CURRENCY EQUIVALENTS

Before November 15, 1978:

US$1.00	=	Rp 415
Rp 1.00	=	US$0.0024
Rp 1 million	=	US$2,410

After November 15, 1978:

US$1.00	=	Rp 625
Rp 1.00	=	US$0.0016
Rp 1 million	=	US$1,600

FISCAL YEAR

Government	April 1 to March 31
Bank Indonesia	April 1 to March 31
State Banks	January 1 to December 31

This report was prepared by E. Voulgaropoulos (consultant) and B. Liese on the basis of information collected on a mission to Indonesia in March 1978. It is one of the sectoral background studies undertaken in preparation for the World Bank's 1979 Basic Economic Report on Indonesia, Report No. 2093-IND, dated February 20, 1979.

PREFACE

The data presented in this report have been provided primarily by the Ministry of Health, Government of Indonesia, but are not limited to this source. Because of the different data sources, one finds great variation in estimates of reported conditions and events. The report is not intended to be a complete health sector review; the available data do not allow an analytical assessment of health policy and health services performance. On the contrary, the report is descriptive in nature, considering briefly, disease patterns, health problems, the current and planned status of major health activities, and some problem areas. Only briefly addressed are such important issues as the role of the private sector, details of the financing system, and administrative and managerial problems.

Since only limited information on the above mentioned areas is available, the report does not attempt to make specific recommendations for further program options, but suggests analysis of and complementary action on selected topics as essential steps in program implementation.

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GLOSSARY

ARBRI	-	Armed Forces
ASKES	-	Health insurance scheme for government employees
balian	-	Traditional healer in Bali
BUPATI	-	Head of a Kabupaten
CAMAT	-	Head of a Kecematan
CDC	-	Communicable Disease Control (an organization within the MOH)
Dana Sehat	-	Non-ASKES health insurance schemes
DIK	-	Routine or recurrent budget of MOH
DIP	-	Development budget of MOH
DOKABU/KADIN	-	Kabupaten Health Officer
dukun	-	Traditional healers
dukun bayi	-	Traditional midwives
dukun biasa	-	Multi-purpose healers
dukun parewangan	-	Mediums
dukun pijet	-	Masseurs
FKM	-	Faculty of Public Health
GOI	-	Government of Indonesia
IKES/KAKANWIL	-	Provincial Health Officer
INPRES	-	Budget allocated directly for specific program expenditures
Jamu	-	Traditional herbs and medicines
Kabupaten	-	Second level of local government, regency or district level
Kebatinan	-	Mysticism
Kecamatan	-	Third level of local government, subdistrict level
LRKN	-	National Institute of Medical Research
LSD	-	Village Social Institute
mantri	-	Injection nurse
MCH	-	Maternal-child health
MOH	-	Ministry of Health
NFPCB	-	National Family Planning Coordinating Board
NFPP	-	National Family Planning Program
NIAS	-	Faculty of Medicine, University of Airlanga
PELITA I	-	First Five-Year Plan - 1969-1974
PELITA II	-	Second Five-Year Plan - 1974-1979
PELITA III	-	Third Five-Year Plan - 1979-1984
PK	-	Community Health Nurse
PKMD	-	Village community health development
POS KESEHATAN	-	Village health posts
PROMOKESA	-	Primary health care workers
PUSKESMAS	-	Health centers
SUSENAS	-	National social and economic surveys
STOVIA	-	Faculty of Medicine, University of Indonesia
UNDANG-UNDANG DASAR 1945	-	Constitution of the Republic of Indonesia
VCDC	-	Village community health center
VCHD	-	Village community health development
VDKP	-	Local development working units at the Kecematan level
VFPP	-	Village Family Planning Program

TABLE OF CONTENTS

SUMMARY AND CONCLUSIONS

i. The Government of Indonesia's (GOI) health policies and implementation efforts during the periods of the first and second five year development plan (PELITA I and II, 1969-1974 and 1974-1979) have concentrated on rehabilitation of health facilities and extension of infrastructure consisting of provincial hospitals, regency (Kabupaten) hospitals, subdistrict (Kecematan) health centers, maternal and child health (MCH) care clinics and other polyclinics, and on development of programs to produce the trained manpower required to staff these facilities. The Government of Indonesia has been fairly successful in reaching the projected targets of these health development efforts, particularly in Java and Bali and in some areas of the Other Islands. However, basically the same disease patterns and health problems identified by the Ministry of Health (MOH) in preparation of the health plan for PELITA I and II and further specified from findings of the Household Survey conducted by the Ministry of Health in 1972 1/ serve as a major element of the rationale for health planning in preparation for PELITA III.2/ In addition, recent changes in disease patterns in rapidly developing urban areas in Java, Bali and Other Islands have focused attention on the increasing prevalence of accidents, cardiovascular disease, cancer, and health problems resulting from chemical pollution of the environment.

ii. Even though disease patterns in many areas appear to be similar to those of the past, life expectancy in Indonesia has been increasing. Recent studies have estimated increase in life expectancy of as much as five years for both males and females since the 1961-1971 census projections were released.3/ Therefore, interpretation of mortality and morbidity data must be done with caution. More precise analysis will be possible upon completion of the Household Survey which the MOH has planned for 1979.

iii. Although impressive achievements have been made in establishing and upgrading facilities, a review of services provided by these institutions indicates underutilization. Past studies estimated that the effective operational area of the Health Center (Puskesmas) is less than 5 sq kilometers which generally covers less than 25% of the population. An estimated 50% of the population who are ill do not seek assistance. Of those who seek assistance, only about 20% go to a health center. The average patient load at health centers varies from 2 to 35 persons per day. Similar underutilization of hospital facilities was demonstrated in a study conducted in 1974 by Lembaga Kesehatan Nasional in hospitals in Java, Sumatra, Kalimantan, Sulawesi, Bali and

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1/ Soelianti, J.S., M.D. Dr., P.H. et. al. Household Survey, National Institute of Medical Research, (LRKN), 1972.

2/ Rencana Kebijaksanaan Umum PELITA III Kesehatan Pengarahan Menteri Kesehatan, Dalam Rakerkesmas Ke X Tahun 1978, Jakarta.

3/ "Employment and Income Distribution in Indonesia," World Bank, June 1978, unpublished draft.

West Nusantenggara. The bed occupancy ratio ranged from 17% to 63%. Most of the patients (75% - 80%) lived within a 5 kilometer radius and represented less than 1% of the regency (Kabupaten) population. The daily charge to patients ranged from US$.30 to US$1.40/day and about 70% of tne patients were unable to pay this. Only 14% of the patients represented referrals from other Government health facilities. Preliminary data of MOH indicated however, that a recently introduced reduction of patient fees charged by health centers has resulted in increased utilization of these facilities.

iv. Outreach problems contribute to underutilization. Health centers have made only limited efforts to actively involve the community in health activities. Although, theoretically, the concept of health center operations suggests outreach activities, these are usually limited due to a lack of transport, staff motivation or community response. Recently, several pilot efforts have been undertaken to involve the community more actively in health promotion, and the concept of community participation has become an established policy of the Ministry of Health, which holds promise for future health center activities. While in general, the concept of community participation has not yet become operational in health activities, family planning programs are successful in involving the communities, when appropriate supervision, performance targets, and reporting requirements are given to the family planning field workers. Elements of this program have been incorporated in concepts for developing primary health care.

v. In summary, there has been a gap between the health center and its personnel, and the population in the communities with whom the health center should be working. This health services gap is a function of the quantity and quality of the health services available; the cost of drugs and services, including cost of transportation to health centers; inadequate planning and management of health services; inadequate supplies; socio-cultural gaps between community and health center personnel; problems to mobilize communities to address their own health needs and to link health services into overall development efforts of villages; and constraints to incorporate appropriate traditional health practices and resources into government health efforts. However, recent MOH programs and policies analyzing the situation have made serious efforts to narrow this health service gap.

vi. To further strengthen these efforts, the following actions (which are basically in line with the Government's own thinking) are recommended. Given the investments and the remarkable achievements in health infrastructure and manpower development during PELITA I and II, factors affecting underutilization of services and lack of community participation should be analyzed in more detail. This seems particularly important in view of the Government's commitment and established policy to extend primary health care during PELITA III and the experience gained with the implementation of the family planning program at village and health center level.

In addition, to further strengthen the health center program, serious consideration should be given to the establishment of a system to back primary health care management at all levels. Particularly, management at the Kabupaten level should be a primary target for support.

Finally, the concept of the community health nurse (PK) stresses availability of appropriate lower level health manpower as a critical factor in extending primary health care. Since initial experience has been gained, intensification and acceleration of PK training is recommended.

I. DISEASE PATTERNS

A. Prevalent Disease Patterns and Health Problems

1. The most prevalent diseases are communicable diseases causing infections of the respiratory tract--colds, pneumonias, tuberculosis; infections of the skin and eyes; infections of the gastrointestinal tract--diarrheas including cholera and typhoid; intestinal parasites; vector borne diseases--malaria, dengue hemorrhagic fever; and nutritional deficiencies--protein calorie malnutrition, anemias, goiters, and xerophthalmia. Except for certain specific diseases and health problems outlined below, the general pattern of reported morbidity appears the same for urban as well as rural areas particularly in Java and Bali (see Annex 1 for details on specific disease patterns). The prevalence of malaria /1 is much greater in the other islands than in Java and Bali. Schistosomiasis is limited to the Central Sulawesi lake area and adjacent river valley (Lake Lindu and Napu Valley). Filariasis is widespread in several foci of most provinces outside Java, i.e., Sumatra, Kalimantan, Sulawesi, Moluccas, Irian Jaya and East Nusatenggara. Dengue hemorrhagic fever once thought to exist only in urban areas has recently shown increasing prevalence in the more populated rural areas of Java. Goiter is endemic in mountainous regions of East Java, Bali and North and West Sumatra where iodine intakes are low.

2. Two other types of health problems should be noted because of their increasing importance to morbidity and mortality patterns, particularly in urban areas. These are: (a) accidents of all kinds--motor vehicles, industrial and farming; and (b) cardiovascular and cerebrovascular diseases. An increasing incidence of cardiovascular and cerebrovascular diseases has recently been noted, particularly in the urban and more affluent segments of the population. According to recent hospital statistics, these diseases are classified now as the fourth major cause of morbidity among people over 40 years old. Changing life patterns, stress, overeating, smoking and pollution are known contributing factors to cardio-cerebrovascular diseases and are ubiquitous in urban areas of Indonesia--contrasting sharply with lifestyles of the majority of the rural and urban poor populations who cannot afford to purchase food satisfying minimum calorie requirements of 2150 C per capita per day. Injuries from accidents--vehicular, industrial, and farming--are now among the major causes of mortality and morbidity in Indonesia and are showing an alarming increase, particularly in urban areas. Reported serious traffic accidents have increased from 28,145 in 1972 to 49,585 in 1976 with 7,435 deaths.

/1 Java/Bali - incidence 1.5-2.75/1,000
Other Islands - incidence 100/1,000
Keadan Status Kesehatan Mafivarakat Dan Faktor Lingkungan Fisik, Biologis Sertal Sosial. Dan Budaya, 054 - TPR/III/77 Rancangan III, p. 28 Jakarta, August 20, 1977.

B. Economic, Environment, and Social Factors Affecting Disease Patterns

Economics

3. As in other developing countries of the region, economic, social and environmental factors play major roles in affecting disease patterns. During 1968-76, Gross National Product increased at an annual rate of nearly 7%. Benefits from this growth did not favor the poor urban and rural population. Analysis of data from the two National Social and Economic Surveys (SUSENAS of 1970 and 1976) suggests that in 1976 nearly 87 million people in Indonesia could not afford an adequate diet (2,150 calories/per capita day). Further analysis indicates that from 1970 to 1976, the average caloric intake for this segment of the population improved less than 100 calories per capita per day. The interaction of malnutrition and infections has been well documented--malnourished persons are more susceptible to infections and infections precipate malnutriion by increasing caloric needs, infants and pregnant and lactating women being at highest risk.

Environment

4. The diarrheal diseases including cholera, typhoid and certain intestinal parasites--hookworm, roundworm--are caused by ingesting contaminated foods and water as well as through contact with contaminated soil, water and other objects. In a survey conducted in 1975/76 in 15,605 villages /1 covering about 42 million people, only 2.5 million or about 6% stated they consumed protected water for drinking or cooking.

5. Protected water supply includes hand pump wells, covered/protected wells, artesian wells and rain catchment tanks. Ninety-four percent of the people used unprotected water from rivers, lakes and open wells and rain water. The overwhelming majority of villagers live excessive distances from suitable sources of potable water. In fact, only 5% of villagers lived within 1 kilometer from the water source (Table 1). Villagers, however, have shown a willingness to contribute to the development and operation of water supply schemes, as shown in the table. About 20% of the people in villages surveyed reported they used latrines located outside of the house; 80% of village people are indiscriminate in their excreta disposal using fields, streams and ponds close by.

6. Waste and sewage disposal problems in urban areas are complicated by uncontrolled large and small industrial waste dumping in streams and rivers and the absence of sewage systems. As a result of rapid development efforts with inadequate planning resources and services, pollution of the environment is increasing in several urban and rural areas throughout Indonesia. For example, in Jakarta, which has over 5 million people, there is no citywide system for waste, sewage and industrial disposal and the Celescring River/Canal

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/1 Ibid., p. 56.

of Jakarta is severely polluted with fecal matter, chemical pollution from the pharmaceutical industry and dye pollution from the textile industry. Examples of similar pollution exist in West Java, Bengkwalu, Medan and Gersek. Other activities related to economic development such as massive timber cutting also impact the environment altering the biological ecology, propagating disease-transmitting vectors, and creating conditions for soil erosion.

Traditional Beliefs and Practices

7. Most communities in Indonesia, ethnically and culturally diverse, share traditional views toward health and illness, particularly in rural areas. Concepts of health and illness are deeply rooted in religious beliefs (Islam, Hinduism and other sects) as well as in mysticism (Kebatinan) and in various ethnic, regional and local traditions. The traditional healers are known as dukun or balian (Bali). There are various kinds of dukuns, such as dukun bayi (traditional midwives), dukun pijet (masseurs), dukun parewangan (medium), etc. Often one person performs several functions as dukun biasa (common dukun). Dukun bayi are the most numerous with present estimates ranging above 100,000. Attempts have been made to utilize the traditional midwives in the GOI/MCH and family planning programs, and over 50,000 of them have received some training during the first four years of PELITA II. Traditional healers and traditional medications and herbs (jamu) are highly regarded and generally sought out by the population as the primary contact for preventing illness and receiving health care. This preference is due to accessibility, availability and cost factors, as well as to harmony of viewpoints about health and illness between healer and client. A 1977 study in Yogyakarta near an urban health center showed that only 45% of the 3,000 people surveyed had ever been to a doctor and only 16% to the health center within one kilometer although 40% had been ill the previous month. Most of the people had either sought help from traditional healers, medicated themselves or ignored the episode. The Household Survey (1972)/1 indicated that at least 12.6% of the population used self-prescribed traditional medications. A more recent survey--Survey on Marketing and Consumption of Jamu (1977)/2--indicated that out of 1,832 households surveyed, 55.9% of the women and 46.5% of the men used traditional medicines and never made use of modern drugs. It is interesting to note that 81.4% of those using traditional medicines, did so, at least in part, for preventive purposes, while only a small proportion did so exclusively for curative purposes.

/1 Soelianti, J.S., M.D., Dr. P.H., et. al. Household Survey, National Institute of Medical Research (LRKN) 1972.

/2 Roesnadi, S.O.; Tahar, W.; Anwart, T., Report on the Survey of the Marketing Consumption of Jamu, Ministry of Health, March 1977.

Table 1: COMMUNITY PARTICIPATION IN PROVISION OF VILLAGE WATER SUPPLY FACILITIES

No.	Province	No. of villages examined	Percent of villagers located within 1 km of water source	Percent of villagers who contribute to	
				Development	Operation maintenance
1.	D.I. Aceh	1,146	2.2	76	89
2.	Sumatra Utara	1,423	4.8	58	56
3.	Sumatra Barat	238	2.1	47	90
4.	Riau	-	-	-	-
5.	Jambi	254	-	65	85
6.	Sumatra Selatan	473	2.3	83	100?
7.	Lampung	440	3.2	71	81
8.	Bengkulu	-	-	-	-
9.	Jawa Barat	2,118	3.1	82	83
10.	D.KI.I. Jakarta Raya	-	-	-	-
11.	Jawa Tengah	2,790	7.6	73	74
12.	D.I. Yogyakarta	-	-	-	-
13.	Jawa Timur	3,913	5.0	67	86
14.	Kalimantan Barat	402	-	2.8	57
15.	Kalimantan Tengah	-	-	-	-
16.	Kalimantan Selatan	293	1.0	42	96
17.	Kalimantan Timur	130	3.1	2.3	29
18.	Sulawesi Utara	380	1.6	100	100
19.	Sulawesi Tenggah	370	5.8	100	43
20.	Sulawesi Selatan	687	4.5	71	85
21.	Sulawesi Tenggara	77	16.9	53	92
22.	Bali	260	5.4	94	61
23.	Nusa Tenggara Barat	159	5.7	62	98
24.	Nusa Tenggara Timur	-	-	-	-
25.	Maluku	124	12.1	100	21
26.	Irian Jaya	-	-	-	-
27.	Timor Timur	-	-	-	-
	Total	15,605	5.0	70	80

Source: Report on the Survey of Water Supply and Waste Management in 19,000 villages in Indonesia, October 1976.

II. MORBIDITY AND MORTALITY

8. Data regarding morbidity and mortality in Indonesia are limited. A relatively accurate morbidity profile was obtained in 1972/73 when the Ministry of Health completed a household morbidity and health-demand sample survey within 6 of the 26 provinces. A similar survey will be conducted in 1978/79. Recently the Ministry of Health reviewed selected morbidity and mortality statistics from clinics and hospitals in analyzing accomplishments of Ministry of Health for PELITA II (1974-79) and in preparation for health planning documentation for PELITA III. The patterns of morbidity presently existing in Indonesia do not differ significantly from those that existed during the beginning of the second Five-year Plan.

A. Morbidity

9. About 5% of the population is ill at any one time, and 25% of all illness is in pre-school children (less than 5 years). There is a general consensus within the Ministry of Health that the ranking of the major causes of illness determined by the Household Survey (1972) is still valid today. The following table gives details.

Table 2: DISTRIBUTION OF THE 10 MOST COMMONLY REPORTED ILLNESSES AMONG THE FIVE PERCENT OF POPULATION REPORTED AS ILL DURING THE 1972 HOUSEHOLD SURVEY

Causes	% of total
1. Acute upper respiratory infections	18
2. Skin infections	13
3. Tuberculosis	10
4. Acute lower respiratory infections	8
5. Diarrhea	5
6. Malaria	5
7. Eye infections	4
8. Other disease of the eye	3
9. Anemia	3
10. Nutritional deficiencies	2
11. Other	29

Source: Soelianti, et. al. Household Survey, National Institute of Medical Research (LRKN).

B. Mortality

10. The major causes of mortality in Indonesia as identified in the Household Survey, 1972, and in Ministry of Health planning documents for PELITA III, 1977 /1 were:

/1 Ministry of Health, Planning Document for PELITA III, 054/TPR/VIII/77, Jakarta 1977.

(a) Diarrhea and gastroenteritis - children under two years
(b) Pneumonia and bronchitis
(c) Accidents, poisoning and violence
(d) Diseases of liver and digestive system
(e) Heart disease
(f) Respiratory Tuberculosis
(g) Tumors
(h) Cerebrovascular disease
(i) Avitaminosis and related deficiencies
(j) Typhoid

11. Mortality statistics provided by the Ministry of Health (December 1977) show 16 deaths /1,000 population per year of which some 44% are child deaths (under 5 years) and 2% are maternal deaths. These childhood deaths include about 630,000 deaths per year for infants less than one year old and 335,000 deaths per year for children between ages of one to five years. Over 44,000 mothers die yearly because of childbirth complications, the major causes being bleeding (postpartum hemorrhage) and toxemia. The main causes of death for children less than 5 years are acute infections of the respiratory tract and gastroenteritis enhanced by malnutrition. This is confirmed by mortality data collected from hospitals all over Indonesia which shoed that the leading cause of death is diarrheal diseases (10.8%), followed by pneumonia (7.1%), tetanus (6.8%), cholera (5.0%), and typhoid (4.6%).

12. Infant mortality rates in Indonesia are subject to debate. The Ministry of Health uses a rate of 110 per 1,000 live births for 1976. This estimate compares with infant mortality rates of 15 in North America, 129 in India, 139 in Pakistan, 89 in Thailand and, according to Census Bureau statistics,/1 is probably an underestimate, particularly for the islands other than Java/Bali. Infant mortality rates suggested by Census Bureau analyses are:

		Java	Other Islands*
1975-80	M	153	176
	F	126	140
1980-85	M	140	160
	F	116	129

* Excludes West Irian, Maluku, East Nusatenggara.

Infant mortality appears lowest in Bali/Java, higher in Sumatra and Sulawesi, and highest in Kalimantan and West Irian. Infant mortality is higher in rural areas than in urban areas of all provinces. Infant mortality is higher in males than in females.

/1 Ministry of Health, Planning Document for PELITA III, 054/TPR/VIII/77, Jakarta 1977.

13. Population growth had accelerated to about 2.1% during the intercensal decade 1961-71, compared to a prewar figure of around 1.5%. Results from the 1976 Intercensal Survey indicate that, contrary to earlier projections, there has been no further acceleration in the rate of population increase but rather a slight decline to 2.0%./1 As indicated in para. 12, infant mortality rates used in these projections are subject to debate. The moderation in the rate of population growth seems associated with significant declines in fertility which appear to be attributable to changes in marital fertility and to the change in proportion of the female population currently married. This decline in fertility, however, was offset to a considerable extent by the continuing declining trends in mortality.

14. Life expectancy at birth in 1961-71 averaged 46.9 years (45.4 years for males and 48.3 years for females). There are differences between Java and the other islands as the following figures show:

	Java	Other Islands
Males	46.4 years	43.6
Females	49.3 years	46.5
Average	47.9 years	45.0

In 1976, life expectancies were estimated as follows:/2

	Java	Other Islands
Males	48.9 years	46.1
Females	51.1 years	49.0
Average	50.0 years	47.5

III. HEALTH SERVICE SYSTEM

A. Historical Development

15. Prevailing concepts of health and illness and current health practices have been influenced by a variety of factors closely linked to religion, economics and politics and date back to at least the first century A.D. At that time, the Hindu religion reached Indonesia and was superimposed

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/1 Intercensal Population Survey, February 1976. Analysis conducted by Biro Pusat Statistik - Central Bureau of Statistics, April 1977.

/2 P. Visaria, "Population, Labor Force Participation, and Transmigration in Indonesia," World Bank, 1975 (draft).

on a population devoted to animism. With Hinduism came Ayurvedic medical practices which were later subtly influenced by Buddhist spiritualism. The Javanese Usadas and later the Balinese Usadas were the medical texts that guided health practitioners through and beyond the period of the Hindu Kingdoms--1100 A.D. Traditional practitioners in Bali (Balian) still use these texts today. Chinese traders also began entering Indonesia at about this time introducing elements of Chinese medical practices, many of which were integrated in to the indigenous system and still persist today. For example, the herbs and other medicinal substances used as teas and tisanes now have widespread use as jamus. The next major influence on health practices came with the introduction of Islam around 1200 A.D. Although the Holy Book of Islam, the Koran, deals primarily with basic concepts of life, it also prescribes beneficial hygienic and dietary practices as part of religious ritual. In addition, certain ulamas and other holy men adopted the practice of interpreting parts of the Koran, "developing power" to diagnose and treat ailments--a practice that continues in many rural areas today.

16. During colonial times, western technology and medical practices were introduced through the colonial administration. These practices were provided initially for the welfare of the colonial civil servants but later for Indonesians and other ethnic groups who supported the colonial administration as functionaries, miners and plantation workers. These "cosmopolitan" or western medical practices included the establishment of two medical schools for Indonesian physicians (Java Doctors): STOVIA in 1900, later becoming the Faculty of Medicine, University of Indonesia in Jakarta; and NIAS in 1913, which later became the Faculty of Medicine, University of Airlanga in Surabaya. By the time Japan occupied Indonesia in 1942, the Dutch administration had established a network of provincial hospitals as well as some Regency-level hospitals along Western lines with some public health programs, i.e., smallpox vaccination and yaws control programs, rural sanitation and health education programs. Just over 700 Indonesian physicians had graduated from STOVIA (551) and NIAS (165) by 1941 to serve an estimated population of 50 million.

17. The majority of the population, however, use today as they have in the past, the many varieties of traditional healers, practices, and remedies which evolved from Ayurvedic, Chinese, and Islamic practices, often incorporating mystical and even Western concepts.

18. During the period of the Japanese occupation (1941-1945) and the subsequent Revolutionary Period (1945-1950), health conditions deteriorated badly. Smallpox, plague, and cholera were epidemic; malaria, yaws, and tuberculosis were widespread; and malnutrition and diarrheal diseases were ubiquitous. Following the revolution (1950) the Government mobilized efforts to combat specific infectious diseases, i.e., smallpox, malaria, yaws, etc. It was not until 1968, however, that the Government developed an overall strategy for development of health as part of its first Five-Year Development Plan -- PELITA I (1969-74).

B. Health Policy

PELITA I

19. Article 27 of UNDANG-UNDANG DASAR 1945, Constitution of the Republic of Indonesia states that all the people of Indonesia have a right to satisfactory employment and a satisfactory standard of living including adequate health. In order to achieve these goals, in 1969, the GOI issued the first Five Year Development Plan --Rencana Pembangunan Lima Tahun (PELITA)--for all sectors including health. The first five year plan (PELITA I, 1969-74) outlined efforts directed towards:

(a) health infrastructure, such as development of hospitals, health centers (PUSKESMAS), maternal and child clinics, and polyclinics;

(b) preventive services and communicable disease control activities for tuberculosis, smallpox, cholera and malaria;

(c) health education;

(d) education and training of health personnel;

(e) medical care projects related to increasing understanding of nutrition problems, mental health, dental health, and eye problems;

(f) rural water and sanitation; and

(g) health research.

20. During PELITA I the GOI placed relatively low priority on health and other social sectors. The budget of the Ministry of Health during PELITA I was 2.14% of the total GOI budget. With limited resources the Ministry focused on health education, prevention of epidemics (malaria, cholera, smallpox) and attempted to stimulate a more community-oriented integrated health system. Wisely, major construction and renovation of hospitals was kept to a minimum and limited to provincial level facilities. Little progress was made in improving rural water supplies and sanitation. Limitations of health manpower in terms of numbers and training prevented efficient use of existing health centers, MCH clinics and polyclinics, and establishment of rural health services.

PELITA II

21. The basic health goals for PELITA I (1974-78) were:

(a) sufficient health facilities for the people of Indonesia;

(b) improved family welfare (implying MCH services);

(c) decreased incidence/prevalence of communicable diseases, particularly tuberculosis, gastroenteritis, and decreased epidemic outbreaks;

(d) improved nutrition;

(e) improved sanitation; and

(f) improved public awareness of health.

22. Budget allocations were limited in PELITA II as they were in PELITA I and, certain programs were given priority. The objectives of these programs were not significantly different than in Pelita I, but budgetary allocations and technical expertise focussed on the following activities:

(a) expansion of comprehensive rural health care facilities particularly in areas of high population density and where concomitant development activities are underway;

(b) programmatic emphasis on ambulatory treatment rather than the provision of "in-hospital" treatment;

(c) a primary emphasis on providing services to children, youth and the labor force; and

(d) to the greatest extent possible, an increasing emphasis on preventive medicine efforts in contrast to curative treatment.

In summary the Ministry's approach to PELITA II was designed to: (a) emphasize development of the health center (PUSKESMAS) and satellite centers concept for primary health care; (b) to upgrade Kabupaten hospitals as referral centers; (c) to encourage private sector cooperation; and (d) to emphasize "community orientation" in all health/medical training facilities, including medical schools. At the same time, continued emphasis is to be placed on decentralization of administrative control of the Ministry of Health and development of capacity for technical advice and supervision.

C. Organization

23. The Ministry of Health was recently reorganized via Presidential Decree No. 45/1974 as one of the 18 government departments responding to executive directives. The Ministry is headed by the Minister of Health who is responsible to the President. The Minister is assisted by a Secretary General; an Inspector General; Directors General for Medical Care (largely hospital-oriented), Community Health Services, Communicable Disease Control (CDC), and Pharmacy and Food Control; a National Institute for Health Research and Development; and a Center for Training and Education (see Figure 1).

24. The provincial health officer (first level) is headed by the Provincial Health Officer (IKES/KAKANWIL) who has a dual responsibility. ~~As IKES (Inspector Kesehatan)~~ he reports to the Minister of Health primarily on technical matters and on issues relating to nationwide policy. As

1 KEKANWIL

~~KAKANWIL~~ IKES, he reports to the Governor on administration of all health activities in the Province. The Kabupaten Health Office (district or second level) is headed by a Kabupaten Health Officer (DOKABU/KADIN) who also has dual responsibilities. As DOKABU he reports to and receives instructions from the provincial health officer, and as KADIN is responsible to the Kabupaten head (BUPATI). His office coordinates all health activities in the Kabupaten and, in particular, supervises the health center activities. At the Kecematan (third level), the head of the health center is responsible for all health programs in the subdistrict and works with the head of the subdistrict (CAMAT).

D. Resources

25. Over 80% of Indonesian health facilities are technically controlled by the Ministry of Health. Other GOI and private groups, however, provide health care services. In addition, professional health organizations, other GOI agencies (see Annex 2), and health insurance schemes have increasing influence over the health sector. Almost all physicians in Indonesia are employed by GOI and almost all conduct legal private practice before or after regular working hours through individual offices practices or private clinics. Although nurses are prohibited from treating patients without physician supervision, many nurses and other health workers have private practices administering drugs and injections (Mantri).

Health Manpower

26. Available health manpower data is imprecise. Current estimates and categories are listed in Table 3. About 75% of the manpower is posted in Java and Bali. There are approximately six physicians per 100,000 population nationwide. The ratio in the other islands varies from 1-4 per 100,000. Of the estimated 10,456 practicing physicians/1 in Indonesia (1978/79 estimate) about 25% live and practice in Jakarta and another 35% live and practice in 10 other urban areas--Denpasar, Surabaya, Surakarta, Yogyakarta, Bandung, Semarang, Padang, Medan and Ujung Padang. About 10% of all physicians are in the armed forces (ARBRI). Presidential instruction No. 4, 1974, mandates that every new graduate physician work in rural areas for at least three years in the other islands or five years in Java and Bali. The distribution of health center physicians is presented in Table 4. On the average, Indonesia has 6 nurses, 5 midwives, 9 auxiliaries and 15 auxiliary health workers per 100,000 population, plus the more than 50,000 indigenous midwives who have received some basic training in attempts to improve MCH and family planning services (para. 7). Efforts to utilize other traditional healers to complement government health services have not been made.

/1 Bureau of Planning, Office of the Secretary General, Ministry of Health, Indonesia, December 1977; Keadatan Perkemdangan Program Kegiatan - Kegiatan Dan Sarama - Sarana Kesehatan Serta Hambatan. Pelaksanaan, 055/PPR/VIII/77, Rancangan III, p. 36-38. Jakarta, August 20.

Figure 1. THE STRUCTURE OF THE MINISTRY OF HEALTH

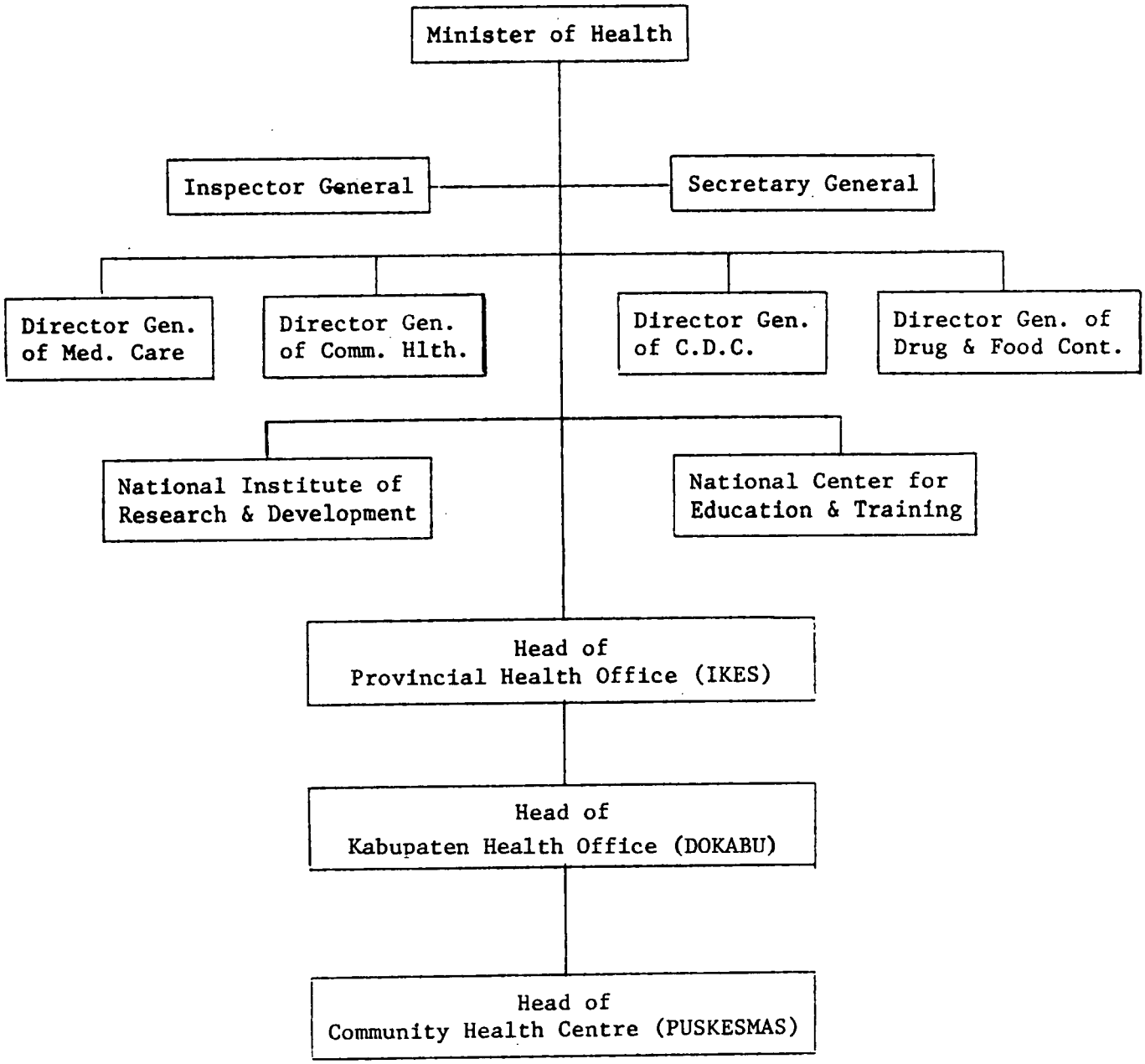

Table 3: HEALTH MANPOWER SITUATION IN PELITA II (1974-1979)

	Situation at the end of PELITA I	Estimated projections at the end of PELITA II	Implementation Year 74/75	Implementation Year 75/76	Implementation Year 76/77	Estimated implementation Year 77/78	Estimated implementation Year 78/79
Physician	6,221	10,500	7,644	3,279	8,977	9,806	10,456
Nurse (college level)	439	939	639	791	946	1,101	1,256
Sanitarian	597	972	199	284	359	434	909
Nutritionist	131	231	152	173	194	215	256
Nurse Teacher Midwife Teacher Public Health Nurse	601	1,276	659	717	776	776	776
Assistant Sanitarian	1,001	3,519	1,775	2,773	3,135	3,495	3,855
Nurse Teacher Midwife Teacher Public Health Nurse (1 year)	248	998	353	488	623	758	893
Midwife	8,323	15,823	9,160	(10,720)			
Nurse + Mental Health Nurse	7,736	16,686	8,066	9,856	23,929 (1,845)	27,711 (4,230)	31,061 (6,075)
Assist. Nutritionist	199	399	242	277	312	347	382
Assist. Analyst	608	1,233	825	1,030	1,253	1,440	1,645
Assist. Pharmacist	12,760	13,968	14,491	16,222	17,953	19,684	20,415
Dental Nurse & Technician	472	1,347	622	1,227	1,227	1,527	2,027
Health Assistant	24,248	41,498	26,262	28,707	30,972	33,237	35,577

Source: Ministry of Health

Notes:

1. Number in brackets ( ) indicates number of staff planned for Health Centers. Figures were based on plans for:

   (a) Retraining of existing manpower for three months.
   (b) Supplementary training for the newly graduated manpower for three months.

2. The number of physicians in the table represent the number of physicians graduated from Government Schools of Medicine.

3. Data for the second and third year of PELITA II are calculated by using the predicted number of health graduates.

Table 4: THE DISTRIBUTION OF HEALTH CENTER PHYSICIANS IN EACH PROVINCE UP TO DECEMBER 15, 1977

Province	Number of Physicians					Total	Population per physician
	Non INPRES	INPRES 5/74	INPRES 7/75	INPRES 4/76	INPRES 4/77		
D.I. Aceh	24	19	20	45	3	111	20,318
Sumatera Utara	52	41	40	16	8	157	45,888
Sumatera Barat	47	23	20	5	5	100	30,065
Riau	18	15	17	19	8	77	23,229
Jambi	20	10	9	8	4	51	22,182
Sumatera Selatan	31	18	25	8	6	88	44,362
Bengkulu	16	6	7	7	4	40	14,947
Lampung	10	7	6	27	24	74	44,713
Dki. Jakarta	57	7	5	6	6	81	59,389
Jawa Barat	86	43	33	62	14	238	95,672
Jawa Tengah	219	56	45	51	-	371	62,489
Di. Johvakarta	47	12	8	6	1	75	34,778
Jawa Timur	357	40	42	41	4	484	54,869
Kalimantan Barat	24	23	26	31	-	104	21,522
Kalimantan Tengah	2	17	19	-	-	38	21,103
Kalimantan Selatan	30	17	14	25	4	90	20,487
Kalimantan Timur	14	10	14	29	3	70	12,649
Sulawesi Utara	24	13	10	6	3	56	33,374
Sulawesi Tengah	11	11	10	20	3	55	18,615
Sulawesi Selatan	46	26	26	34	3	136	41,186
Sulawesi Tenggara	2	8	8	6	3	27	28,507
Bali	18	18	15	-	5	53	42,141
Nusa Tenggara Barat	4	13	14	14	5	50	47,764
Nusa Tenggara Timur	5	26	19	19	-	76	32,689
Maluku	12	8	6	6	-	34	36,800
Irian Jaya	21	16	-	-	-	56	18,309
Total	1,197	500	486	493	116	2,792	

Notes:
- Utara = North
- Selatan = South
- Timur = East
- Barat = West
- Tenggara = South East
- Tengah = Middle

Jakarta
February 27, 1978

Medical Schools

27. Presently, Indonesia has 11 Government-sponsored medical schools and 17 private medical schools closely supervised by the Government. Government medical schools now produce about 400-450 medical graduates per year. Private medical schools graduate about 45-50 medical graduates per year. These estimates are lower than those projected at the beginning of PELITA II (Government 600/year; Private 100/year). The cost of training medical students in 1972 (6 years minimum) was estimated at Rp 1,100,000 (US$3,373) per year or approximately US$20,000 per graduate. Present estimates (1977) indicate a cost of more than US$5,000/year or US$30,000 per graduate. Unlike other countries of the region--Philippines, Thailand, Malaysia--there is almost no emigration of physicians from Indonesia. In addition, some Indonesians completed medical studies in West Germany and Holland during the period of 1965-77. A number of them are completing requirements permitting them to practice in Indonesia. Since 1972, Government medical schools have been assisted by the Consortium of Medical Sciences (Ministry of Education and Culture) in developing Community Medicine Programs. Physicians receive training designed to enable them to work effectively in rural areas and to mobilize communities to solve their own health problems. Success of these programs has been questionable, and more analysis is required for future planning.

Dental and Public Health Schools

28. There are five public and two private dental schools that produce about 170 graduates annually. There is one graduate school of public health--the University of Indonesia, Faculty of Public Health (FKM)--which was revitalized in 1972. About 75 physicians and 25 other professionals per year are trained and receive graduate degrees in public health (Master of Public Health). This output is expected to remain constant for the next five years.

Nursing Schools

29. There are approximately 400 nursing schools in Indonesia, which by 1975 were producing about 7,000 nurses per year in 24 different categories. In 1975, it was decided to reduce the number of categories to two--one which would handle traditional hospital assignments and a new category to focus on primary health needs. These primary health nurses (Perawat Kesehatan or PK) would be retrained or newly trained to handle a variety of activities designed to improve village health care (para. 54). A training plan was designed which envisions retraining 24,000 nurses by 1983 and giving training to an additional number to achieve a nationwide ratio of 1PK/2,000-4,000 persons. However, there are only 27 of the 400 nursing schools at present which conduct this training program.

Paramedical Schools

30. The following list shows the number of paramedical schools and numbers of annual graduates for combined categories in each paramedical field:

(a) Nutrition - 2 schools (2 categories) with a combined output of approximately 400 graduates per year;

(b) Laboratory - 9 schools (3 categories) with a combined output of approximately 600 graduates per year (200 for the lowest level; 300 for middle level and 100 for senior level);

(c) Sanitation - 22 schools (3 categories) with a combined output of approximately 600 graduates per year (200 for the lowest level; 300 for middle level and 100 for senior level);

(d) Pharmacy - the great majority of the approximately 30 schools are for assistant pharmacists. Many of these graduates fill positions in various medical depots and the logistic system. The annual graduate output is in excess of 2,000;

(e) Dental Technician - 5 schools (2 categories) with approximately 40 graduates per year; and

(f) Radiology - 3 schools (3 categories) are just beginning to produce a few graduates a year; and

(g) Physiotherapy - a single school produces about 20 graduates per year.

E. FINANCING THE HEALTH SYSTEM

Introduction

31. Indonesia's health system /1 is financed through three major sources. One of these is the Ministry of Health's central budget which amounted to about Rp 54.0 billion (US$130 million) in 1976/77. A somewhat larger amount, some Rp 65.5 billion (US$157.6 million) was available to the health sector from other public sector expenditures, the most important of which are provincial and local budgets, health insurance schemes, and other central government budgets. Private expenditures amounting to an estimated Rp 97.9 billion (US$235.6 million) annually are the third major source, totaling more than either of the public sources separately but less than the combined public expenditures.

/1 The basic information and data provided for this section are derived from the document "Financing of the Health System in Indonesia" prepared by J.B. Volpatti, 1976. Amounts and sources quoted have not been verified unless otherwise specified. Due to the complexity of the funding sources, the Indonesian health financing system is only briefly analyzed here. The Volpatti paper contains a more detailed analysis.

Ministry of Health Budget

32. The MOH's central budget /1 is derived from three main sources: the routine (recurrent) budget (DIK), the development budget (DIP) and the INPRES budget for health (para. 35). Between 1974/75 and 1976/77, the total of these three components more than doubled. The bulk of this gain was due to a fourfold increase in INPRES funds, as the following table shows:

Table 5: MOH HEALTH BUDGET COMPONENTS AND COMPARISON WITH TOTAL GOVERNMENT BUDGET

	1974/75	1975/76	1976/77
Health Budget (million Rp)			
Routine (DIK)	11,285	19,190	17,379
Development (DIP)	8,615	13,010	15,742
INPRES	5,291	15,221	20,846
Total	25,191	47,421	53,967
Health Budget as a Percentage of Total Government Budget			
Routine	1.2%	1.3%	1.1%
Development + INPRES	2.2%	2.2%	1.9%
Total	1.6%	1.7%	1.5%

33. During the same period, however, the total government budget increased faster than the MOH budget, reducing the latter's proportion of the national budget from 2.5% in 1969/70 to 1.5% in 1976/77. Moreover the MOH budget increase in 1976/77 (about 14%) was insufficient to keep pace with inflation (Table 6).

/1 Volpatti, ibid.

Table 6: MINISTRY OF HEALTH CENTRAL BUDGET (ALLOCATIONS) AND COMPARISON WITH THE TOTAL GOVERNMENT BUDGET

	Total Government budget (Rp million)	MOH budget (Rp million)	% MOH budget
1969-1970	337,000	8,234	2.5
1970-1971	396,000	8,900	2.2
1971-1972	504,000	9,920	1.0
1972-1973	583,000	11,710	2.0
1973-1974	653,000	13,654	2.1
1974-1975	1,577,300	25,191	1.6
1975-1976	2,734,700	45,521	1.7
1976-1977	3,520,600	53,967	1.5

* Including INPRES funds.

34. The components of the MOH budget (DIK, DIP and INPRES) are spent in different ways. The routine budget finances the current expenditures of the MOH, mainly salaries and goods. The proportion of this budget allocated to salaries has decreased since 1974/75 to a current level of 45.5%, a drop which reflects the transfer of some salary payments to local budgets. More than 50% of the routine budget goes to the Director General of Medical Care, one-third is managed by the Secretariat General (mainly for education, training, and central administration), and only 3.7% is allocated to the Directorate General of Community Health Services.

35. The development budget is used for capital expenditures. About one-third of the budget is allocated to the Directorate General of Medical Care, about 25% to the Secretariat General, and 25% to the Directorate General of Communicable Disease Control. Only 10% is used for Community Health Services. Of the development budget overall, one-third is allocated to the projects managed at the central level and two-thirds to those managed at the provincial and Kabupaten levels.

36. The INPRES budget was instituted in 1974/75 and, unlike the recurrent or development budget, is allocated directly for program expenditures rather than to the various Directorates of the MOH. About 40% of the INPRES budget over its first three years was allocated for drugs, about 31% for the buildings and rehabilitation of health centers, and about 19% for water supply schemes. About 75% of INPRES expenditures are allocated to health centers under the management of the Directorate General of Community Health Services, about 19% to CDC activities, and about 6% to hospitals. Thus, while a substantial proportion of the routine and development budgets goes to the Directorate General of Health Care for operation and construction of hospitals, this orientation is balanced in the INPRES budget by a heavy emphasis on health centers.

37. The 1976/77 Ministry of Health budget of almost Rp 54 billion (US$130 million) was distributed among its various units as follows:

Table 7: DISTRIBUTION OF MINISTRY OF HEALTH BUDGET

(Million Rp)	Routine	%	Development	%	INPRES	%	Total	%
Secretariat General	5,800	33	4,050	25.7	-		9,850	18.2
Inspectorate General	62	.3	30	.2	-		92	0.2
Director General of Community Health Services	643	3.6	1,675	10.6	14,687	70	17,005	31.5
Director General of Medical Care	9,362	54	5,087	32	1,230	6	15,679	29.1
Director General of Communicable Disease Control	726	4	4,025	25.5	4,929	24	9,680	17.9
Director General of Food and Drug	787	4.5	875	5.5	-		1,622	3.1
Total	17,379		15,742		20,846		53,967	100

Other Funding Sources

38. The most important segments of the public budget, outside of the Ministry of Health, are described below. A summary table is presented in para. 46.

39. Provincial and Kabupaten Budgets. Local provincial and Kabupaten budgets (estimated at Rp 20.1 billion, about US$48.4 million) for 1976/77 are not precisely known since no comprehensive data have been published. Between 1969/70 and 1972/73, the average increase in these budgets was about 30% in 14 provinces covering 71% of the population. These budgets are used as matching funds for INPRES projects as well as for local salaries and supplies. The Bupati plays an important role in the allocation of funds for Kabupaten health services, as evidenced by the wide range (5% to 20%) in the share of Kabupaten health funds allocated to health activities.

40. Insurance Schemes. The health insurance scheme for government employees (ASKES) is Indonesia's most important insurance system, both because of the number of persons covered (some 5.8 million) and the amount of funds involved. Its objectives is not only to serve members

but also to support government health services. With a total income of about Rp 14.9 billion (US$35.9 million) in 1976/77, ASKES represents about 20% of the total government health services budget (central and local. ASKES' total income, most of which is derived through deductions from members' salaries, has increased dramatically in the past few years, however, this is due mainly to an increase in government salaries rather than to an increase in membership. Deductions are 2.75% for government employees and 5% of pensioners' basic salaries.

Table 8: ASKES' INCOME AND MEMBERSHIP

	1973/74	1974/75	1975/76	1976/77
Total income (million Rp)	6,122	8,432	12,170	14,900
* No. of insured members	1,330,047	1,350,608	1,441,260	

* The average size of the family of insured employees is estimated to be 4. At the moment around 5.8 million persons are covered by the ASKES scheme.

41. Over 50% of ASKES expenditures are for health services, with other expenditures being for investment and central administration operating costs. The health services funds are allocated to the Kabupaten board managed by the DOKABU. Each month the ASKES funds are credited to the local ASKES bank account, the funds being proportional to the number of insurance card holders in each Kabupaten. The DOKABU keeps the deposit in the Bank and makes disbursements after receiving the claims from government health facilities or from the patient if private doctors or facilities are used.

42. ASKES serves as a supplementary source of funds for local health services. Moreover, since part of the ASKES expenditures can be used for incentives to physicians, the ASKES scheme may also have an impact on manpower distribution. Finally, since 10% or more of ASKES funds allocated to government services are returned to the BUPATI as government fees, the resources available to the BUPATI for allocations to health activities are augmented. Other health insurance schemes (Dana Sehat) are of minor importance.

43. Ministry of Armed Forces. The Ministry of Armed Forces employs an estimated 1,000 physicians and operates a network of health facilities throughout the country. Although exact figures are not available, the Armed Forces health budget is estimated at 15% of the combined MOH and local agency health budgets. This would amount to approximately Rp 11.1 billion (US$26.8 million).

44. The Ministry of Education. The Ministry of Education finances the government medical schools. The estimated annual cost (1978) per student is Rp 2.3 million. With an estimated enrollment of 2,600 in the 11 government operated schools, the relevant budget approximates Rp 6.0 billion (US$14.4 million).

45. Other Sources. Foreign aid in the health sector totalled about Rp 4.6 billion (US$11.1 million) in 1975/76. The Family Planning Board 1976/77 routine and development budgets added another Rp 7.175 billion (US$17.2 million) in health-related activities to overall health sector resources.

46. Private Expenditures. Private expenditures are also a factor in the total financial resources available to the health sector. Although accurate data are scarce, it is estimated that Rp 97.9 billion (US$235.6 million) are spent annually for private sector services plus private expenditures for government health services (e.g., drugs)./1 This is about US$1.80 per capita annually, approaching the government's own total of US$2.25 per capita from all public funds. These private expenditures constitute an essential input for hospitals and medical personnel, and for the traditional practitioners who are often the first level of delivery of health services.

Summary of All Health Sector Expenditures

47. The following table summarizes estimated expenditures of funds by category within both the public and private portions of the overall Indonesian health sector./2 Origin of these funds from public and private sources is also shown.

/1 Based on several sources compiled in Volpatti, ibid.

/2 Based on several sources, a number of which are compiled in Volpatti, ibid. (The precision of the individual figures is subject to some variation due to the differences in sources.)

Table 9: SUMMARY OF ESTIMATED HEALTH SECTOR EXPENDITURES IN INDONESIA IN 1976/77 (in Rp millions)

Category	Sources of funds		
	Public	Private	Total
Expenditures in the Public Sector			
Ministry of Health (central budgets)	53,967		
Provincial and local budgets	20,100		
Health insurance scheme (ASKES)	11,500		
Ministries other than MOH	17,100		
State-owned enterprises	5,000		
Family Planning Board	7,175		
Foreign aid	4,600		
Private payments to Government health centers		7,000	
Private payments to Government hospitals		19,175	
	119,442	26,175	145,617
Expenditures in the Private Sector			
Health insurance payments	3,400		
Private payments for physicians		28,000	
Private payments for paramedics		3,200	
Private payments for pharmacists		10,000	
Private payments for other practitioners		15,500	
Private payments for private hospitals		7,000	
Private payments for medical school/hospitals		8,000	
	3,400	71,700	75,100
Total Health Sector Expenditures	121,842	97,875	220,717

IV. CURRENT STATUS OF MAJOR HEALTH ACTIVITIES

A. Extension of Health Facilities/Services

Health Center Program

48. The major effort to improve health services for the people during PELITA II has been the extension of the health center (Puskesmas) program to provide at least one health center in each Kecematan with appropriate subcenters such as polyclinics and MCH centers according to population densities. There were 1,058 health centers at the beginning of PELITA I (1969); the number had increased to 2,343 by the end of PELITA I (1974). As of December 1977, the total had grown to 4,029, a figure well above PELITA II's goal of one center per each of the country's 3,251 Kecematans. Each center covers an average of 40,000 persons in Java, Madura, and Bali, and from 15,000-25,000 in other islands. The policy towards the end of PELITA II was to absorb existing polyclinics and MCH centers into newly constructed health centers. For PELITA III, consideration is being given to making services more accessible to a larger fraction of the population through construction of some 14,000 health subcenter facilities. In principle, local governments are responsible for supporting operation of the health centers, but up to the present time, the bulk of the funding has been provided by the Central Government.

49. The services provided by the health center cover the basic activities of medical care, maternal and child health, family planning, communicable disease control, hygiene and sanitation, nutrition, health education, dental health, school health, laboratory services, mental health, and reporting and surveillance activities. These services have been described in a reference document (Health Center Manual--April 1976) which serves as a basic document for the development of health center activities.

50. The recommended staffing pattern for a health center is as follows: one physician, one nurse and/or one midwife, one sanitarian, two communicable disease control workers, one laboratory technician, one dental assistant, one administrator and one office clerk. This pattern may vary, and for INPRES health centers fewer personnel are used.

51. Although an impressive number of new health centers are now in place, the problem remains of ensuring that they provide the services planned for them. Studies have shown that the centers are greatly underutilized./1 The patient load at the centers ranges generally from 2 to 35 persons per day. It is estimated that the effective operational area of the health center is 5 sq km which generally covers no more than 25% of the population. In

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/1 Soelianti, Household Survey; and, Roesnadi, Report on the Survey of the Marketing and Consumption of Jamu.

addition, about 50% of those who are ill do not seek assistance and of those who do, only bout 20% will use a health center while the other 80% will use traditional methods or private care. The Ministry of Health has realized that underutilization and incomplete coverage are among the chief problems of the health sector./1

52. The reasons for underutilization, however, are not completely understood. There is no single most important cause, but a variety of problems which form a complex web of cause and effect. First, preference for traditional healers and traditional remedies by large segments of the population has been shown in several recent studies. Given the historical development of health concepts and systems in Indonesia, and the fact that illness behavior is deeply rooted in the sociocultural environment, this is not surprising. However, efforts to understand traditional beliefs and the behavior of patients in order to integrate the health enhancing aspects of these beliefs into the treatment process have been minimal within Indonesia. Second, there is a lack of appropriate staffing, especially a lack of appropriately trained paramedical manpower. Fewer than 50% of the Puskesmas have adequate supporting staff; only about 50% of all health centers have adequate staff housing, which could serve as an incentive to attract personnel and one-third of all health center buildings are considered inadequate and in need of rehabilitation. Third, there is a need for improved management at all levels. Weak management of the health centers poses particularly serious problems, since it often results in a breakdown of supply lines, so that drugs and equipment are often not available. In addition, lack of supervision and technical guidance on professional matters from superiors is common. Fourth, salaries are low, necessitating the conduct of private medical practices. In accordance with government regulations, health center physicians conduct private practices outside official working hours. Other health center personnel, nurses, and midwives also often have private practices to augment their incomes, but thus divert patients who can pay for health services from the centers to their own practices and thereby contribute to the overall problem of clinic underutilization.

Hospital Program

53. An important goal in PELITA II was to upgrade Kabupaten hospitals to the level of referral centers. Policy states that a referral center must have a surgeon, a gynecologist, an internist, and a pediatrician. Efforts in PELITA II have been made to upgrade 376 hospitals or more than half of all government hospitals in 19 provinces, mainly in middle-sized towns. This upgrading has been accomplished both by increasing facilities and staffing and by improving management and record keeping. Details of numbers of existing hospitals and bed capacity are listed in Table 10.

/1 Transmigration and RDPI. Jakarta: Ministry of Health, 1977.

Table 10: THE NUMBER AND CAPACITY OF GOVERNMENT AND PRIVATE HOSPITALS IN EACH PROVINCE IN 1975

No.	Provinces	Government		Private		Govt. and Priv.		Population per bed
		No. of Hosp.	No. of Bed	No. of Hosp.	No. of Bed	No. of Hosp.	No. of Bed	
1.	D.I. Aceh	22	700	1	-	23	700	3,221
2.	Sumatera Utara	66	7,022	81	1,907	147	8,929	806
3.	Sumatera Barat	17	1,198	20	221	37	1,419	2,118
4.	Riau	13	559	11	175	24	734	2,436
5.	Jambi	6	268	2	24	8	292	3,874
6.	Sumatera Selatan	29	2,138	5	344	34	2,492	1,566
7.	Bengkulu	4	188	-	-	4	188	3,180
8.	Lampung	6	538	10	215	16	753	4,394
9.	D.K.I. Jakarta	33	4,122	112	2,961	145	7,083	679
10.	Jawa Barat	54	6,094	24	1,370	78	7,464	3,050
11.	Jawa Tengah	84	7,955	97	1,384	181	9,339	2,482
12.	D.I. Yogyakarta	8	1,131	6	1,259	14	2,390	1,091
13.	Jawa Timur	75	8,412	62	2,458	137	10,870	2,443
14.	Bali	13	1,252	-	-	13	1,252	1,783
15.	Nusa Tenggara Barat	11	487	1	48	12	535	4,435
16.	Nusa Tenggara Timur	13	634	11	611	24	1,245	1,995
17.	Kalimantan Barat	24	1,050	4	157	28	1,207	1,854
18.	Kalimantan Tengah	8	272	-	-	8	222	3,612
19.	Kalimantan Selatan	13	582	2	86	15	668	2,760
20.	Kalimantan Timur	13	970	3	82	16	1,052	841
21.	Sulawesi Utara	12	1,141	13	984	25	2,125	879
22.	Sulawesi Tengah	8	445	1	11	9	456	2,245
23.	Sulawesi Selatan	46	2,607	25	993	71	3,600	1,555
24.	Sulawesi Tenggara	10	272	1	55	11	327	2,353
25.	Maluku	6	422	5	440	11	362	3,456
26.	Irian Jaya	19	819	7	54	26	903	1,135
27.	Timor Timur	-	-	-	-	-	-	-
	Total	613	51,278	504	15,839	1,117	66,597	

Source: Ministry of Health

Notes:
- Utara = North
- Selatan = South
- Timur = East
- Barat = West
- Tenggara = South East
- Tengah = Middle

54. However, the problem of underutilization is as acute for hospitals as it is for health centers. A study of hospital utilization conducted by Lambaga Kesehatan Nasional (LKN) in 1974 in hospitals in Java, Sumatra, Kalimantan, Sulawesi, Bali and West Nusantenggara found bed occupancy ranging from 17% to 63%. Most of the patients (75%-80%) lived within a 5 kilometer radius of the hospital and represented only one percent of the Kabupaten population. The large majority were self-referred, with only 14% representing referrals from other government health facilities. A number of factors contributes to low bed occupancy rates. Cost is one; the daily charge to patients in the LKN study ranged from US$0.30 to US$1.40/day and about 70% of the patients were unable to pay this. A second may be hospital regulations preventing families and relatives from accompanying patients. In addition, despite efforts in PELITA II, many hospitals at the Kabupaten level still do not meet referral center standards, and those people who can afford to do so, often prefer to go directly to provincial hospitals.

B. Primary Nurse Program - Perawat Kesehatan (PK)

55. Recognizing the problems the health centers and Kabupaten hospitals had in promoting proper utilization by the village populations, the Ministry of Health decided, in 1975, to develop an outreach program to make villagers aware of health problems, their prevention, and available treatment facilities. Since nurses and midwives constitute the largest segment of the health manpower pool, the Ministry decided to make maximum use of this group for implementing the new approach. Details of a plan to train existing and new nurses in order to form a country-wide force of some 22,250 primary health nurses (Perawat Kesehatan - PK) were set out in a Development Plan for the Primary Health Nurse Training Program (see para. 29). The goal is to have trained enough nurses to provide six PKs per health center and one per health subcenter by 1983.

56. The functions of the PK in the community as specified by the Development Plan are as follows:

(i) provide basic nursing services within the context of community health with the joint participation of community and health groups;

(ii) supervise the primary health care workers (PROMOKESA);

(iii) provide primary health care services and serve as the first level of support of the primary health care workers;

(iv) provide preventive, simple curative and rehabilitative care based on a family centered and community-centered approach;

(v) assist in the organization of a system of support that includes management and referral of patients for specialized services; training and guidance of the health workers of lower levels, and planning and evaluation of health care activities; and

(vi) coordinate and integrate primary health nurse activities with other community development programs.

Thus, the role of the PK would be to use the health center or subcenter as a base but to work in villages to promote health development activities. The PK would be assisted at the village level by 5 to 7 primary health care workers (PROMOKESA), villagers who would in turn each be responsible for 15-20 households. It would be the responsibility of the PK to guide, support and supervise the PROMOKESA. The PK would also look to existing community and health groups for assistance in planning and implementing health programs, wherever possible coordinating and integrating these activities into other community development programs. The PK would be expected to provide basic nursing services, but wherever possible would do so with the cooperation and participation of families and the community. The PK would also be expected to assist in the organization of a system of support which would include management and referral of patients to specialized services.

57. The National Center for Education and Training was mandated in 1975 to train PKs to carry out the functions described in the preceding paragraph. The training program is designed to enable graduates to function more effectively in a community-oriented health care system. Teaching and learning experiences are developed within the context and life patterns of the rural communities. Teaching emphasizes self-development and self-reliance in solving problems. Health and community development are stressed and emphasis is given to social and behavioral science concepts. There are PK training programs for four target groups: (i) a one-month reorientation program for PK teachers; (ii) three-month retraining programs for existing health center nurses and midwives; (iii) one year of supplementary training for existing auxiliary nurses; (iv) a three-year full training program for those with no nursing background.

58. Although the MOH mandated that the PK program cover the entire country, until now the training of PKs has had more the character of a pilot activity than of a nationwide program. The resources necessary for a reasonable rate of expansion have not been available to the program, and therefore the degree of implementation has not met initial expectation. Absence of a national health manpower policy is one major factor contributing to this. No accepted national policy provides guidelines for determining countrywide manpower needs and categories, planning for the education and training of personnel and also for managing their placement and effective utilization. The personnel management system within the MOH lacks well-defined procedures for handling the PK program. Thus, there is little institutional support to provide guidelines or incentives for selecting nurses for PK training and no national plan for their placement and further career development once training is completed.

C. Village Community Health Development (VCHD) or Pembangunan Kesehatan Masyarakat Desa (PKMD)

59. The most recent development in Indonesia's effort to provide primary health care was the decision to institute in 1977 a Village Community Health Development Program (VCHD) (Pembangunana Kesehatan Masyarakat Desa - PKMD). The program was an outgrowth of several conferences involving various Government Ministries and reflected a widespread realization that conventional methods of health care delivery were not meeting the needs of the rural poor. This program established basic policy, implementation guidelines and definition of appropriate roles regarding primary health care for the various ministries and departments of the GOI. The realization that health development should be an integral part of rural development indicated placement of prime responsibility for management of these multisectoral efforts in the Ministry of Home Affairs - specifically at the subdistrict level through the UDKP, (Local Development Working Units) and at the village level in the LSD's (Village Social Institutes). The Ministry of Health is expected to provide leadership in formulating appropriate methodologies and the provincial health services are expected to provide the necessary resources for the VCHD's activities. Prime emphasis on VCHD activities is placed on motivation and education of the community and of the formal and informal leaders.

60. Pilot VCHD projects for the fourth (1977/78) and fifth (1978/79) years of PELITA II were planned in six provinces. These pilot efforts are designed to serve 22 villages located in 12 Kecematan lying within six different Kabupaten. These projects include the following key elements:

(i) Community Participation. Through village health councils the community is expected to participate in determining major health problems and establishing programs to solve these problems as well as undertaking financing of certain health activities.

(ii) Village Health Volunteers (Kader Kesehatan, Promokesas). Selected by the community, these volunteers will coordinate health development activities and provide certain specific health services.

(iii) Community Health Center Network. The Community Health Center (PUSKESMAS) at the Kacematan level will serve as a focus for health development activities including training of village health volunteers, village health councils, and other personnel involved in health programs. Depending on the population density each Community Health Center will supervise the activities of subcenters. Village Health Posts (POS KESEHATAN) will be located in the village in homes of specific village health volunteers.

(iv) Dana Sehat (Health Insurance). Various forms of health insurance will provide financing for health workers and services at the village level.

(v) Primary Health Nurse (PK). A new category of nurses is being trained to provide preventive and curative services as well as to conduct training in health education at the village level. This nurse will operate from the Community Health Center as well as the subcenter.

(vi) Health Education. Education of the community to mobilize its resources to participate in solving its health problems is being introduced as a major component of Primary Health Care.

(vii) Nutrition Services and Education Activities.

(viii) Communicable Disease Control Activities, Environmental Sanitation and Safe Water Supplies, and Immunization.

Thus, it is seen that VCHD projects are designed to give as much responsibility as possible to local communities for solving their health problems. The projects are designed to incorporate recent innovations and improvements in primary health care personnel and facilities. For example, the PKs and PROMOKESA would play key roles in alerting villagers to existing health problems and to possible solutions. Health centers would also be a key element serving as a focal point which all persons involved in health programs would use for coordination and exchange of information. In addition, village health posts (POS KESEHATAN) would be established in the homes of selected villagers, providing grassroots headquarters for everyday health activities. A further innovation in the VCHD program would be the organization of villagers into health councils. The councils would be expected to participate in determining critical health needs and problems and in devising programs to solve them. The councils, in addition, would be expected to organize financing of certain health activities.

61. There are significant constraints in three major areas which place limits on the implementation efforts for the primary health care program:

(a) Problems of Coordinating Planning and Implementation of Primary Health Care at National Levels. Although the Directorate General for Community Health is the focus for Primary Health Care activities within the Ministry of Health, specific health activities, i.e., immunizations, sanitation, primary health nurse programs, etc., are the responsibility of other directorates such as the Directorate of Communicable Disease Control and the National Center for Education and Training. At present, there is no organizational mechanism to deal with intra-ministerial coordination. In addition, the system requires research and development on the components of Primary Health Care before institutionalizing them in a national scheme.

(b) Problems of Managing Implementation of Primary Health Care at Provincial, District, Subdistrict and Village Levels. Decentralization of the activities of the Ministry of Health clearly has put the responsibility of implementing health services in the hands of provincial authorities.

In the past, management weakness has been a problem at the provincial and particularly at the district level. Thus, in order to implement this major program, a management structure that clearly identifies tasks and responsibilities at each program level must be developed.

(c) Problems in Meeting Recurrent Expenditures. To date there is no clear financial analysis of the annual recurrent cost requirements to operate and maintain the different units of a primary health care system. This is complicated by the fact that methods and sources of financing health services at provincial and district levels do not always follow standardized procedures.

D. Other Programs

62. Other current major health activities are described in Annex 3. These include programs related to: communicable disease control (the malaria control program and the expanded national immunization program); health education and nutrition improvement; health research and development; health planning and management; and rural sanitation manpower training.

V. HEALTH-RELATED PROGRAMS

A. The National Family Planning Program (NFPP) /1

63. The family planning program is coordinated by the National Family Planning Coordinating Board, which was organized in 1970. It is directed by a chairman who theoretically reports to the Minister of Peoples' Welfare, but in practice, reports directly to the President. The Board maintains provincial offices in Java and Bali and a small staff in each regency. There are some 8,500 field workers and supervisory staff. Family planning services are integrated at the clinic level in the 16 provinces currently participating in the national family planning program. The Board also enlists the assistance of other governmental agencies such as the Ministries of Education, Health, Interior, Information and Religious Affairs as well as the Armed Forces. The family planning program owes much of its success, to date, to the well-coordinated participation of many government and private agencies.

64. As of March 1977, there were 2,719 outlets providing family planning services in the six provinces of Java and Bali and 901 outlets in the 10 provinces of other islands, located in hospitals, public health centers and clinics. Of these, 80% were operated by the MOH, 8.5% by the Armed Forces, and the remainder by other government departments and private doctors. In order to expand the program into rural areas and reduce dependence on static service outlets, the NFPCB also utilizes mobile teams of health and family planning workers. By November 1976, the NFPCB was providing financial support for 1,637 such teams in the 16 provinces covered by the program.

B. Village Family Planning Program

65. The Village Family Planning (VFP) Program began in late 1974, as a small pilot project in West Java to test the feasibility of utilizing local village communities as contraceptive resupply points. The project proved the feasibility of village resupply and from 50 such depots in late 1974, the program has expanded rapidly in three years to cover 20,000 village depots and 60,000 village family planning groups. Briefly, the VFP Program is an extension of the family planning groups. Contraceptives are sent from the clinic to the village contraceptive depot. The depot is either in a villager's home or a village administrative office and is run by a village volunteer (usually a satisfied acceptor) or a member of the village administration staff (PAMONG). The family planning field workers play an important role in linking the clinic with the village and making supplies available to ensure that contraceptives are available to eligible couples. The group is led by a

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/1 The program is more fully described in the Appraisal Report of the Second Population Project (No. 1534G-IND). World Bank.

woman who is responsible for ensuring that her members are resupplied with pills and condoms and kept up-to-date on local family planning activities. She also acts as a reference point for women with questions or complaints and can- and often does - refer women up through the family planning chain to the clinic. Even on crowded Java, a village may be spread over a large area and travel to the village depot may be a problem for women in the outlying subvillages. Village family planning groups are now being formed to link subvillages with the village contraceptive depot.

66. The family planning field workers have been effective in bridging the gap from the subdistrict (KECEMATAN) level to the village (DESA). These workers have provided limited and specific services - contraceptives and motivational and educational services related to family planning. The consistency and regularity of the contact with the village groups and committees has been the single most important factor in developing and maintaining a well-organized motivated village community organization. As the initial contraceptive program has become established, recently the interest in other health related services has increased, i.e., in nutrition education and knowledge of better feeding practices, provision of more and safe water supplies, and emergency health care.

67. The most significant outcome of this program which has implications for future programming, is that it has tended to make family planning a village, rather than a clinic oriented, activity, transferring some of the responsibility of managing and implementing services from the Government to the community. Although the Family Planning Field Worker Program has been successful, problematic administrative issues will remain to be resolved.

68. As program strategy changes in some areas from emphasis on acceptor recruitment to improved contraceptive continuation, family planning field workers have been asked to provide elementary health care and nutrition education. Movement towards providing these services through the field workers has created jurisdictional problems with the Ministry of Health and other Government agencies. Presently, all family planning workers in Java and Bali are only temporary government employees and their future integration into government services is undetermined. Due to the delicate nature of these problems, family planning field workers have not been used in extending family planning service to the other islands. The situation is still under review.

ANNEX 1

SPECIFIC DISEASE PATTERNS

Republic of Indonesia

1977

SPECIFIC DISEASE PATTERNS

I. COMMUNICABLE DISEASES

Diarrheal Disease (excludes cholera)

1.1 Diarrheal diseases are one of the major disease problems in Indonesia and are classified without specifying cause due to difficulties of diagnosis. Agents responsible include viruses, bacteria, protozoa, and helminths. The bacterial agent group (other than cholera) includes typhoid fever, paratyphoid fever, gastroenteritis of other salmonella species, bacillary dysentery, epidemic diarrhea of newborn and infants due to *E. coli* and those caused by food poisoning.

The majority of cases are found in children less than five years of age, primarily from low socio-economic segments of the population in rural and urban areas with inadequte safe water and excreta disposal facilities. Malnutrition and additional superimposed infections contribute to the very high morbidity/mortality rates, which are clearly shown by the findings below:

Household Survey (Soelianti, et al., 1972)

1. Age:

	0-4	5-14	15+	5+	All ages
Prevalence/1,000	9.03	0.787	1.86	1.5	2.66

2. A 2.5 day period of the disease is estimated, with resultant incidence of:

	1.320	155	218	388

3. Death Rate:

Seventeen percent of all deaths and 0-4 years are due to the diarrheal diseases. The case fatality rate of diarrheal disease other than cholera among hospital patients is about 4.9%. (Sixty percent of deaths among 0-4 years old).

Cholera

1.2 The main causative agent of cholera in Indonesia is the El Tor biotype of *Vibrio cholerae* which is reported from all provinces and is endemic in most. Confirmed cholera cases have shown a relatively stable trend (1972-76):

Year	Number of cases	Incidence/1,000	CFR*
1972	43,190	0.351	16.1
1973	53,369	0.423	5.6
1974	52,399	0.398	8.8
1975	53,047	0.402	7.0
1976	48,813	0.324	6.3

* Case Fatality Rate 63-70/1,000 cases, 1976

However, discussions with health workers from Java, Bali and Sulawesi suggest a steady increase in the incidence of the disease particularly during the past three years (1975-77).

Skin and Eye Infections

1.3 Skin infections are the chief complaint of 17% to 20% of patients going to health centers all over Indonesia, and affect all age groups. Highest incidence (500/1,000) is among children under five years, while for the age group 5 years and above, it is 100/1,000.

Longitudinal Survey in Pondok Pinany and Household Survey (Soelianti 1972)

Age	0-4	5-9	10-14	15+	All ages
Incidence/1,000	830	280	140	180	290

Eye infections due to virus and bacteria (unspecified) constitute a major cause of morbidity with the point prevalence of eye infections among the population being 2.0/1,000 (1972 Household Survey). The incidence rate of eye infections in the population was estimated at 122/1,000.

Pulmonary Tuberculosis

1.4 Pulmonary tuberculosis persists as a major health problem in both rural and urban areas, particularly among the poor whose standard of living and nutrition levels are low.

Several studies have suggested a point prevalence of 5.2-6.0/1,000, and a mortality rate of 2.09/1,000. The disease is most prevalent in the 20-50 age group, and national trends do not indicate significant reduction in prevalence during the past decade.

Intestinal Parasites

1.5 Morbidity rates due to intestinal helminths and protozoa are quite high throughout Indonesia, particularly in the lower socio-economic and rural segments of the population. Ninty percent of all Indonesians surveyed were infected with at least one type of intestinal parasite, 80% by two or more types, and 60% by three or more types.

Parasites Prevalence per 100 Population, Indonesia **

	South* Sulawesi	West Java	Central Java
Helminths			
Ascaris lumbricoides	88	90	85
Trichuris trichiura	82	91	91
Hookworm	59	67	52
Enterobius vermicularis	3	2	1
Hymenolepis diminuta	1	--	--
Strongyloides stercoralis	--	1	--
Protozoa			
E. histolytica	8	10	13
E. hartmanni	2	2	4
E. coli	19	40	36
Endolimax nana	6	10	6
Iodamoeba butschlii	2	8	1
Giardia lamblia	2	5	2
Chilomastix mesnili	1	3	1
Malaria	19	2	--

* Of 659 people sampled 97% had at least one parasite, 80% had two or more and 60% had three or more.

** Extracted from:

1. "Intestinal Parasites and Malaria in Margolembo, Luwu Regency, South Sulawesi, Indonesia," Cross, J.H. et al. SE Asian J. Trop. Med. & Pub. Health, Vol. 3, p. 587-593, Dec. 1972.

2. "Human Malarias and Intestinal Parasites in Kresek, West Java, Indonesia, with a Cursory Serological Survey for Toxoplasmosis and Amoebiasis", Clarke, M.D. et al. SE Asian J. Trop. Med. & Pub. Health, Vol. 4, p. 32-36, March 1973.

3. "A Parasitological Survey in the Yogyakarta Area of Central Java, Indonesia", Clarke, M.D. et al. SE Asian J. Trop. Med. & Public Health, Vol. 4, p. 195-231.

The average prevalence for Ancylostomiasis is 240/1,000 among 0-4 years and 520/1,000 for all ages. The average prevalence of Ascariasis is 810/1,000 among 0-4 years and 700/1,000 for all ages.

Acute Respiratory Infections

1.6 Data from the 1972 Household Survey ranked morbidity from acute respiratory infections first among all major diseases found in the population sample with a point prevalence of 8.8/1,000. The incidence was higher among infants under one year with a point prevalence rate of 21.2/1,000, followed by children of 1-4 years group with a point prevalence rate of 20.0/1,000.

Tetanus and Tetanus Neonatorum

1.7 Tetanus neonatorum is a major cause of infant mortality. Between 60% and 90% of all deliveries are made by traditional midwives under less than optimal sanitary conditions. Practices such as cutting the umbilical cord with bamboo sticks and applying herbal pastes to the cord contribute greatly to a reported prevalence of neonatal tetanus of more than 11 cases per 1,000 live births. Case fatality rates from hospital statistics are in the range of 60% (70% for neonatal infants 0-4 weeks).

Diphtheria

1.8 It is estimated that about 150,000 cases of pharyngeal diphtheria occur yearly with a case fatality rate (CFR) of about 25%. In addition a considerable number of inapparent and cutaneous diphtheria cases remain unreported.

Age Group	Incidence/1,000
0-4	96
5-9	50
10-14	26
15-19	14
20 +	2.4

CFR according to the hospital statistics:

		Cases	Deaths	CFR
1971:	0- year:	91	17	18.7%
	1- 4 years:	397	49	12.3%
	5- 9 years:	241	11	4.6%
	10-14 years:	66	4	6.1%
	All ages:	795	81	10.2%
1973:	All ages:	12	3	25.0%

Pertussis (Whooping Cough)

1.9 According to the Multi-Purpose Serological Survey (Soelianti, et al., 1970), 80% of children below five at that time had been exposed to the disease.

Age Group	Incidence/1,000 Serological Survey	Household Survey 1972
0-4	160	180
4-9	32	20
10-14	6.5	2.2
15-19	1.3	0.24
20 +	0.055	0.005

Paralytic Poliomyelitis

1.10 Studies on school children (6-12 years) in Jakarta and Bandung (Soelianti 1972, 1975) indicate an average prevalence of paralytic cases of 0.87/1,000 (0.41 - 1.37), probably an underestimation of the prevalence.

Measles

1.11 Due to the seasonal nature of the disease, data covering one year is inadequate to properly estimate incidence. Using the data obtained from the longitudinal and household surveys (Soelianti, et al., 1972) the result can be projected as follows:

Household Survey:	120/1,000
Longitudinal Survey:	63-120/1,000

Incidence rate within specific age group (calculated by using the range 63-120/1,000):

Age Group	Incidence Rate/1,000	Estimated Cases 1976
0-4	54 - 90	1,100 - 1,900
5-9	39 - 50	830 - 1,100
10-14	27 - 29	450 - 490
15-19	15 - 21	200 - 280
20 +	2.9	180 - 490
	Total	3,200 - 3,800

Malaria

1.12 The GOI continues to regard malaria as a major health problem and a serious impediment to development in agriculture, timber, mining, etc. as well as in areas targeted for transmigration. The number of cases reported has been rising since mid-1971.

The Malaria Control Program in Indonesia emphasized the reduction of the prevalence and incidence of malaria in certain special areas. In Java and Bali, DDT residual spraying, case finding with treatment of malaria cases, and epidemiological surveillance are the major activities. In the other islands the activities emphasized surveys and combating outbreaks; priority was given to areas of economic development, transmigration and tourism.

At present the Directorate General of Communicable Disease Control considers about 90% of the total population of Indonesia to be at risk of malaria. In 1973, records indicate that 346,233 cases of malaria were reported in Java/Bali, with 650,000 cases reported in the other islands. Since the health infrastructure in the latter was less developed, the reported cases represented a fraction of actual cases. Large parts of Sumatra, Kalimantan and Sulawesi are either mesoendemic or hyperendemic. In certain parts of Kalimantan and Sumatra, parasite rates of 50% to 80% are not unusual. Hypo- and mesoendemic foci have been identified (US Naval Medical Research Unit [Namru] 1976-77) in Sumatra and Sulawesi, and hyper- and holendemic foci in islands of eastern Indonesia. Areas with a very high rate of P. malariae have been found in Nusa Tenggara Timor, and cases of P. ovale malaria were identified on the islands of Biak and Owe and Irian Jaya proper.

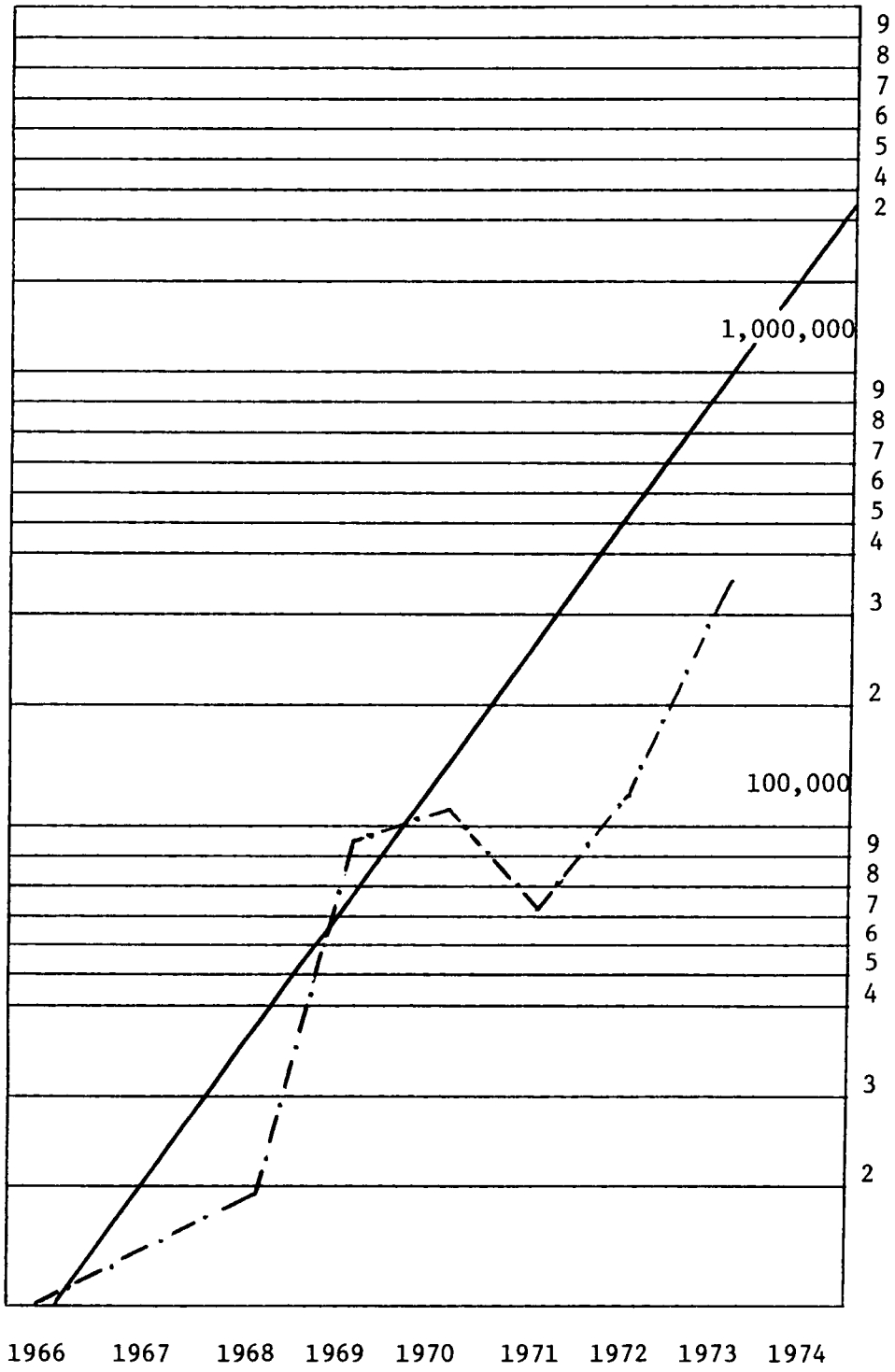
At present, estimates of the incidence in Java/Bali range from 1.5 to 2.8/1,000 with a mortality rate of between 0.3 to 0.1/1,000. In the other islands (excluding Irian Jaya) the incidence is estimated at 100/1,000 with a mortality rate of 33/1,000. In the islands of Sumatra, Kalimantan, Irian Jaya, and Nusatenggara Timor, malaria is the chief complaint of more than 13% of all patients coming to hospitals and health centers. DDT resistant strains of major mosquito vectors of malaria and choloroquine resistant strains of P. falciparum malaria have become major concerns in Indonesia.

Dengue Hemorrhagic Fever (DHF)

1.13 Dengue hemorrhagic fever (DHF) is an acute disease caused by the dengue virus, characterized by dengue fever symptoms, and followed by appearance of bleeding internally and subcutaneously. Certain species of Aedes mosquito (Aedes aegypti) are the vectors. Aedes aegypti is an urban mosquito which explains the characteristics of DHF as an urban periodomestic occurrence of cases, seasonally associated with conditions such as heavy rainfall, which favors an increase in numbers of Aedes aegypti. Cases can occur at any time, reflecting the year round presence of infected Aedes aegypti mosquitoes.

Dengue hemorrhagic fever was first identified in Surabaya and was soon after identified in several other cities. In 1969 there were 149 cases and 40 deaths reported in three cities in Java, Surabaya, Jakarta and Semarang. In 1973, 10,361 cases were reported from ten provinces with a case fatality rate of 4.27%. DHF in Indonesia is found primarily in children under 15 years with predominance in the 1 - 4 year age group. In the past five years, the incidence of DHF has increased in most cities in Java and in urban areas of 20 provinces. Studies in Jakarta conducted by Namru have isolated Dengue Virus III as most virulent.

Trends in Number of Malaria Cases in Java and Bali, 1969-1974



_____: Estimated Number of Cases
—•—•: Actual Number of Cases

Filiariasis

1.14 Filariasis in rural areas of Indonesia is the major public health problem besides malaria, particularly in the development areas of Sumatra, Kalimantan and Sulawesi. In Kalimantan and Sulawesi the prevalence of filariasis in endemic areas is higher than the prevalence of malaria.

Between 1970 and 1973 a total 42,558 people were examined in 146 villages throughout Indonesia under special studies. It was found that the point prevalence rate of filariasis in those areas varied from 1.0% to as high as 85.0% and the average point prevalence for the country was 13.8%.

In rural Kalimantan and Sulawesi the infection rate was as high as 34.8% while in the Jakarta area it was 3.5%. In the rural areas of Java the infection rate was 1.7%. The highest infection rate was in Nusatenggara Timor ranging from 16.5% to 86.0%.

Schistosomiasis

1.15 *Schistosoma japonicum* is found in Indonesia only around the Lake Lindu and the Napu Valley in the Central Sulawesi. Incidence rate among the population in this area determined by studies conducted in 1972 was about 50/1,000.

Filiariasis

Number of Villages and Population Examined, and
Number of Cases by Province in Indonesia, 1970-1973

	Province	No. of vil-lages	No. of people examined	No. of cases	%	Range %	Kinds of m. fil.
1.	SUMATRA						
	1. D.I. Aceh	5	243	65	26.7	15.5-33.0	M + B
	2. Sumatra Utara	8	4,338	56	1.3	0.0-13.8	M
	3. Riau	5	625	84	13.4	0.0-34.9	M
	4. Jambi	4	477	12	2.5	0.0- 5.2	M
	5. Sumatra Barat	3	280	53	18.9	12.1-34.0	M
	6. Bengkulu	4	2,634	171	6.5	1.9-34.6	M
	7. Sumatra Selatan	4	767	37	4.8	0.7-25.2	M
	8. Lampung	5	505	16	3.2	0.0- 8.5	M
II.	KALIMANTAN						
	9. Kalimantan Barat	9	4,336	193	4.4	0.0-22.8	M + B
	10. Kalimantan Selt.	23	6,257	1,319	21.1	1.0-43.0	M + B
	11. Kalimantan Inar.	4	531	48	9.0	5.9-12.4	M
III.	SULAWESI						
	12. Sulawesi Utara	3	1,568	203	12.9	0.0-19.5	M + B
	13. Sulawesi Tenpah	31	11,077	2,050	18.5	0.8-46.9	M
	14. Sulawesi Selatan	9	2,027	326	16.1	6.6-33.0	M
	15. Sulawesi Tenggara	1	321	38	11.5	11.5	B
IV.	MALUKU, NUSA TENGGARA DAN IRIAN JAYA						
	16. Maluku	3	313	75	33.9	16.0-31.7	B
	17. Bali	1	300	0	0	0	..
	18. N.T.B.	2	291	291	0	0	.
	19. N.T.T.	8	1,412	868	61.4	16.5-86.0	B + T
	20. Irian Jaya	3	1,401	273	10.9	11.7-23.4	B
V.	JAWA DAN MADURA						
	21. DKI Jakarta	2	240	12	5.0	3.5- 7.3	B
	22. Jawa Barat	1	179	3	1.7	1.7	M
	23. Jawa Tengah	2	568	0	0	0	-
	24. D.I. Yogyakarta	5	1,384	0	0	0	-
	25. Jawa Timor	1	436	0	0	0	-

M: B. malayi
B: W. bancrofti
T: Timor type

Source: Department of Health, Republic of Indonesia, Pelaksanaan Program Penbangunan Bedang Kesehatan Berserta Statistikuya Dalam Pelita I (1969/70-1973/74), Jakarta 1975.

II. NUTRITION PROBLEM /1

2.1 The Government, in collaboration with various international agencies, has identified four major nutrition problems in Indonesia: (i) protein-calorie malnutrition, (ii) vitamin A deficiency, (iii) iodine deficiency, and (iv) nutritional anemia. These problems are widespread throughout Indonesia, although regional, ecological and cultural differences that affect food availability and consumption account for geographical variations in the nature and intensity of malnutrition.

Protein-Calorie Malnutrition (PCM)

2.2 Nearly one-third of all children under the age of five (about 7 million) are estimated to suffer from moderate to severe protein-calorie malnutrition (PCM). In 1974, a WHO-sponsored team determined from existing surveys that PCM among Indonesian children below the age of two was particularly severe - over 50 percent of these children in Java were found to suffer from second and third degree malnutrition (i.e. body-weights less than 75 percent and 60 percent respectively of the WHO norm). Pregnant women are another highly vulnerable group, although insufficient study has been done to allow for a reliable estimate of the indicence of PCM among this group. More than half of all lactating mothers (about 5.6 million) are affected by moderate PCM.

2.3 PCM is a major cause of Indonesia's high rate of infant mortality, either directly or by lowering infants' resistance to infectious disease. If PCM is untreated among survivors, particularly before the age of two years, it retards physical growth and impairs mental development. After the age of three years, the recovery of lost growth caused by PCM is extremely difficult if not impossible.

Vitamin A Deficiency

2.4 The incidence of vitamin A deficiency among Indonesia's population, particularly among children, is one of the highest in the world, and affects growth and weakens resistance to other nutritional diseases. Prolonged vitamin A deficiency causes serious lesions of the eye (xerophthalmia), which compete with trachoma as a leading cause of blindness in the country. The incidence of xerophthalmia among children has been found to be 4-5 percent in rural Java, reaching up to 22 percent in urban squatter areas.

Iodine Deficiency

2.5 Goiter, caused by iodine deficiency, has been prevalent in Indonesia for centuries. Recent studies show increasing incidence of goiter,/2 especially among children. (Between 50 to 80 percent of those surveyed in North and West

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/1 Source: Indonesia: Appraisal of a Nutrition Development Project, World Bank Report No. 1318-IND, February 16, 1977.

/2 Nain, D. A. et al, "The Prevalence of Endemic Goiter Among School Children in Some Parts of Sumatra, Java and Bali, Indonesia" Second Asian Nutrition Congress, Manila 1973.

Sumatra, East Java and Bali were found to have goiter). Iodine deficiency can lead to cretinism, a more serious iodine deficiency disease, which manifests itself through a wide range of symptoms: mental retardation, impaired physical development (dwarfism), deafness, deaf-mutism and neurological abnormalities. A 1973 study indicates there are about 100,000 cases of cretinism, and about 500,000 mild cases of cretinism in Indonesia.

Nutritional Anemia

2.6 Indonesia has the highest country incidence of nutritional anemia ever recorded in a male population during non-famine conditions. In a joint research project undertaken in 1973 and 1974 by the Indonesian Nutrition Research Institute and the Bank,/1 the prevalence of anemia among a sample population of Indonesian male workers was between 28 and 52 percent. The variations reflect the incidence of anemia in different geographical regions. More than three-quarters of the anemic workers suffered from iron deficiency. Anemia was also found to be prevalent among non-pregnant women (35 to 85 percent) and among pregnant women (50 to 92 percent, mostly due to iron deficiency)./2 The 1974 study also found that productivity of non-anemic workers was about 20% higher than that of anemic workers.

/1 D. Karyadi and S. Basta, "Nutrition and Health of Indonesia Construction Workers," IBRD Staff Working Paper 152 (1973), and S. Basta and A. Churchill, "Iron Deficiency and the Productivity of Adult Males in Indonesia," IBRD Staff Working Paper 1975 (1974).

/2 Soekirman, "Priorities in Dealing with Nutritin Problems in Indonesia," Cornell International Nutrition Monograph Series (1974).

III. MENTAL HEALTH PROBLEMS

The estimate for mental disorders of all types is in the range of 8.8-19.5/1,000 and for psychosis it is between 3.8-10.9/1,000 population.

IV. CARDIO-VASCULAR AND CEREBRO VASCULAR DISEASES

An increasing incidence of cardio-vascular and cerebrovascular disease has been noted, particularly in the urban more affluent populations. These diseases are classified now as the fourth major cause of morbidity among people over 40 years old. According to hospital statistics, the proportional morbidity of these diseases in 1973 was 0.8%. In 1975 the proportional morbidity was 1.6% and the CFR was 25%.

V. HUMAN REPRODUCTION COMPLICATIONS

Through the analysis of hospital reports and statistics 1973-75 by the Ministry of Health the following figures for 1975 have been released:

	Number (000s)	Incidence
Population	130,597	
Women: 15-44	29,123	213/1,000 population
Pregnancies	6,189	213/1,000 females, age 15-44
Complicated pregnancies	1,024	165/1,000 pregnancies
Abortion	851	138/1,000 pregnancies
Deliveries	5,337	183/1,000 females, age 15-44
Complicated deliveries	190	36/1,000 deliveries
Live births	5,224	40/1,000 population

The number of abortions, 851,433, includes an estimate of 600,000 spontaneous abortions. Of the about 251,000 induced abortions, 109,305 were medically indicated and 147,128 were other types. The abortion rate is computed as 45/1,000 and complicated pregnancies as 76/1,000. Incidence of deliveries is 183/1,000 population. The death rate for mothers during delivery is rounded to 3/1,000. The above values are based on delivering mothers in hospitals.

VII. ACCIDENTS, INTOXICATION AND CRIME

Accidents, injuries from criminal actions, and intoxication are all major causes of mortality and morbidity. About 15-16% of hospital admissions in 1975 were due to these causes. Traffic accidents have increased from 28,145 in 1972 to 49,585 in 1976 with 7,435 deaths. Industrial and work accidents show increasingly higher trends.

ANNEX 2

HEALTH SYSTEM SERVICES OR SUPPORT

PROVIDED BY AGENCIES OTHER THAN THE MINISTRY OF HEALTH

NON-MINISTRY OF HEALTH AGENCIES PROVIDING HEALTH SYSTEM SERVICES OR SUPPORT

A. GOI

1. Armed Forces (ARBRI): Army, Navy, Air Force, Police.

Provides care for military personnel, their dependents, and to some extent the public (for higher fees) living in the military medical facility area.

2. State-owned factories and plantations.

Provide medical care for employees and employees' dependents.

3. Ministry of Education.

Supports, to some extent, teaching staff in medical training facilities. Generally these facilities are also the central or provincial referral hospitals and hence are supported by the Department of Health or the Provincial governments.

4. PERTAMINA (State owned oil company).

Maintains a large network of rural medical facilities at work sites and a large, ultra-modern referral hospital in Jakarta.

B. Private

Sectarian: MUHAMADIYAH (Islam), PERDHAKI (Catholic), MPKU-YAKKUM (Protestant), PARISADA HINDU DHARMA (Hindu).

1. Directorate of Social Welfare of MAJELIS PEMBINA KESEHATAN UMAT-MUHAMADIYAH (PKU-MUHAMADIYAH) is one of the Islamic health institutions in the country. This organization is a part of the MUHAMADIYAH organization whose headquarters is in Jakarta. The planning and the programming of activities are done at this headquarters and transmitted down to the branches at the sub-district levels. At present, this organization consists of 6 hospitals, 332 PUSKESMAS, 4 drug dispensaries and 6 nursing schools.

2. YAYASAN RUMAH SAKIT ISLAM (YARSI) or the Islamic Hospital Foundation is another private medical care institution which is part of the Islamic organization in Indonesia. This foundation has two hospitals, one in Jakarta and another one in Bukit Tinggi (West of Sumatra) in addition to one School of Medicine in Jakarta.

3. KARYA DHARMA KESEHATAN INDONESIA (PERDHAKI). This organization was founded in 1972 as a coordinator of Catholic health institutions throughout the country. In 1976 this Association consisted of 252 member units including 60 hospitals, 91 polyclinics and MCH clinics, 67 maternities and 7 PUSKESMAS.

4. UNTUK KESEHATTAN UMUM (YAKKUM) is an Association of Central Java Churches providing health services. It was founded in 1963. This Association comprises 16 hospitals. Health services are focussed on the development of rural health centers and the formation of joint community development and community health activities. One of the activities of this Association is DANA SEHAT or health funds, which was the first activity of the community to experiment with prepaid health insurance for rural communities.

Private Enterprise

Most major enterprises, whether wholly Indonesian or joint ventures, provide health services either through contracts with hospitals/physicians or by providing services directly. The latter is the case with most large private plantations and oil industries.

C. "Voluntary" Health Agencies

1. Indonesian Planned Parenthood Association or PERKUMPULAN KELUARGA BERENCAN INDONESIA (PKBI). Actually, this Association was the pioneer in family planning activities. At the present, their activities are mostly information and education programs, in addition to providing medical services through the family planning clinics. PKBI has 12,000 volunteers and 250 branches throughout the country.

2. The Foundation for Prosperous Indonesia or YAYASAN INDONESIA SEJAHTERA (YIS) is a non-sectarian voluntary agency in Indonesia. It was founded in 1974 and its activities include family planning research and condom distribution schemes.

YAYASAN MUSLIMAT or the Muslim Foundation is an organization which also participates in family planning programs in Indonesia. This foundation carries out medical services, family planning education and motivation through the polyclinics in many subdistricts in the country.

3. The Division of Health and Responsible Parenthood or BIBANG KESEHATAN DAN KELUARGA BERTANGGUNG JAWAB (KKB) DEWAN GEREJA INDONESIA is a department in the Council of Churches of Indonesia. KKB at the present coordinates 100 family planning clinics and 60 motivators throughout the country.

4. PALANG MERAH INDONESIA (PMI) or the Indonesian Red Cross is an organization which carries out a number of programs dealing with emergency health services, such as the Blood Bank. This organization has many branches throughout Indonesia.

5. IKATAN BIDAN INDONESIA or the Indonesia Midwives Association. This organization was founded in 1951 and the main activities of the organization were to promote the health status of mothers and children through health education programs, to give orientation course for mothers and family planning program.

6. PERKUMPULAN PEMBERANTASAN TUBERCULOSA INDONESIA or the Indonesian Union Against Tuberculosis. This union was founded in 1968 and the main task of the union is to promote the eradication of tuberculosis in Indonesia.

7. YAYSAN PENCEGAHAN KEBUTAAN INDONESIA or the Foundation for the prevention of Blindness in Indonesia was founded in 1976. Its main task is to educate people in the prevention of blindness.

D. Professional Health Organizations

The Indonesia Doctors Association (IDI) meets regularly and to a limited extent influences national health policy. Because nearly every government health official also has a private practice, any decision in either the clinical field or overall public health area by Indonesia physicians can affect the other field. Other health personnel have created organizations but their real effect on national health policy or services has not been quantified at this time. The Indonesia Public Health Association publishes a small journal on a quarterly basis.

E. Other Agencies

1. The National Development Planning Board (BAPPENAS) must approve all one-year budget/plans and the five-year plan of the Ministry of Health and other GOI agencies.

2. The Ministry of Home Affairs, in addition to the role described above regarding local government participation in health services, is also responsible for the Lembaga Social Desa (LSD), or village social workers, a very large cadre of personnel employed to assist in the village development process. These workers have not yet been brought into the mainstream of health activities such as family planning, nutrition, child care or environmental sanitation.

3. The National Family Planning Coordinating Board plans and coordinates all family planning activities. All foreign and domestic family planning/ population funds are controlled by this agency.

4. The Ministry of Agriculture has certain groups which are highly interested in health subjects: home economics, nutrition, and use of pesticide. There is, however, very little active cooperation at the present time among these separate groups.

5. The Ministry of Public Works and Electric Power has a section for drinking water systems which has the responsibility for both urban and rural potable water. However, the workload for urban water planning is so extensive that the Ministry of Public Works and Electric Power allows the Ministry of Health to proceed with rural water schemes.

STATUS OF MAJOR HEALTH ACTIVITIES

CONDUCTED BY

THE MINISTRY OF HEALTH, GOVERNMENT OF INDONESIA

IN PELITA II (1974-1979)

Control of Communicable Diseases

1. The Directorate General of Communicable Disease Control is the agency responsible for coordinating all communicable disease control activities for the Ministry of Health. It consists of four directorates:

(a) Vector Borne Diseases;

(b) Diseases from Direct Transmission;

(c) Epidemiology and Quarantine Services; and

(d) Hygiene and Sanitation.

During PELITA II, activities for the control of communicable diseases have been decentralized and integrated into provincial health services. At the health center level these activities are the responsibility of the health center medical officer.

2. The Directorate has developed plans to expand its activities significantly in malaria control and community immunizations which corresponds with health plans developed for PELITA III.

A. Malaria Control Program

The GOI is currently implementing a malaria control program supported partly by WHO with technical assistance advisors and by a US$25 million loan by USAID. During PELITA II the program has concentrated on residual spraying of DDT and other malaria control activities in Java, Bali, the transmigration areas of South Sumatra, Southeastern Kalimantan (along the road construction between Banjarnasin - Balikpapan - Samaranda) and in South, Middle and Southeast Sulawesi. In addition, priority is given to the new economic development areas such as the timber industry areas in Kalimantan.

Plans are presently being developed to expand the program to other islands, particularly in areas targeted for transmigration, agriultural development and other areas of significant socioeconomic development. Current estimates suggest a loss of more than 18 million man-days of labor per year in the other islands due to malaria. Further, by decreasing the amount of malaria in the other islands, the chances are lessened of reintroduction of the areas of Java, Madura and Bali which have been brought under control.

The plans call for a program of geographic reconnaissance including vector studies, malariometric survey, DDT house spraying, drug

treatment and other selected attack methods to the other islands on a gradual phased basis. Training capacity will be required for various categories of malaria workers particularly surveillance agents, entomologists, assistant entomologists, mosquito collectors, microscopists and others.

Major assistance for this expansion has been considered in the form of a USAID loan. The assistance will provide for material and technical support for the expanded Malaria Control Program (MCP). WHO advisors are expected to continue to be involved in the program, but will be supplemented as needed to strengthen program operations. In addition to existing entomological and epidemiological advisors assigned by WHO, it is expected that an operations specialist will be provided by USAID at the central and regional levels.

B. Expanded National Immunization Program

With the eradication of smallpox in 1972, BCG vaccination was added to the program on a limited scale. The addition of tetanus formol toxoid vaccination of expectant mothers to the combined smallpox-BCG vaccination was shortly thereafter undertaken on a limited scale (1973-74) in five provinces: West Java, Central Java, East Java, Central Sulawesi, South Sulawesi. In 1976 DPT vaccination was added to the program in four provinces: Central Java, East Java, Yogyakarta, and South Sumatra. These efforts, undertaken during the last three years of PELITA II, the Second Five Year Development Plan, are considered the preparatory phase for the Expanded Immunization Program expected to start in the third Five Year Development Plan (1979-1984). The GOI has stated its intention to proceed with an expanded community immunization effort beginning in 1979.

The nationwide expanded program is based on three principles:

(a) Use of the former smallpox vaccination program infrastructure--vaccinators, logistics, etc.

(b) Expansion in stages of the number of antigens--BCG, DPT, TFT (Tetanus Formol Toxoid) and the number of provinces.

(c) Integration of the program into general health services.

In terms of coverage the program plans to reach:

(a) Eighty percent of the total population in the age group 3-14 months living in communities accessible by motorcycle, bicycle or one hour on foot.

(b) Eighty percent of all first grade children requiring vaccination boosters.

(c) Eighty percent of all children under age 14 years with BCG.

(d) Eighty percent of all expectant mothers with one tetanus vaccination and 70% of these women with a tetanus booster injection.

The following reduction in the incidence and mortality rates of diseases concerned are expected:

(a) Eighty percent reduction of the incidence and mortality rates of diphtheria.

(b) Eighty percent reduction of the incidence and mortality rates of tetanus.

(c) Fifty percent reduction of the incidence of pertussis and one hundred percent reduction of pertussis mortality rate.

(d) Thirty percent reduction of tuberculosis incidence rate.

The two major components of the present health services which provide immunization services to the community are:

(a) the routine smallpox vaccination service with at least one vaccinator in every Kecematan or subdistrict (mobile component); and

(b) the health center staff--the nurse in the polyclinics and midwives in MCH Centers (static component).

Health Education

3. The Ministry of Health has placed a very high priority on health education during PELITA II and III as an essential component of its efforts to increase community participation in health improvement activities with particular reference to primary health care (PHC).

4. Under a Health Specialists Manpower Development Project, /1 a

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/1 USAID assisted FY72-76.

cadre of MPH/Health Education Specialists were trained both in-country, at the University of Indonesia School of Public Health, and in the U.S. during FY72-76. Thirty-six of the thirty-seven participants trained in the U.S. have now returned to Indonesia. Eleven have completed training programs at the University of Indonesia. By the end of 1978, approximately 60 health educators will have been trained. By the end of 1978, one health education specialist is expected to be placed in each of the 27 provinces. Such specialists are now located in 21 provinces in Bali, Kalimantan, Irian Jaya, East, Central and West Java, Lampung and North Sumatra.

5. The Directorate of Health Education is currently developing plans to introduce a health education component into all health programs with particular reference to those at the health center level. The purpose of these efforts will be as follows:

(a) To strengthen the capability of the Health Education Specialist at the provincial Health Office to utilize the existing administrative systems within the MOH, or other government ministries such as the Ministry of Interior and the Ministry of Education and Culture, as a channel for disseminating a health education component into operational tasks of health center personnel and into community action programs; to train auxiliary staff as provincial health education specialist and health education coordinators at the Kabupaten level. Since the MOH Directorate of Health Education has determined that there will be no health education specialists per se at the health center, or at community levels, but that every employee of the MOH shall become a health educator, special focus will be given to the coordination of efforts with other available extension staff, such as agricultural and information extension workers; and

(b) To increase community utilization of existing health facilities, and to improve community participation in general health projects such as latrine construction, planting of vegetable gardens, improvements in sanitation and nutrition.

6. The Directorate is developing and refining the health education strategies to utilize the educational approach to community self-evaluation developed in East Java. This approach is now being applied to various primary health care projects within the Ministry of Health. The concept and methodology developed by the sub-Directorate of Health Education and scheduled for implementation in Primary Health Care (PHC) Project--Educational Process for Rural Health Development--consists of six phases as follows:

(a) Preparation Phase

(b) Diagnostic Phase
- Identification Health Problems
- Establishment of Community Profile

(c) Planning Phase
- Workshop with community leaders
- Community survey
- Action program

(d) Implementation Phase
(e) Evaluation

(f) Expansion and maintenance

7. The health education specialist and staff in province level together with the health education coordinaator from the Kabupaten level will provide training for the health center staff. The health center staff will work with the community and other appropriate governmental groups in organizing a Village Health Committee--Team Pembina Kesehatan Desa. It is these teams which will identify health problems, select villagers to be trained as PROMOKESAS and determine action plans to solve specific health problems. As noted above this activity is already being implemented in 24 districts in East Java under the program designation of Educational Approach to Solving Health Problems.

Family Nutrition Improvement Program

8. This program is composed of a number of interventions each of which is expected to affect one or more factors of the malnutrition syndrome:

- monthly weighing of children under 5 and nutrition education: to increase awareness of special food needs of young children and to increase awareness of the nutritional value of already available foods;

- selective supplementary feedings: to remove immediate (poverty) constraint to improved nutrition;

- home gardens and food storage improvement: long range intervention to improve availability of nutritious food supply, increase cash income, to introduce improved seed supplies;

- nutritional first aid to protect the health of child and mother;

- primary health care to protect the health of child and mother.

This is part of an overall effort to improve nutrition programming by the Ministry of Health and includes a number of other programs supported by UNICEF, IBRD and USAID.

9. The government agencies, Ministry of Health and Ministry of Agriculture, which have the responsibility of developing these interventions

at the village level do not have adequate outreach capabilities to enable them to fulfill this mission.

The National Institute for Health Research and Development

10. The Institute was initially established as the National Institute of Medical Research (LRKN) in 1972 to undertake health services research. Administratively, it is under the Office of the Minister of Health and services all implementing divisions of the Ministry. In 1975, it became the National Institute for Health Research and Development (NIHRD). It now functions as the overall executive agency for eight health research groups which include the Central Public Health Laboratory, the Center for Operations Research, the Center for Ecological Health Management Research, the Center for Pharmaceutical Research, the Center for Research in Cancer and Radiology, the Nutrition Institute (BOGOR) and the National Health Services Institute (Surabaya).

11. The NIHRD has undertaken numerous health research activities with support from WHO and USAID. During the fiscal 1975-76 years the Institute has undertaken and or proposed 12 discrete research activities. These activities have focused on basic health priorities described in PELITA I and II and listed below:

(a) improve family welfare (with primary emphasis on maternal - child health and family planning services);

(b) increase the availability of health services;

(c) reduce the incidence and prevalence of malaria, TB and gastrointestinal diseases; and

(d) improve nutrition.

12. An extensive program for the development of research manpower as well as a responsive management/administrative system is required if the National Institute for Health Research and Development is to fulfill its important mission. Although the Institute has supported training for its staff, it has not always done so in a coordinated manner responsive to the needs of all the participating units of the system.

National Center for Education and Training

13. The Center for Education and training of the MOH has a major responsibility in planning, implementing and evaluating training programs for health manpower of the MOH. The Center also implements various training activities relating to major health problems and the health system. The Center is presently in various stages of program development and implementation of the following programs:

(a) rural sanitation manpower training;

(b) primary health care nurse training;

(c) management development training for health system; and

(d) nutrition education training.

Rural Sanitation Manpower Training

14. The Training and Education Center is responsible for conducting the training as part of the Rural Sanitation Manpower Development Project (RSMD) assisted by a USAID loan of $6.8 million. The Directorate of Hygiene and Sanitation within the Directorate General of Communicable Disease Control which is responsible for the execution of rural sanitation schemes in Indonesia and the employment of the rural sanitation cadre will cooperatee with the Training and Education Center in the implementation of the RSMD.

15. The purpose of the Rural Sanitation Manpower Development Project, is to develop a system that will allow Indonesia to meet its manpower need in the field of rural environmental sanitation. The creation and operation of such a manpower development system will remove the major barrier to the expansion of the delivery of environmental sanitation facilities to rural populace and will thereby ultimately result in the improvement of overall health conditions in rural Indonesia.

16. At present, manpower requirements for rural environmental sanitation programs are met through a loose network of Academies for Health Controllers and Schools for Sanitarians and Assistant Sanitarians. The Academies train supervisory-level generalist public health officers while the schools produce two classifications of field technicians. These institutions are poorly equipped, financial support is inadequate, and instruction is in need of improvement.

17. In order to achieve the Project's objectives, the RSMD is designed to upgrade the capacity of these existing educational training institutions to produce more and better qualified rural sanitation employees and to improve the skills and knowledge of the existing cadre. Two categories of rural sanitarians will be produced: supervisory-level officers (Sanitation Technologists) and field-level technicians (Sanitarians).

18. Two schools for Sanitation Technologists and nine schools for Sanitarians will be created out of the existing educational system to train these classifications of health personnel.

Primary Health Care Nurses Training

19. During the past several years, the MOH/GOI has developed a manpower concept whose objective is to bring about better utilization of the health centers. This concept calls for the reduction of the 24 categories of nurses currently being trained in Indonesia to only two categories.

Management Development Training for Health System

20. Last year, the Center for Training and Education introduced improved management and problem-solving methods to the health personnel at the provincial and Kabupaten levels and to health center personnel in a health management course. It was so successful that other ministries have asked the Center staff to train their personnel as well. The Health Management Course was given in four provinces, all in the other islands, and the center has plans to extend the course to another five provinces in 1977. Gradually the course will be extended to all twenty-six provinces. The framework for a larger scale program is currently in place.

Bureau of Planning

21. In April 1975, the Bureau of Planning was established and incorporated within the Office of the Secretary General of the Ministry of Health. Since then, the Bureau has gained responsibility for all Ministry of Health planning and coordinates planning at the central level with the program formulation and reporting decisions of each of the implementing bureaus. The Bureau is also responsible for the allocation of the Ministry of Health Development Budget among the various Directorates General.

22. The Bureau of Planning is responsible for the development of methodology and formulation of plans for the health sector component of PELITA III. Three provincial workshops will be held for provincial and Kabupaten level planning staffs with the assistance of central, Bureau of Planning staff and consultants. The purpose of these provincial level programs will be the development of detailed planning methods wherein data collection and processing capabilities of these provinces will be tested.

23. In connection with the task of Planning and Project Formulation for the Third Five Year Plan, the Bureau of Planning has received a mandate from the Secretary General to improve management within the Ministry of Health by establishing a data system for the routine monitoring of both manpower and facilities. Monitoring these activities will require coordination from other statistical units from within the Ministry of Health.

24. The Secretary General has also recently mandated that the Bureau of Planning serve as a focal point for receiving and coordinating foreign assistance to the Ministry of Health. A Permanent Working Group (PWG/DEPKES) for Health of Transmigration Areas has been established and coordinated by this Bureau, in line with this directive.