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HEALTH SECTOR FINANCING PROJECT

Ministry of Health
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REPORT 28:

WHO GETS WHAT?
UTILIZATION OF HEALTH
SERVICES IN INDONESIA



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REPUBLIC OF INDONESIA

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WHO GETS WHAT?
UTILIZATION OF HEALTH
SERVICES IN INDONESIA

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ACRONYMS

ASKES	Health insurance for active and retired civil servants and their family
CHEPA	Center for Health Economics and Policy Analysis
Kabupaten	Indonesian district
Kecamatan	Indonesian sub-district
Posyandu	Community health post
PusKesMas	Health center
PusKesMas Pembantu	Sub-center

FOR CORRESPONDENCE

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SUMMARY

An evaluation of health service utilization was carried out in five rural districts and a number of urban areas in Indonesia. The study was part of a larger effort to develop economically-related information about the health care services. Utilization was related to such selected population variables as distance from health facilities, insurance status and income. The annual contact rate, curative plus preventive, with all public sector facilities was .8 per capita. The geographic catchment areas of the facilities are very limited. The insured population (civil servants and their families) used services about 4 times more frequently than did the rest of the population. In one provincial study, the top 9 percent of income earners made up one-third of all hospital inpatients, one-half of all hospital outpatients and one-quarter of all health center visitors. The implications of these results for equity and efficiency are discussed.

Key Words: District Evaluation; Service Utilization; Equity;
Health Economics Information; Indonesia.

I. INTRODUCTION

During recent years, Indonesia has been working at the development of a more organized, economic approach to the planning and management of its country's health services. A number of factors have contributed to this development. In addition to the usual ongoing efforts to make more efficient use of resources, there have been the incentives provided by the severe economic difficulties which the country has been experiencing since the early 1980s. These difficulties have been felt all the more sharply in that they follow the relative prosperity enjoyed during the preceding oil boom years (Indonesia is a member of OPEC).

During those fat years, Indonesia rapidly expanded its network of health care services but now, during the current lean years, is experiencing difficulties in keeping that network properly operational. In addition, the country has been influenced by the international discussion concerning the need for adjustments in planning, management and, perhaps especially, methods of financing health care.

The various studies and analyses which characterize these developments did not grow organically, but rather followed a series of perceived needs and opportunities. As most of the key national studies and analyses were carried out either directly by the government bureaucracy -- in particular the Planning Bureau of the Ministry of Health - - or under its auspices, they had tended to develop as adjuncts of other, more immediate requirements, e.g., a new externally financed health project. This has had both positive and negative effects; on the one hand, the studies were perceived by the bureaucracy to be at least potentially more relevant to its needs but, on the other, the studies were not always as elegantly conceived and carried out as might have been the more common academic exercise.

This paper is concerned primarily with aspects of one of those studies: a district level evaluation of the coverage, utilization and overall and unit costs of public sector services. The major results of another of the studies -- health care financing and expenditures in Indonesia -- have been reported elsewhere (Brotowasisto et al 1988). Another important study related to pricing policy was carried out in two provinces as part of the development of a new externally funded health sector project. Still other studies were concerned with the economics (expenditures, financing etc.) of hospitals and health centers. Financial support for these various activities was provided by the World Health Organization, the World Bank and USAID. Other related financial studies were carried out by the School of Public Health and Demographic Institute of the University of Indonesia, and several (medical) professional organizations and other groups. Ongoing information gathering systems were utilized extensively in these study activities, e.g., the national household budget survey and the national household health survey.

A. The Country

The Indonesian archipelago occupies almost two million square kilometers of land (13,000 islands) and water lying between Australia and the mainland of Southeast Asia. There are five main islands; Java, Sumatera (Sumatra), Kalimantan (the Indonesian part of Borneo), Sulawesi (Celebes) and Irian Jaya (the western half of New Guinea). Although Indonesia as a whole is not densely populated at 88 persons per square kilometer, distribution varies widely; thus, nearly two-thirds of the population of around 170 million live on Java and the nearby small island of Bali which together account for only 7 percent of the country's land area. In 1985 just 26 percent of the population lived in urban areas; the comparable figure in 1980 was only 18 percent. Population growth has declined in recent years and is now estimated at slightly over 2 percent per annum.

Health status data for the current decade indicate significant improvement in life expectancy (to 59 years) and infant mortality (to low 70s), although with significant rural-urban and interregional differentials. Overall the national disease pattern has not changed significantly, although health problems associated with urbanization and industrialization are on the increase.

After a substantial devaluation of the rupiah (the national currency) in September 1986 per capita annual income is now calculated at under US\$ 400. Between 1977 and 1985 per capita income grew in money terms at about 20 percent per annum, although inflation accounted for the majority of that growth. A considerable part of the real growth in production and income which did occur can be credited to increased oil revenues. Since 1985, with the decrease in oil prices -- as well as for other major export (primary) commodities -- the country has been faced with growing economic and financial difficulties. Whereas oil revenues and large international borrowings and grants had allowed for extensive development of the country's infrastructure, including the health sector, the decline in such revenues is making it difficult to satisfactorily sustain that infrastructure.

B. The Health Care System

In broad outline, the Indonesian health care system is similar to that of most other countries; namely, mixed public and private systems offering curative and preventive services at hospitals, health centers (static and mobile) and sub-centers, clinics and private offices, shops selling pharmaceutical products, etc. There are also various traditional services on offer and a fairly extensive network of community-based activities.

The years between 1969 and 1983, the first three national five year plans, were a period of rapid expansion of health services. For example, the number of health centers increased five-fold from around 1,000 to more than 5,000 -- plus 15,000 sub-centers -- and hospital beds from around 70,000 to over 110,000. These increases were

accompanied by a commensurate growth in most categories of health workers. More recent years have seen the development of the Posyandu (community-based integrated health post) program which is extending basic health care activities, mostly related to child survival, to all parts of the country. As would be expected, the massive expansion described above has been followed by a number of financial and managerial difficulties. It should be noted, however, that the financial problems do not flow from any exceptionally large costs associated with the health center and Posyandu programs -- which represent exceptionally good value for money -- but rather the difficult overall economic situation the country now faces coupled with the cost of running other, higher technology parts of the health services.

Of Indonesia's 1400 hospitals, one-half are privately owned, although they incorporate only 30 percent of all beds. The average private hospital has 47 beds, the average public one 117. Around 15 percent of the country's health workers are directly employed in private institutions, however, most of the doctors and a large number of the nurses and other paramedical staff working at private hospitals are public sector employees either seconded to, or working part time in the private sector.

The range of differences among private and government facilities is very wide in both sectors. Private sector hospitals are concentrated in only a few cities as well as being even more focused on curative care than are public sector ones. In many cases private hospitals and clinics provide better services. This is mainly because they are utilized almost only by the relatively limited part of the population able to afford them which, in turn, allows such hospitals to be managed as independent economic enterprises. In contrast, public sector institutions are spread across the entire country, include health centers and other primary care units in addition to hospitals, and provide a wider mix of preventive and curative services.

Despite the successful expansion of the basic health service network, a substantial set of problems remain. In addition to the economic issues already indicated, the most frequently cited one has been the relatively low utilization rate of the facilities -- although this question is, quite obviously, linked to the cited economic difficulties. Two major approaches toward solution of these problems have been envisaged. One priority is the expansion of various community based programs; the other, a more efficient use of the existing health service infrastructure. In keeping with these priorities an evaluation of district health services was undertaken by the Indonesian Ministry of Health with WHO support early in 1985.

II. DISTRICT LEVEL EVALUATION

The major objective of the evaluation was to measure outputs from the health care system in relation to relevant inputs; that is, the relative efficiency of the system and its parts in utilizing the resources available to them. Given the difficulties of matching specific changes in health status to particular health program inputs, and especially over the short or medium term, health status indicators/measures were not employed in this particular evaluation exercise. Of course, it is always assumed that more efficient health care delivery systems will contribute to improved health status. The evaluation was intended, in the first instance, at understanding the existing system better, thus laying the basis for useful recommendations for change. It should be noted that in practice, health planning in Indonesia, as in the majority of countries, has tended to focus rather more on new inputs to the ongoing system than on careful analysis of the efficiency and outputs coming from that system.

The evaluation examined the work of the four basic parts of the district health care delivery system -- hospital, health center, sub-center and community health post -- both as separately functioning units and parts of one interrelated system. The choice of the district as the basic unit for study reflects a generalized understanding that the grouping of health services which exists within this level of government organization offers the greatest potential for improving the contribution of the health services to overall health development. It is also recognized that improvements at the service level cannot be separated from developments in the rest of the health system, including its most sophisticated referral institutions. The basic health service delivery points within the Indonesian district (Kabupaten) are a first level referral hospital, the health center (PusKesMas), the sub-center (PusKesMas Pembantu) and the integrated community health post (Posyandu) and related community organizations. Most specific health care programs at district level, both curative and preventive, are linked to these delivery points in one way or another. In practice it is the sub-district (Kecamatan) with its health center which offers the administrative framework within which most basic health care activities take place.

The work was begun in five rural districts and sub-districts. At a later stage the analysis was extended to three smaller cities in the Province of East Java and then to two large ones; Semarang, the capital city of Central Java, and (a section of) Jakarta, the national capital. (At a still later stage the studies were extended further to five other mostly rural districts, but the results from these are not yet ready for publication).

The studies were organized by a team from the Planning Bureau of the Ministry of Health. This team developed the methodology, prepared the data collection instruments and selected the provinces to be studied. The choice of district was made jointly with provincial officials and of sub-districts with district personnel. For the collection of data the central level team was supported by ministry personnel from the provinces, districts and sub-districts, as well as from the hospitals and health centers being studied.

The data collected from the records of health facilities included financial inputs and expenditures, personnel employed and their cost, pharmaceutical expenditures, the number, demographic characteristics and geographic origins of patients, and the type of services utilized. Also, the usual data concerning hospital bed occupancy rates, length of stay, etc. Supporting information was obtained from district and sub-district health and other sectoral administrative offices. Selected data were gathered for five or ten year periods, as appropriate. The initial study was carried out in a representative group of five of Indonesia's 27 provinces. In each province one district was selected for study and within that district two sub-districts. In practice this meant that five district hospitals (located in the main district towns), 10 health centers and 10 sub-centers were studied. The average population of each district was close to a half-million and for sub-districts around 50,000. As already mentioned, the study activities were later extended to three small cities and two large ones.

A. Results: Contacts Per Capita

<u>Type</u>	<u>Percentage of Total</u>
Self care	62.0
Modern Drugs	43.3 ¹
Traditional remedies	18.7
Traditional practitioners	7.2
Government services	16.6 ²
Health centers and sub-centers	94.6
Hospitals	1.8
Private ³	12.6
Paramedicals	77.0
Medical doctors	22.5
Other	1.6
	100.0

Source: Reworked from Ref. 2, Table 1.

The full scope and results of the study cannot be described here; only a few of its more striking features will be reported. Of the many results obtained the most interesting have to do with health service utilization. While confirming more precisely the generally low utilization rate of the services, the study was able to relate this utilization to a population base. It was found that the average annual rate for both curative (two-thirds of the whole) and preventive contacts between the population of the 10 sub-districts and the public hospitals, health centers and sub-centers in those areas was .82 per capita. Of these, 96 percent took place at health centers (67 percent) and sub-centers (29 percent) and only 4 percent at the district hospital. The annual rate of (inpatient) hospitalization averaged less than five per 1,000 for the combined population of the five districts. Although no specific survey was carried out about the use of nongovernment health services by the population of the five districts, such information is available from other studies. For example, Table 1 shows the results of a recent study carried out in the Province of West Java (Berman, 1987).

From the table it can be seen that in this sample the number of patients visiting doctors and paramedics privately came to about three-quarters the number of those making use of public sector facilities. Applying these data to the study being described here would raise average annual contact levels between the population and the organized health care services (public and private) to around 1.4 contacts per capita; that is, to the annual contact rate of .82 per capita with public services in our areas add .6 per capita for private contacts. (It is interesting to note that the cited West Java Survey showed a contact rate of .80 with the public sector, almost identical to our results).

While determining the gross number of contacts of the overall population with the health services, the study also examined the distribution of those contacts by sex, age, type of service utilized, home location of patients and insurance status. Only the last two of these variables will be described here.

¹ Only 5.1 percent of these at commercial outlets recognized as pharmacies.

² 3.6 percent of these treatment contacts were with village health workers.

³ The term private here refers primarily to public sector employees (paramedics and doctors) being seen by patients on a private basis.

B. Catchment Area

The catchment areas of the facilities proved to be highly restricted as shown in Table 2.

Health Center				
No. of Kms	<u>0 - 2</u>	<u>2 - 7</u>	<u>>7</u>	
%	70	23	7	
Sub-center				
No. of Kms	<u>0 - 1.5</u>	<u>>1.5</u>		
%	82	18		
Hospital				
No. of Kms.	<u>0 - 5</u>	<u>5 - 10</u>	<u>10 - 20</u>	<u>>20</u>
Outpatients %	66	17	13	4
Inpatients %	50	28	28	7

The limited distances travelled by patients only partially reflects difficulties of transport; for one thing, few of the health centers in our sample were situated at particularly inaccessible locations. Probably more important is that civil servants, who comprise almost the whole of the insured population and on average live closer to health facilities (and schools, shops, etc.) enjoy significantly higher contact rates with the services than do the rest of the population (see below). This would also hold true for the rest of the relatively better off parts of the population. The economically stronger groups can also more easily afford the transportation and other costs associated with the use of health services, including the relatively lower cost public sector ones.

C. Insured Population

Of the total population of 2.4 million in the five districts only 5.9 percent were covered by health insurance. All of the insured were part of a government scheme for active and retired civil servants and their families (ASKES). This group had an average annual contact rate with the public health care services of 2.59 per capita, thereby absorbing 19.3 percent of all outpatient contacts (hospital, health centers and sub-centers) in the five districts, or 3.3 times their population share. The 94.1 percent of the population without insurance had an average annual contact rate of .68 per capita between the insured and noninsured population was 3.8 to 1. The same methodology when later applied, as part of training activities, in five other rural districts located in various parts of Java produced similar results to those reported here.

D. Urban Areas

Further studies, also as part of training activities, were carried out in two East Java towns with populations of 112,000 and 151,000. (Another East Java urban area which was studied as part of the same exercise is more of a suburb of the very large city of Surabaya than a separate town and so produced a different type of result and analysis). The results of these studies were, somewhat surprisingly, not very different from those found in primarily rural areas. The study methodology was repeated in (West) Jakarta and found population contact rates with the public services of just over one per year in selected sub-districts, about 50 percent more than in the rural study areas. The insured ASKES population absorbed a relatively smaller proportion of the services of the health centers in this part of the country's capital city, presumably because of the availability in Jakarta of special clinics and other services for this particular population. As would be expected in a large city, the distances covered by patients was small; of a total sample of almost 2500, only 6 percent had travelled more than 2 kms and 62 percent less than 1 Km to reach a health facility.

Some interesting results relating to inpatient utilization were obtained from the study conducted in Semarang, the Provincial capital of Central Java, a city of close to 1.2 million. The largest hospital in the city has 1,200 beds, a very high occupancy rate of 90 percent and a long average length of stay of 11 days (which might explain the high - by both national and international standards - occupancy rate). Through interviews with a representative sample of close to 200 inpatients it was found that 55 percent had referred themselves to the hospital, 19 percent were referred by doctors at other hospitals, 14 percent by general practitioners and 9 percent by health center doctors (3 percent other). It was also found that around one-third of the sample were civil servants or their dependents. A structured sample of almost 600 inpatient and 1,000 outpatient records at the same provincial referral hospital showed that 73 percent of all inpatients and 85 percent of outpatients lived within the city of Semarang, 18 percent of the inpatients and 10 percent of the outpatients lived within 70 Kms of the city, and only 9 percent of inpatients and 5 percent of outpatients lived further away.

III. SERVICE UTILIZATION: SOME MAJOR CONCLUSIONS

The average annual contact rate of around .8 per capita with public health care services, both curative and preventive, is relatively low by international standards, and especially so when compared with other countries known to have achieved better health indices than has Indonesia. Private sector contacts, which overall are almost entirely curative in character, increase the annual contact rate to around 1.4 per capita. These low average contact rates, and their maldistribution, indicate that a significant part of the population is not effectively in the health care system. Those not in the system either live beyond its effective catchment area (20 Kms for district hospitals, 6 Kms for health centers and 2 Kms for sub-centers) or are unable, or possibly unwilling to use the services with any regularity.

The close correlation between income and service utilization emerges from the results of a structured survey of public and private health facilities carried out by a mixed team of Ministry of Health and University of Indonesia researchers in two provinces of the country. In one of the provinces (Nusa Tenggara Barat) it was found (Table 3) that the 9 percent of the population having the highest levels of income comprised 32 percent of all the province's inpatients, 52 percent of all hospital outpatients and 26 percent of all health center visitors. As would be expected, the imbalance was even greater for the top 2 to 3 percent of income earners. At the other end of the income scale, the lowest 55 percent of the population comprised only 32 percent of all inpatients, 18 percent of all hospital outpatients and 37 percent of all health center visitors. The middle group of income earners, 36 percent of the whole, made up 37 percent of all inpatients, and 31 percent and 38 percent of all hospital and health center outpatients respectively. The survey also found that ASKES (civil servant) beneficiaries, 7 to 8 percent of the total population, made use of 28 percent, 20 percent and 25 percent of all hospital inpatient, outpatient and health center services respectively. These figures are similar to those found elsewhere.

Table 3
Income and Use of Public Services

Total Population		Survey Results		
Monthly Per Cap. Income		Use of Services (%)		
Rupiah	%	Hosp. Inp.	Hosp. outp.	Health Center
0 - 7,600	17.1	12.4	6.5	9.5
7,600 - 12,700	38.2	19.2	11.1	27.1
12,700 - 19,100	26.1	19.2	18.4	22.1
19,100 - 25,400	9.5	17.4	12.4	15.6
25,400 - 38,100	6.2	16.5	21.2	13.1
38,100 - 50,000	1.5	7.1	15.2	6.1
50,100 - 76,300	1.0	5.9	7.8	5.0
> 76,300	0.3	2.4	7.4	1.6

1. Rounded to nearest 100. At the time of the survey (mid-1988) the exchange rate of the rupiah to the U.S. dollar was around Rp. 1660 to US\$ 1.00.

There is relatively good utilization of public services by those living close to them (on average perhaps twice per year), by those with higher incomes, and by those enjoying the type of privileged access which comes from membership in an insurance scheme; of course, these are not exclusive categories. As noted earlier, in Indonesia health insurance has been available on an organized basis almost only to employees of government (civil or military) or some of the state owned enterprises. On average, public services are utilized by civil servants and their families about three times per year, or around four to five times that of the rest of the population. In addition to being able to use additional private services in certain circumstances, ASKES beneficiaries are also likely to make greater use of public sector specialized hospital clinics and VIP inpatient wards, although hard evidence for this is limited, e.g. at one hospital in the Province of South Kalimantan the insured group of government employees represented 42 percent of all VIP inpatients and 48 percent of all those attending a specialized eye clinic, or a paediatric clinic at one hospital in North Sumatra at which one-half of all attendees were from the insured group.

Civil servants are using a significant proportion of all Ministry of Health services; although the precise proportion is not known, an estimate of 25 percent, based on the various studies reported here as well as other information, might be considered as conservative. Also, these beneficiaries are making greater than average use of the more costly specialized services. In return, the Ministry of Health receives revenues equal to around 7 percent of its total income from the ASKES scheme. Thus, the Indonesian government enhances the salaries of civil servants through the provision by the Ministry of Health of heavily subsidized health care services. Although subsidized health insurance for selected groups in wage employment may be justified in specific circumstances, it is obvious that continued expansion of such schemes by the Ministry is not financially feasible, at least in the absence of other, compensatory arrangements. The effects on equity of these programs must also be considered.

It is of interest that in the course of developing new types of health insurance schemes it has been suggested that a premium of 7 percent of salary would be required to cover program costs. This figure is 3.5 times greater than the 2 percent currently being withheld from the salaries of civil servants for health insurance: and it would require a 3.5 percent increase, from 2 percent to 7 percent, to bridge the gap between the 7 percent of Ministry of Health income received from the ASKES scheme and the estimated 25 percent of Ministry services being utilized by civil service health insurance beneficiaries.

Another type of publically sponsored health care service in Indonesia is that provided by government parastatal corporations. These organizations are spending annually for health care about US\$ 135 per employee. This figure contrasts starkly with direct public sector annual expenditures of about US\$ 3.30 per capita and household expenditures of about US\$ 5.50.

One interesting aspect of health service utilization by the insured population is that it may provide a guide to what Indonesians want with regard to health service access when it is made relatively easily available, i.e., three public sector contacts per capita per

annum plus possibly one or two others with the private sector. The significance of achieving such a level of average, and well distributed coverage of the population goes well beyond the meeting of any popular expectations or fulfillment of equity goals. An average, well distributed annual utilization level of three to four contacts per capita is one important aspect of the drive to fulfill national goals in the health sector, in particular with regard to those activities most likely to have a positive effect in lowering the infant mortality rate. If the bulk of the mother and child population was to be routinely in contact with the health services, say, three times per year each it would then become feasible on a continuing basis to assure the more or less complete immunization of the childhood population, proper surveillance of pregnancies and deliveries, provision of appropriate family planning services, and so on. (Contacts alone cannot guarantee that such appropriate preventive activities are being carried out in practice). In the absence of such routine contact levels it becomes necessary for the health services to mount special efforts to reach the population, usually on a program to program basis. This is, as is well known, difficult to do successfully and few countries can show national success on a continuing basis with regard either to preventive or curative programs on this basis alone.

IV. CONCLUSION

This paper has described only one aspect of the Indonesian effort to apply economic and related concepts and techniques to the practical problems of health service development. This work and those ideas, are having some success in penetrating more traditional medical and administrative approaches to health service development. Many meetings, seminars, workshops etc. have been held for the purpose of further disseminating and developing these ideas. This should not be taken to mean that the concept of health development is limited in Indonesia only to the health care services. Other activities, e.g. a study of the determinants of good health in the Province of Yogyakarta, and policy related activities are concerned with health issues which go beyond the more usual questions of health care delivery.

A new Unit, the Center for Health Economics and Policy Analysis (CHEPA), has been established within the Ministry of Health. It is expected that this unit will become a focal point for the development of capacity in the area of health economics. The center is concerned with research and the development of relevant information, dissemination of related concepts and documents, and contribution to policy discussions and other related activities.

One major lesson of the Indonesian experience with applied health economics is the need for health ministries to focus carefully on the collection of a limited set of basic information indicators. This would be the initial step of a longer process which would lead ultimately to more sophisticated cost-benefit analyses, studies of the precise effects on health status of selected health care expenditures, more perfect supply and demand forecasts, and so on. The listing which follows is not meant to be an exhaustive inventory; community based studies, for example, have not been included, partly because they are often better carried out by specialized survey organizations or academic institutions than by Ministries of Health. In the earlier stages of developing economic analyses for health service application, high priority information areas are likely to include:

- measurement of all health sector (public and private) revenues and expenditures over time according to such variables as source, governmental/administrative level, geographic area, type of activity etc.;
- measurement of all health sector (public and private) utilization over time by different sections of the population according to such variable as type of service (preventive, curative, etc.), sex and age, geographic area (especially rural-urban), socio-economic characteristics such as income, occupation, insurance status, etc.; and
- measurement of unit costs for service outputs and other basic information relating to the work of individual health service facilities and programs.

Finally, although rather late in the day, it is good that so many countries are now beginning to measure carefully the financial costs of the health services they provide. To enhance the value of such information equal attention must be paid to the output side of the equation; that is, the production of services which flow from particular financial inputs. Furthermore, it is not only the volume and type of outputs which must be measured, but their distribution amongst the population. The familiar question of "Who gets what?" will have to be integrated into ongoing efforts to quantify and analyze health care financing systems if these analyses are to contribute to the development of health care services which are both more efficient and effective in meeting the needs of entire populations.

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