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**SOCIAL FINANCING ACTUARIAL AND
CAPITATION STUDIES**

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EXECUTIVE SUMMARY

During the month of August 1988, Dr. Robert G. Shouldice, under a consultancy through the International Science and Technology Institute, Inc. (ISTI) to USAID/Jakarta, provided services to the Ministry of Health and Perum Husada Bhakti, the Government of Indonesia. These included activities regarding the benefit package, the premium structure, actuarial studies, and capitation experimentation of the government-sponsored insurance program for government employees and civil and military pensioners (ASKES). Data from both primary and secondary sources regarding the ASKES program and the health services delivery system utilized by the ASKES program recipients were reviewed in locations including Jakarta, Jogjakarta, and Bali. Additional direct consultations were provided to a study group at the national and two regional offices of Perum Husada Bhakti (PHB), the company that administers the ASKES program. An in-depth analysis was undertaken regarding sources of data describing the ASKES client population, their socioeconomic, epidemiological, and demographic characteristics to determine morbidity, mortality and disability levels and the need for services. Current benefits were then reviewed in detail to determine if the required services are provided for in the current benefit package.

With the PHB study group an actuarial exercise using actual rate and cost data provided from PHB records was completed. The object of this exercise was to train the PHB group in the use of this actuarial method, to determine the completeness of their data, and to obtain a rough approximation of the rates and costs of the program. In addition, because there is a direct relationship between the financing mechanism and the benefit package, and the delivery system, the consultant reviewed the levels of services available at participating hospitals and health centers.

The outcome of these activities suggests that data regarding the beneficiaries, the costs and the rates of use of the ASKES program are extremely limited. Thus, benefit package review as well as actuarial analyses are difficult to accomplish at the present time. Recommendations are provided for special studies that will help to supplement the existing data so that analyses of the benefit package and actuarial studies can be more adequately performed. These special studies should be initiated immediately so that the data will be available for further analyses early in 1989. The consultant can then make recommendations regarding ASKES' scope of services, minimal standards for participants and of service, and the ability of the ASKES/PHB system to finance these standard benefits.

The results of the actuarial exercise, although limited by the availability of actual costs of services and use rates, suggests that the ASKES program as administered by PHB is currently accomplishing the program objectives. However, it is also noted many program recipients do not use the system because of the perceived low level of services available in government health facilities. Some minimum levels of services are therefore recommended. In addition, recommendations regarding benefit expectations and premium/revenue goals for the program are made in this report.

A. INTRODUCTION

This report reviews the consultancy activities of Robert G. Shouldice, D.B.A., August 1 through August 23, 1988 regarding actuarial and capitation studies provided to USAID/Jakarta. This work was part of the Social Financing studies under the International Science and Technology Institute, Inc. (ISTI) Contract No. ANE-0354-C-00-8030-00. Primary activities were conducted at the Jakarta offices of Perum Husada Bhakti (PHB), the parastatal organization that administers the government employee health benefits program known as ASKES, although interviews were also held at the Ministry of Health's offices and at hospitals and Puskesmas in Jogjakarta and Bali.

Activities were to include the following:

1. Review the terms of reference which govern the development of an actuarial analysis of premium and benefit packages currently being offered through the ASKES health insurance program for government employees.
2. Assess the extent, quality and suitability of existing secondary data available on the ASKES health insurance system for the purposes of this study.
3. Design a methodology, protocol and preliminary instruments to conduct the actuarial study.
4. Advise the PMU and ISTI regarding the timing and content of future technical assistance needs, both domestic and expatriate, to finalize the actuarial study. This report provides a summary of the work carried out in these four areas.

B. REVIEW OF THE TERMS OF REFERENCE

The consultant, and Drs. Heru Soetoyo and M.G.S. Arintonang, reviewed the terms of reference.

The general objective was to formulate the standard medical services for the participants in the 5 to 10 year period, commensurate with the objectives of PHB. Special objectives included:

1. To decide the scope and limit of the services -- highest versus lowest services.
2. To define the minimal standard of medical services for the participants.
3. To help create better standards that are more than the minimum standard of services.
4. To analyze the financial capability of the PHB as a business form (corporation) and the financial basis for financing the level of standard benefits accepted.

The requirements described in the terms of reference included studying the services that are in the existing and proposed benefit package, and studying the financial aspects. Advice was provided regarding the method or approach including the use of a mini-study and analysis of secondary demographic data, the performance of financial and cost analysis, cost analysis of various benefit packages, and so on. The terms of reference also called for the creation of a research team with two sub-groups -- one to study finances and one to study services. In effect all of the terms of reference were executed, although the research team was not divided into two sub-groups. It was the consultant's feeling that the financing of services is a part of, and is integral to, the delivery of services and vice versa. Therefore, the total research team discussed and evaluated both financing and service delivery. Otherwise, the terms of reference were followed.

C. PHILOSOPHY AND CONCEPTUAL FRAMEWORK

Initially, the consultant attempted to develop an understanding of the general philosophy and principles that form the basis for social health insurance in Indonesia. This was accomplished by discussions and a review of several documents including the principles of DUKM. These latter principles are that:

1. All people of Indonesia should be covered by some form of health insurance;
2. Integrated package of services should be paid per capita by insurance carriers;
3. All insurers and providers should be accredited/approved/certified by a government organization (outside independent organization?);
4. All activities should be sanctioned, guided and coordinated through the Minister of Health's office;
5. Both the government and the private sector should participate in this effort.

In addition, the research team needed to develop an understanding of the philosophy, principles, and objectives of Perum Husada Bhakti. Three major principles were identified as follows:

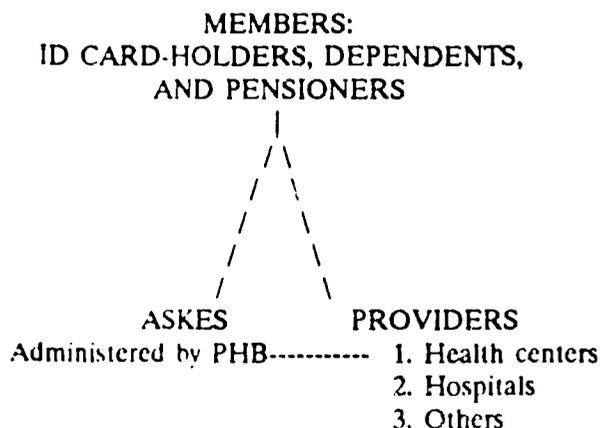
1. To promote the health of its members
2. To assist the government in supporting its overall health program, and
3. To assure the financial viability of PHB.

The team agreed that there were two objectives of PHB which work in tandem -- to provide the most health services for the premium and to create a surplus so that the corporation will be financially viable. We add that because PHB is acting under law as a fiduciary for members and for the government, their highest responsibility is to manage and administer the ASKES program so that the best services are provided to their members. These understandings created the basis of the discussion below and the recommendations.

D. RELATIONSHIP OF THE THREE SYSTEM COMPONENTS

During our review, it became obvious that an analysis and understanding of the relationship among the system's three components was vital to further progress. We, therefore, explored in detail these relationships as shown below.

Relationship of Insurance Activities, Delivery of Services and Members of the Insurance Program



The relationship between the members and PHB is indirect; that is, the two percent of salary deducted from ID card holders is mandated by law and PHB has no control over setting this "premium" amount. PHB is only acting as a trustee for the prudent expenditure of the two percent. Moreover, the benefit package provided for the two percent is also mandated by law; PHB's responsibility is to manage the payments for the services under that regulated benefit package. To change either the premium or the benefit package would require changing existing regulation and/or law.

The relationship between PHB and the providers is also indirect and highly regulated. PHB pays claims on behalf of the members using two approaches -- 1) the new (as of August 1, 1988) capitation payments to the PusKesMas, and 2) tariffs or fees for-service. Both of these payment programs are regulated by law; as such the fee schedule is created by regulation. PHB's role is to apply the capitation payment based on signature cards collected by the local PusKesMas, and to apply the tariff according to the tariff schedule based on claims made by other providers, including hospitals. Note also that payments for inpatient services, outpatient services provided at the hospital, and specialist physician services are not directly paid to the hospital. A percent of the payment is paid directly to the hospital while the remaining amounts are paid to the general treasury. With such constraints, it is impossible to presently effect changes in service delivery by PHB. Moreover, special dispensations would have to be obtained from the regulators to allow any experimentation with changes in the benefit package, co-payments, capitation payments to hospitals, or placing any of the providers "at risk."

Obviously, there is a direct relationship between providers and members as members become patients. However, there are no payment incentives to force providers to become more consumer conscious -- as we have in the U.S. private health care system. Indonesian government hospitals do not approach the ASKES patient from a marketing frame of reference, with low expectations of ASKES members as the outcome. Indeed, only the poorest and lowest paid government employees are forced to use services provided in the ASKES benefit package (Group I and II employees) while higher class, higher paid employees (Group III and IV) usually choose to use outside-the-system, private providers. This has a tremendous impact on member's perceptions of the ASKES/PHB system and our discussions of use of service and costs to the system.

E. PREMIUMS/REVENUE

The following three points may be made regarding premiums and revenue.

1. ASKES premiums are a two percent deduction from government official salaries.
2. Premium income and other sources of revenue should equal or approximate the actual costs of the program -- costs including health services, administration, reserve requirements, capital accumulation, surplus, and so on.
3. As a long-term goal, PHB should attempt to pay actual costs (not a subsidized cost) to providers; i.e., the program should be self-supporting.

Another perspective regarding premium is important; the ASKES system is a health services fringe benefit employees and their dependents receive from their employer as a condition of employment. In this case, the employers include governments at at least three levels -- federal, province and district. This fringe benefit program might be called a "partially contributory" program where there are contributions to the premium by both employee and employer. The employee contributes two percent of his salary and the government contributes the rest of the premium -- in this case through direct and indirect subsidies to the providers of care.

As an employer fringe benefit, this program may be fair and equitable to the government employee because private companies in Indonesia also contribute to their employees' premiums for health benefits. However, the objective of this study is to determine what is the "real" or "true" premium. It is obvious that it is something greater than the employee's two percent contribution; what is the employer's (government's) contribution? Is it the Rp. 112.6 billion described below? Finally, what are the total revenues for PHB taking into account all sources of income?

The revenue coming into a viable insurance system should be sufficient to cover all costs of operation and to allow for a surplus. In the ASKES system there are three or more sources of revenue. One might draw the following inferences from the data available. The revenues include premiums (2% of salary of ID Card Holders accounting for about Rp. 95 billion in 1988), direct and indirect subsidy (for hospital services it accounts for about 65 to 70 percent of hospital actual costs -- or about Rp. 112.569 billion for all types of services assuming the 65/35 ratio holds for all types of services), and proceeds from invested premium and surpluses (Rp. 10,182,100,000 or 9.6 or about 10% of total income). Therefore, total 1988 revenues to operate the ASKES system are as follows:

Premiums	Rp	95,000,000,000
Subsidy		112,569,000,000
Interest		<u>10,182,100,000</u>
Total income	Rp	207,751,100,000

Further analyses of these sources of revenue should be made by the consultants.

Another view of revenues versus costs of operation may be based on the assumption that the only "legitimate" revenue of PHB is 2% premiums and interest from investments, and that the only costs that we need to consider are "budgeted" costs, e.g., capitations and tariffs as they are currently established. In effect, this approach recognizes that both revenues and costs are regulated by government and that considerable effort would be required to effect change. The question then becomes one of appropriate budgeting of costs (capitations and tariffs) so that they are approximately equal to the revenues from premiums and interest. In effect the actuarial exercise performed by the work group and reported later in this report takes this approach (except that only premiums were recognized as revenue in the exercise). But, by taking this approach, there is still a vital need for data concerning the use rates of medical services, PHB's internal (and regulated/controlled) costs, and demographics of the ASKES population as described under "Assessment of the Existing Secondary Data."¹

F. BENEFITS

Generally, the benefits included in an insurance offering are determined using one of several processes. These include (1) a review of the population to be covered by the insurance packages and their need/demand for medical services, (2) a mandating process by legislation/regulation or by an employer, (3) a process of balancing the benefits and their expected costs with the premium and other revenue available, and (4) at least in advanced countries, a process of matching or meeting the competition and including what is traditionally in benefit packages in the community. In the case of ASKES, benefits are mandated by regulation and may not be based on the need/demand for services. Moreover, the process of balancing the benefit's costs with the expected revenues is an artificial process because the true costs of the program are clouded by governmental subsidies to the providers. However, the benefit package was reviewed and seems to be appropriate as currently formulated. But, descriptions of services lack specificity and definition. Because of this and the reviewers' limited understanding of the currently accepted levels of medical care in Indonesia, and the lack of information regarding the need/demand for services and the actual costs of services delivery, etc., it would be difficult to redefine the benefit package at this point in the study. Three comments are appropriate at this point, however.

1. Benefits should be comprehensive enough to cover most of the extraordinary costs of medical services. This seems to be the case currently.
2. Benefits should define a minimum level of medical service and accommodation (for inpatient-care); this should be defined as the "standard level of care" available to all groups of members -- standards of health services and accommodations. The current benefit package appears not to meet this criterion.
3. Benefits should be well defined and understood by the PHB, the ASKES members and the providers. Because of the lack of specificity, this may not be occurring.

Further analysis of the benefit package should be undertaken as costs and rates and need/demand are developed more fully. This process recognizes the direct relationship of developing benefits based on use rates and costs of those services.

¹Based on tariffs paid to hospitals versus estimated actual costs of a patient day from the 1988 Hospital Cost Study, ASKES.

G. OVERVIEW OF THE RATING FORMULAE

Actuaries perform mathematical and statistical analyses of historic data to understand the characteristics of unique groups of people. For insurance and health services, their output is a description of the rate of use of services (morbidity) of the populations under study. Summarized in rate tables, these estimates describe the probabilities that certain members of the population will have disease, injury or illness during a period of time; in effect, the rate tables describe the risk that any one member of the group under study will need medical services, and thus the rate at which the insurer will be at risk for the costs of these services. The second activity of the actuary is to ascribe a cost to each type of service under study. By multiplying rates by costs, the actuary arrives at a total cost to provide services for a given population during a given period of time. This total divided by the total members and then divided again by 12 months provides a "pure" or "raw" premium.

The final step in analyzing risks is called "underwriting." At this stage the insurer, in this case PHB, determines if all risks were taken into consideration. Loading or discounting may be applied to the pure premium to arrive at the final premium used by the program. The final premium multiplied by total members should cover the estimated costs of the programs.

The following steps and formulae are used in this process to create per member, per month, pure premiums (PMPM).

Step 1. Rate of use (per person or cost per Cost of the service unit
per 1,000 members per month x service unit = per month for all members

Step 2. $\frac{\text{Cost of service units/month for all members}}{\text{Total members}} =$

Cost per member per month (pmpm)

Step 3. PMPM cost of service units X+Y+Z+ ... N = Raw or pure premium pmpm

Step 4. Load or discount pure premium for each group of members to develop premium.

Step 5. Calculate total premium revenues by:

Premium x members in group 1 + premium x members in group 2 + ... premium x members in group N = total premium revenues.

Step 6. Compare total premium revenue to total estimated costs of the program and make adjustments if necessary.

Final adjustments may be made by:

1. changing the services included in, or excluded from, the benefit packages;
2. adding or deleting co-payments, deductibles, or co-insurance;
3. increasing or decreasing compensation levels to providers (e.g., capitations and tariffs);

4. changing the efficiency and productivity of the providers by requiring more services for the same capitation or tariff; and
5. increasing or decreasing the premium levels.

H. ASSESSMENT OF THE EXISTING SECONDARY DATA

Before the actuary can accomplish his work, he must have access to data regarding the populations under study. Some or all may be secondary data, although the actuary may find that such existing data is not sufficient to create a description of the population. Primary sources may then need to be utilized. It is important to have an understanding of the differences between primary and secondary sources, and primary and secondary data. Secondary sources of data refers to written documents and reports in which data have been collected, analyzed and inferences and conclusions drawn. In comparison primary sources of data refers to collecting data from source documents using data collection instruments; in this situation the researcher devises a methodology for collection of raw data, analyzes it and then draws inferences.

Using these definitions, the consultant attempted to identify all existing secondary sources of data -- all reports, existing studies and data that could be used to create rates of service use, costs of services, demographics of the population under study, and the perceptions of levels of care and satisfaction. The study group developed the following list of possible sources:

National Household Survey 1985
 Central Bureau of Statistics (census data)
 ASKES Household survey
 Board of Personnel Administration
 Annual Report of ASKES
 Pertamina HMO data
 ASTEK -- Professor Abel-Smith Reports and Routine Reports
 St. Carolus HMO
 Ministry of Health: Hospital Statistics, Cost Data, Ambulatory Visits
 Bureau of Planning in the Minister of Health's Office
 Consultant's reports from USAID and Dutch Government
 Mrs. Mardia, Chief of the Data Section, Division of Medical Care
 BAKM -- Administration of Government Employees

This consultant recommends that these sources be contacted to obtain any data that would be useful in these efforts.

Some documents that may be additional sources of information are listed below. However, an analysis of these sources and data suggests that the existing studies do not provide substantial information for our use except for a few noted below. The reports reviewed included:

1. Phase II Evaluation and Analysis of Hospital Costs 1988
2. Indonesia Rural Health Services Cost Study; Report # 3; The Costs of Drug Prescription for Curative Care in Rural Health Facilities.
3. B. Abel-Smith, Technical Note; The Development of Health Insurance in Indonesia, 1988
4. ASKES Household Survey 1983-84
5. Department of Health, Morbidity Study in Several Hospitals 1986.

6. Bureau of Planning, Situational Analysis of Health Status, Feb. 1988
7. Bureau of Planning and the University of Indonesia, Analysis of Costs in Hospitals 1988
8. ASKES, Periodic reports of costs and utilization (internal documents) especially Worksheet Data for the Budget Plan of 1988 for PHB.

Three reports were of some use in the current study -- the Phase II Evaluation Analysis of Hospital Costs 1988, The Costs of Public Primary Health Care Services in Rural Indonesia, and the ASKES internal reports and documents. Although there may be some problems applying the data throughout the 27 provinces, the cost data on hospitals Class C and D for both inpatients and outpatient services which is provided in the Phase II Evaluation and Analysis of Hospital Costs 1988 seems to be useful; however, there is no data for Class A hospitals and only a sample of cost data for Class B hospitals. More work will need to be done to identify an average cost for A and B hospitals. Another issue that needs to be clarified regarding this study is the inclusion/exclusion of total drug costs in these cost estimates. Regarding the rural primary health care cost study, the data relates only to rural areas and does not include urban Puskesmas costs. Finally, the internal documents from ASKES includes their budgeted costs rather than actual costs of providing services, although their rates of service use should be valuable in the social financing studies.

The following sources and tables may be of some assistance:

1. Cost of Public Primary Health Care Services in Rural Indonesia:
(a) pages 30-31, Monthly Per Capita Public Health Service Expenditures in 41 Sub-districts. This includes total cost estimates for each sub-district which were divided by sub-district population to estimate per capita expenditures. (b) page 35, Monthly per capita program costs: Subdistrict means by Province (but what is the relationship of the data on pages 30 and 31 with that on page 35?)
2. DOC.6087a. Health and Population Sector Review. Pages 52 and 65 -- Selected morbidity rates for the total population.
3. Abel-Smith Report page 33, Cost per Person covered per month.
4. Cost of Drug Prescriptions for Curative care in Rural Health Facilities; page 7, Table 2, Drug unit cost by Chief Complaint.

These reports and citations notwithstanding, the analyses of existing data suggests that there are wide variations in data for costs and use rates based on different, existing reports. One can only conclude that different definitions, collection methodologies, study objectives, and so on, account for these variations. The conclusion is that little confidence can be placed in the existing secondary sources for our actuarial analyses. However, because of the difficulties that could be encountered in primary data collection efforts, the consultant suggests that these data be used whenever possible as noted above and as used in the actuarial exercise described elsewhere in this report.

I. PRIMARY DATA COLLECTION

Because of the paucity of existing, secondary data, special studies (primary data collection) are advised that will allow the creation of baseline data and the development of standards regarding ASKES members. The objective of these special studies is to help create an understanding of the socioeconomic, epidemiological, and demographic characteristics of the ASKES population. These studies should provide data that can be analyzed regarding the morbidity, (e.g., use of services), mortality, and the need/demand for services currently and extrapolated to future periods. Ultimately, these studies should allow Perum Husada Bhakti to create rate tables for its ASKES members.

The special studies should also help to provide an understanding of the costs of the program including actual costs of delivery of outpatient services in the Puskesmas and hospitals, inpatient services at health centers and hospitals, drugs, and so on. Finally, special studies of the perception of members, their estimates of need for services, and estimates of their levels of satisfaction with services should help PHB to understand its membership.

Analyses of the ASKES system administered by PHB suggests that the following data elements are needed for the completion of actuarial and capitation studies. Priority should be given to data elements that relate to the most costly services (to PHB). These include outpatients at the health center, inpatients, drugs, eye glasses, outpatients at the hospital and sophisticated services.

DATA ELEMENTS FOR THE ASKES PROGRAM

1. Demographic and Socioeconomic:
 - a. Age
 - b. Sex
 - c. Group of employee (ID/occupation)
 - (i) active: I, II, III and IV.
 - (ii) pensioner: civilian or military
 - d. Geographic location of member -- province, district, sub-district
 - e. Family size
2. Epidemiologic:
 - a. Use of outpatient services at health centers
 - b. Use of outpatient services at hospitals
 - c. Use of inpatient services by class of accommodation and class of hospital
 - d. Use of drugs
 - e. Use of other services
3. Costs:
 - a. Outpatient services
 - b. Outpatient services at hospitals
 - c. Inpatient services at hospitals by class of accommodation and class of hospital
 - d. Drugs
 - e. Eye glasses
 - f. Sophisticated services
 - g. Other services (use the list of 15 current benefit package services or as defined in the current study.
4. Benefits:
 - a. Outpatient visits at health centers and hospitals by type of visit
 - b. Inpatient hospital services by diagnosis
 - c. Drugs
 - d. Eye glasses
 - e. Sophisticated services by type of service
 - f. Other services by type of service
5. Member's perception:
 - a. Current use of services
 - (i) Within ASKES system
 - (ii) Outside providers
 - b. Level of satisfaction of ASKES system
 - c. Perceived need for services.
6. Projections:
 - a. Growth of ID holders, pensioners and dependents
 - b. Unmet need/demand for health services.
 - c. Additional/modified benefits

The next issue is how to obtain data easily yet with a high level of confidence that data so obtained is accurate. As was previously discussed, little usable information is available from current secondary sources. Again, data on costs of Class C and D hospitals might be useful as well as the costs of the rural health centers. In addition, ASKES rates of use of service obtained from internal PHB documents and reports may also be useful because they seem to be based on fairly well established collection procedures. In addition to these sources, other USAID research efforts will, in all likelihood, produce substantial information regarding costs of hospitals and drugs. These should be incorporated into the PHB actuarial studies as they become available. Data regarding membership demography, growth, etc. may be available from the Department of Manpower.

J. INTRODUCTION TO THE SPECIAL STUDIES

There is a need, therefore, for special studies. The areas of such studies and possible sources of information are listed below. It is important to note that these special studies fall into four broad categories -- cost of services, rates of use of services, demographic data, and consumer/employee related perceptions/satisfaction issues. It is also important to note that the special studies should be ordered so that studies of the major PHB cost areas are studied first -- including outpatient services at health center, inpatient services at hospital, drugs, outpatient services at hospital and eye glasses. Demographic data regarding the ASKES population is also a very high priority (see Special Study # 5).

LIST OF SPECIAL STUDY AREAS

<u>Area</u>	<u>Possible Sources of Data</u>
1. Outpatient Services	Rural Health Study
2. Outpatient services at the hospital	(Special Study)
3. Inpatient services Study and <u>USAID Study</u>	Phase II 1988 Hospital
4. Sophisticated services	(Special Study)
5. ASKES member's demography and socio-economic data and <u>USAID Study</u>	Department of Manpower
6. Costs of outpatient services	Rural Primary Cost Study
7. Costs of inpatient services	Phase II 1988 Hospital Study and <u>USAID Study</u>
8. Costs of other services	Special Studies
9. Use and costs of drugs	USAID studies
10. Need/demand for health services by ASKES members	ASKES Household Study & Special Studies
11. Members's perceptions/member satisfaction	Special Studies

Data collected using the following methodology should be tabulated and made ready for analysis, inference drawing, and the development of conclusions. This final step should be accomplished by a team of PHB officials, and domestic and expatriate consultants at the completion of data collection as noted below. To allow for ease in tabulation and analysis of the data, it would be very useful if the data, as it becomes available, were recorded on computers using the Statistical Package for the Social Sciences (SPSS) or a similar statistical package. This data processing method will allow for greatly enhanced analysis by cross tabulation and the application of statistical testing (for example significance of difference) and possible use of multiple regression of selected population characteristics to determine their importance to costs of the ASKES program.

K. METHODOLOGY OF THE SPECIAL STUDIES

In the following sections, methodologies for special studies are described. Each has been formulated around the available source documents, and is designed, hopefully, to be cost effective. Because the consultant did not have sufficient time to thoroughly review these methodologies with the study group, it is recommended that they be analyzed for appropriateness prior to their employment.

The consultant also recommends that a permanent data collection process be established that will provide information on a continuous basis regarding the data elements listed on pages 11.

1. Study Methodology of outpatient services:

One of the most difficult areas to assess is the members' use of outpatient services. The current capitation system requires minimal reporting to the PHB regional offices; therefore data regarding rate of use and cost per service is not available from secondary sources, and it will need to be collected at the Puskesmas level. However, it is recommended that all available secondary sources be thoroughly reviewed to obtain any existing rates of use of service and their costs. (Please review the preliminary list of potential secondary sources listed earlier in this report.) These data may be valuable in making comparisons with data collected using the process below.

A sample of medical charts of ASKES outpatients at Health Centers will be made. Fifty-four health centers, one in a rural location and the second in an urban center in each of the 27 provinces, will be chosen for study. At each center, a sample of 50 charts of ASKES members will be chosen beginning with the chart of the most current ASKES patient when the study begins. Then, as the next 50 ASKES patients present for service, their charts will be included in the study sample. If a chart is incomplete, another ASKES patient's chart will be chosen until 50 charts are analyzed. A total of 2,700 charts will be analyzed using this process.

The following data collection instrument will be used.

**OUTPATIENT STUDY
DATA COLLECTION INSTRUMENT**

Note: If the medical record/chart is incomplete, please choose the next ASKES patient's chart until 50 have been chosen and analyzed.

1. Name of Health Center: _____
2. Date: _____ 3. Researcher: _____
4. Location of Health Center: _____
5. I.D. card holder number: _____
6. Relationship of patient to I.D. card holder: P _____
I _____
S _____
A _____
7. Sex: M ___; F ___.
8. Age of patient: _____
9. Class of ID card holder: I _____; II _____; III _____; IV _____
Pensioner: Civilian _____; Military _____
10. Services provided during the latest visit to the health center by diagnosis (please be as specific as possible): _____

11. Other services provided during latest visit:
a. Drugs _____; b. Referral _____
c. Other; specify: _____
12. Cost of Service: Rp. _____

The Puskesmas will then transmit the 50 completed outpatient study forms to the regional PHB office, which, in turn, will send them to the PHB national office in Jakarta. Clerks will then code the responses, especially diagnosis and other services, using ICDA broad classifications, and key punch operators will input the data using SPSS. Analysis and inferences will then be made by the study team.

2. Study methodology of inpatient services

Special studies of inpatient use and reported tariffs appear to be easier to perform than those for outpatients since the hospitals provide the regional PHB offices with a monthly summary that includes the required data elements.

Each of the 27 regional PHB offices will be requested to provide the national PHB Jakarta office with the monthly reports for all their hospital providers for two months -- one during the rainy season and one during the dry season. At the national office, the first step will be a review of the reports to determine the level of completeness and accuracy; if not complete, a request will be made to the regional office to obtain the missing data. Completed, usable reports will then be coded for date, hospital, diagnosis, etc. Diagnosis coding can be accomplished using the ICDA-9 major classification codes with the appropriate code written directly on the report. Key punch operators will input the following data from the report: hospital code, month of report, date of service, guarantee number, ID card number, employee group (I, II, III, or IV) or pensioner status (military or civilian), relationship of patient to ID holder (P, I, S, A), sex, age, diagnosis code, length of stay, tariff, and total claim. These data will be listed for each patient listed on the hospital report. Again, analysis and inferences will subsequently be drawn by the study team.

3. Study methodology of outpatient services at hospital

A substantial amount of service is rendered to ASKES patients in the outpatient areas of hospitals. Again, there are reports created by the various hospitals for the regional PHB offices as a requirement for payment for services under the "packet" system. Therefore, the same methodology used for the inpatient special study will be used for this area; regional offices will supply the PHB Central Office with two monthly reports -- one rainy and one dry. Reports will be reviewed for accuracy and completeness, coded for hospital, diagnosis and then all data provided on the reports will be included for each patient (except patient's name and the name of ID card holder), with inferences drawn later by the study team.

4. Study methodology for sophisticated services

Each hospital reports to the regional PHB its activities regarding sophisticated services as a condition for payment for services. Again, as in 2. and 3. above, the same procedure will be followed.

5. Study methodology of ASKES demographics

All available demographic and socio-economic information regarding the ASKES population will be reviewed. Data may be available from secondary sources at the Department of Manpower and the Board of Personnel Administration. The following data collection instrument/interview guide may provide the basis for these activities.

**DEMOGRAPHIC AND SOCIO-ECONOMIC INFORMATION
FOR ASKES MEMBERS
DATA COLLECTION INSTRUMENT**

Researcher's name _____ Location: _____

Date: _____ Department/office: _____

Individual interviewed/providing information: _____

(1). Please identify the age of ASKES members by the following cohorts and by the following classification of member. Place the number of each in the appropriate place.

Age	Classification of member							
	A. ID card holder		B. Dependent		C. Pen.-Civil		D. Pen.-Military	
	1988	1987	1988	1987	1988	1987	1988	1987
Under 5	—	—	—	—	—	—	—	—
6 to 10	—	—	—	—	—	—	—	—
11 to 20	—	—	—	—	—	—	—	—
21 to 45	—	—	—	—	—	—	—	—
46 to 64	—	—	—	—	—	—	—	—
65 and older	—	—	—	—	—	—	—	—

(2). Please identify the sex of ASKES members as shown below. Place the total number in the appropriate place below.

Sex	ID holder	Dependent	Pen.-Civil	Pen.-Military
Male	—	—	—	—
Female	—	—	—	—

(3). Please identify the number of each kind of member by province.

Province	ID holder	Dependent	Pen.-Civil	Pen.-Military
1.	—	—	—	—
2.	—	—	—	—
3.	—	—	—	—
... 27.	—	—	—	—

(4). Please identify the family size according to the class of employment or pensioner status.

Family size	ID holder	Dependent	Pen.-Civil	Pen.-Military
	—	—	—	—

This data will be entered into SPSS, with analyses and inferences drawn by the study group.

If the Department of Manpower and/or the Board of Personnel Administration cannot supply this information it will be necessary to perform a special study to obtain these data. This might be performed by tabulating data provided on the PusKesMas capitation registration cards (if this information is included on the card). Cards could be collected for a three month period by the PHB regional office and then sent to the National PHB office for tabulation. This methodology could create a biased sample, however, since those that are ill will probably be the persons who register with the PusKesMas; registrants may also only include Group 1 and 2 government employees since the tendency is for Group 3 and 4 employees to seek medical attention outside the ASKES system. The ultimate process, and probably the only way to obtain good data, will be a formal, continuous data collection process conducted by the Department of Manpower.

6. Special study methodology of need/demand and members' perceptions

Data regarding actual levels of services may be obtained through the studies listed above. However, an indicator of desired services can only be obtained by asking members about their need for health services. In addition, we need to understand who actually uses services and their rate of use; do Group I and II ID card holders use the ASKES system exclusively while Group III and IV card holders exclusively use non-government facilities and providers? If our rate of use for outpatient services, for example, is calculated to be two visits per person per year based on our PusKesMas study, is this rate only for Groups I and II or can we assume that Groups III and IV also use outpatient visits at the same rate -- or something less? A member's perception study will probably show that Group I and II members indeed use the PusKesMas for most of their services, while Group III and IV members use primarily private providers.

If PHB's main objective is to provide a high level of medical services, do our members perceive the program as fulfilling their medical service needs at the same high level? What would we need to do regarding the ASKES system to more appropriately respond to the needs of all members, so that all members utilize services within the system? The answer may be to change benefits, but also it may mean a change in the services at government facilities.

To answer these and other similar questions, a special study of need for care and members' perceptions will be required. Such a study could be based on a questionnaire provided to a small sample of federal, provincial and subdistrict government employees stratified by Group I, II, III, and IV employees. Further stratification should include samples drawn from populations in and outside of Java. The sample of 3,000 members could be drawn as shown below.

	Federal		Province		Sub-District		Total
	In Java/	Out Java	In Java/	Out Java	In Java/	Out Java	
Active:							
I	200	100	100	100	100	100	1,200
II	200	100	100	100	100	100	1,200
III	50	100	100	100	100	100	300
IV	50	100	100	100	100	100	300
Pensioner:							
Civil	50	100	100	100	100	100	300
Milit.	50	100	100	100	100	100	300
Total:	600	600	600	600	600	600	3,600

A questionnaire might be developed which would be sent to employees identified through a random number table based on employee ID number. A 20 percent oversample should be used to assure at least 3,600 completed and usable questionnaires. The following areas should be addressed in the questionnaire:

1. ID number
2. Number of family members in the ID cardholders family -- using the family designation of P, I, S, and A for each member. The sex and age of each member should be identified.
3. Class of ID Holder (e.g., Group I, II, III, IV or Pensioner Civil or Pensioner Military).
4. Location: Subdistrict, Province, etc.
5. PusKesMas where registered to receive care.
6. Use of services during the last twelve months by family members (please see Appendix A for a copy of the Health Interview Survey used in the U.S. for sample questions regarding use of health services).

Data collected should be coded and entered using the SPSS format. During the analysis portion of this special study, the study team then can define the crosstabs that it desires to help create use-of-service rates and demographic information. Inferences can then be developed by the study team.

L. THE ACTUARIAL EXERCISE

During the visit to Indonesia the study group under the direction of the consultant completed an actuarial exercise using costs and rates of services from PHB reports and records. The objectives of this exercise were to:

1. describe the current ASKES benefit package;
2. identify and describe the objectives of PHB vis-a-vis the ASKES program and the principles of DUKM;
3. identify data sources and evaluate the quality and quantity of existing data;
4. describe, train the staff in its use, and actually utilize the actuarial process;
5. show the relationship of the benefit package to the premium structure; and
6. show why this process is the basis of the short and long-range, or strategic, corporate planning process.

The results of this exercise are provided in Appendix B. Note that the total costs of the program, based on PHB data for 1988, were approximately 85 percent of the total premium income. Although this activity was just an exercise, the methodology developed during this activity can and should be used in the corporate planning process of PHB on an ongoing basis. And, to be able to accurately complete such studies, the data described previously in this report need to be collected.

M. PRESENTATION ON AUGUST 19, 1988

PHB requested that the consultant make a presentation regarding his activities during his visit. This was held from 9:00 am to about 11:15 on August 19, 1988. The outline for this presentation is included in Appendix C.

N. SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

Many of the consultant's conclusions and recommendations are provided throughout this report. This section summarizes these by major topic.

Benefit Package:

1. ASKES benefits are currently mandated by regulation and may not be based on the need/demand for services.
2. The process of balancing the benefit's costs with the expected revenues is an artificial process because the true costs of the program are clouded by governmental subsidies to the providers.
3. The benefit package as reviewed seems to be appropriate as currently formulated. But, descriptions of services lack specificity and definition.
4. Benefits appear to be comprehensive enough to cover most of the extraordinary costs of medical services for the members.
5. Benefits should define a minimum level of medical service and accommodation (for inpatient care); this should be defined as the "standard level of care" available to all groups of members -- standards of health services and accommodations. The current benefit package appears not to meet this criteria.
6. Benefits should be well defined and understood by the PHB, the ASKES members and the providers. Because of the lack of specificity, this may not be occurring.
7. Further analysis of the benefit package should be undertaken as data on costs, rates and need/demand are developed more fully.

Premium/revenue:

8. ASKES premiums are comprised of a two percent deduction from government salaries. This is mandated by law and regulation; changes to either the benefit package or premium income can only occur via changes in law and regulation.
9. Premium income and other sources of revenue should equal or approximate the actual costs of the program -- costs including health services, administration, reserve requirements, capital accumulation, surplus, and so on. The current PHB budgetary process follows this concept, although actual costs are not utilized.
10. As a long-term goal, PHB should attempt to pay actual costs (not a subsidized cost) to providers; e.g., the program should be self-supporting. However, all revenue sources should be recognized as a condition that actual costs be paid.
11. The ASKES system is a health services fringe benefit employees and their dependents receive from their employer as a condition of employment; it is a partially contributory program where there are premium contributions by both employee and employer. Employee contributions are two percent of salary while government contributions are subsidies to providers. As an employer fringe benefit, this program appears to be fair and

equitable to the government employee because private companies in Indonesia also contribute to their employees' premiums for health benefits. However, there still remains the question of what is the "real" or "true" premium.

12. Further analyses of PHB sources of revenue should be made.

Data and Special Studies:

13. Little confidence can be placed in the existing secondary sources for our actuarial analyses. However, because of the difficulties that could be encountered in primary data collection efforts, the consultant suggests that these data be used whenever possible.
14. Special studies (primary data collection) that will allow the creation of baseline data and the development of standards regarding ASKES members are recommended. The objective of the special studies is to help create an understanding of the socioeconomic, epidemiological, and demographic characteristics of the ASKES population. These studies should provide data that can be analyzed regarding morbidity (e.g., use of services), mortality, and the need/demand for services currently and extrapolated to future periods. Ultimately, these studies should allow Perum Husada Bhakti (PHB) to create rate tables for its ASKES members.
15. Priority should be given to data elements that relate to the most costly services (to PHB) -- outpatients at the health center, inpatient, drugs, eye glasses, outpatients at the hospital and sophisticated services.

Special Studies Methodology:

16. Data collected using special studies should be tabulated and made ready for analysis, inference drawing, and the development of conclusions. To allow for ease in tabulation and analysis of the data, it would be very useful if the data, as they become available, be entered into the Statistical Package for the Social Sciences (SPSS) or a similar statistical software package.
17. Drawing of inferences and conclusions should be accomplished by a team of PHB officials and the domestic and expatriate consultants at the completion of data collection activities -- probably in late December 1988 or early 1989.
18. The methodologies for these special studies are provided in the body of this report. Each has been formulated around the available source documents, and are designed to, hopefully be cost effective. Because the consultant did not have sufficient time to thoroughly review these methodologies with the study group, it is recommended that they be analyzed for appropriateness prior to their employment.
19. The consultant also recommends that a permanent data collection process be established that will provide information on a continuous basis regarding the data elements listed on page 10.

GLOSSARY OF TERMS/LIST OF ACRONYMS

ASKES	Government sponsored employee health insurance program for federal, province and district government employees, dependents and Civil and Military pensioners.
DUKM	Statement of principles governing the development of the Social Financing activities in the Ministry of Health, Indonesia.
ICDA	International Classification of Disease.
ID	Identification number of government employees and pensioners eligible for benefits under the ASKES system.
ISTI	International Science and Technology Institute, Inc., Contractor with USAID.
PHB	Perum Husada Bhakti, the parastatal that administers the ASKES system.
PMU	Project management unit.
PIO	Project implementation officer.
SPSS	Statistical Package for the Social Sciences, a system of computer programs as described in a book by Nie, Hull, Jenkins, Steinbrenner and Bent, and published by McGraw-Hill Book Company, New York.
USAID	United States Agency for International Development.

Appendix A
Health Interview Questionnaire

APPENDIX III. QUESTIONNAIRE AND FLASH CARDS

O.M.B. No. 68-R1600, Approval Expires March 31, 1979

NOTICE - Information contained on this form which would permit identification of any individual or establishment has been collected with a guarantee that it will be held in strict confidence, will be used only for purposes stated for this study, and will not be disclosed or released to others without the consent of the individual or the establishment in accordance with section 306(a) of the Public Health Service Act (42 USC 242m).

1. Book _____ of _____ books

2. R.O. number **3. Sample** **4. Segment type**

Area
 Permit
 Address
 Cen-Sup
 Special Place

5. Control number

PSU Segment Serial

6a. What is your exact address? (Include House No., Apt. No., or other identification and ZIP code)

.....
 City State ZIP code

b. Is this your mailing address? (If not, specify if different, include ZIP code.)

.....
 City State ZIP code

c. Special place name Sample unit number Type code

7. YEAR BUILT Ask → Do NOT Ask

When was this structure originally built?

Before 4-1-70 After 4-1-70 (Go to 9c, complete if required and end interview)
 (Continue interview)

8. Type of living quarters → Housing unit OTHER unit

9. Area segments ONLY

a. Are there any occupied or vacant living quarters besides your own in this building?
 Y (fill Table X) N

b. Are there any occupied or vacant living quarters besides your own on this floor?
 Y (fill Table X) N

c. Is there any other building on this property for people to live in - either occupied or vacant?
 Y (fill Table X) N

d. None

10. Land use RURAL URBAN (13)
 -- Regular units and Special Place units coded 85-88 in 6c, go to 11.
 -- Special Place units not coded 85-88 in 6c, go to 13.

11. Do you own or rent this place? Own Rent Rent for free

12a. Does this place you (own/rent/rent for free) have 10 acres or more? Y (12b) N (12c)

b. During the past 12 months did sales of crops, livestock, and other farm products from this place amount to \$50 or more? Y (13) N (13)

c. During the past 12 months did sales of crops, livestock, and other farm products from this place amount to \$250 or more? Y N

13. How many rooms are in this --? Rooms Bedrooms

Count the kitchen but not the bathroom. 14. How many bedrooms are in this --?
 If "None" describe in footnotes.

15. What is the telephone number here? Area code Number 16. Was this interview observed?

None Y N

17. Interviewer's name Code

18. Noninterview reason

TYPE A

1. Refusal - Describe in a footnote } Fill items 1-6a, 7, 8, 10, 12a-c as applicable, 16-19

2. No one at home - repeated calls

3. Temporarily absent - Footnote

4. Other (Specify) _____

TYPE B

1. Vacant - nonseasonal } Fill items 1-6a, 7-10, 12a-c as applicable, 16-19

2. Vacant - seasonal

3. Usual residence elsewhere

4. Armed Forces

5. Other (Specify) _____

TYPE C

1. Unused line of listing sheet } Fill items 1-6a, 8c if required, 9c if merged, 16-19, Send Inter-Comm.

2. Demolished

3. Merged

4. Outside segment

5. Built after April 1, 1970

6. Other (Specify) _____

19. Record of calls

Month	Date	Beginning time	Ending time	Completed (Mark X)
1		a.m.	a.m.	
		p.m.	p.m.	
2		a.m.	a.m.	
		p.m.	p.m.	
3		a.m.	a.m.	
		p.m.	p.m.	
4		a.m.	a.m.	
		p.m.	p.m.	
5		a.m.	a.m.	
		p.m.	p.m.	
6		a.m.	a.m.	
		p.m.	p.m.	
7		a.m.	a.m.	
		p.m.	p.m.	
8		a.m.	a.m.	
		p.m.	p.m.	

FOOTNOTES

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<p>1a. What is the name of the head of this household? - Enter name in first column</p> <p>b. What are the names of all other persons who live here? - List all persons who live here.</p> <p>c. I have listed (Read names). Is there anyone else staying here now, such as friends, relatives, or roomers? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>d. Have I missed anyone who USUALLY lives here but is now away from home? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>e. Do any of the people in this household have a home elsewhere? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>f. Are any of the persons in this household now on full-time active duty with the Armed Forces of the United States? <input type="checkbox"/> Y <input type="checkbox"/> N <small>* Apply household membership rules.</small></p>		<p>1a. First name 1</p> <p>Last name</p>
<p>2. How is -- related to -- (head of household)?</p>		<p>2. Relationship</p> <p>HEAD</p>
<p>3. What is --'s date of birth? (Enter date and Age, and circle Race and Sex)</p>		<p>3. Month Date Year</p>
<p>L Ask Condition list _____</p> <p>C Record the number of Bed Days, Doctor visits, and Hospitalizations</p> <p>2. Record each condition in the person's column, with the question number(s) where it was reported.</p> <p>Reference dates</p> <p>2-week period _____</p> <p>12-month Bed Days and Doctor visit probe _____</p> <p>Hospital probe _____</p>		<p>C</p> <p>BED DAYS DV HOSP</p> <p><input type="checkbox"/> None (NP) <input type="checkbox"/> None (NP) <input type="checkbox"/> No (N)</p> <p><input type="checkbox"/> (NP) <input type="checkbox"/> (NP) <input type="checkbox"/> (N)</p> <p>Q. No. Condition</p>
<p>H If 17, ask</p> <p>4. Is -- now married, widowed, divorced, separated, or never married?</p>		<p>4.</p> <p><input type="checkbox"/> Under 17</p> <p><input type="checkbox"/> Married - spouse present</p> <p><input type="checkbox"/> Married - spouse absent</p> <p><input type="checkbox"/> Widowed</p> <p><input type="checkbox"/> Divorced</p> <p><input type="checkbox"/> Separated</p> <p><input type="checkbox"/> Never married</p>
<p>H If related persons 17 years old or over are listed in addition to the respondent, say:</p> <p>We would like to have all adults who are at home take part in the interview. Is your --, your --, etc., at home now? If "Yes," ask: Please ask them to join us.</p>		<p>H</p> <p><input type="checkbox"/> Under 17</p> <p><input type="checkbox"/> At home</p> <p><input type="checkbox"/> Not at home</p>
<p>This survey is being conducted to collect information on the Nation's health. I will ask about visits to doctors and dentists, illness in the family, and other health related items. (Hand calendar)</p> <p>The next few questions refer to the past 2 weeks, the 2 weeks outlined in red on that calendar, beginning Monday, _____ (date), and ending this past Sunday, _____ (date)</p> <p>5a. During these 2 weeks, did -- stay in bed because of any illness or injury?</p> <p>6. During that 2-week period, how many days did -- stay in bed all or most of the day?</p> <p>6. During these 2 weeks, how many days did illness or injury keep -- from work? (For females): not counting work around the house?</p> <p>7. During these 2 weeks, how many days did illness or injury keep -- from school?</p>		<p>5a. <input type="checkbox"/> Y (5b); <input type="checkbox"/> N</p> <p>5b. _____ Days <small>if age: 17, (8) 6-16 (7) Under 6 (9)</small></p> <p>6. _____ WL days (8) <input type="checkbox"/> None (9)</p> <p>7. _____ SL days <input type="checkbox"/> None (9)</p>
<p>8. On how many of these -- days lost from $\left\{ \begin{array}{l} \text{work} \\ \text{school} \end{array} \right\}$ did -- stay in bed all or most of the day?</p> <p>9a. (NOT COUNTING the day(s) $\left\{ \begin{array}{l} \text{in bed} \\ \text{lost from work} \\ \text{lost from school} \end{array} \right\}$) Were there any (other) days during the past 2 weeks that -- cut down on the things he usually does because of illness or injury?</p> <p>b. (Again, not counting the day(s) $\left\{ \begin{array}{l} \text{in bed} \\ \text{lost from work} \\ \text{lost from school} \end{array} \right\}$) During that period, how many (other) days did he cut down for as much as a day?</p> <p>If one or more days in 5-9, ask 10, otherwise go to next person.</p>		<p>8. _____ Days <input type="checkbox"/> None</p> <p>9a. <input type="checkbox"/> Y <input type="checkbox"/> N (10)</p> <p>b. _____ Days <input type="checkbox"/> None</p>
<p>10a. What condition caused -- to $\left\{ \begin{array}{l} \text{stay in bed} \\ \text{miss work} \\ \text{miss school} \\ \text{cut down} \end{array} \right\}$ during the past 2 weeks?</p> <p>b. Did any other condition cause him to $\left\{ \begin{array}{l} \text{stay in bed} \\ \text{miss work} \\ \text{miss school} \\ \text{cut down} \end{array} \right\}$ during that period?</p> <p>c. What condition?</p>		<p>10a. Enter condition in item C Ask 10b</p> <p>b. Y <input type="checkbox"/> N (NP)</p> <p>c. Enter condition in item C (10b)</p>
<p>Fill item C, (BED DAYS), from 5b for all persons.</p>		

Handwritten mark

0 Under 17 1 Married - spouse present 2 Married - spouse absent 3 Widowed 4 Divorced 5 Separated 6 Never married	0 Under 17 1 Married - spouse present 2 Married - spouse absent 3 Widowed 4 Divorced 5 Separated 6 Never married	0 Under 17 1 Married - spouse present 2 Married - spouse absent 3 Widowed 4 Divorced 5 Separated 6 Never married	0 Under 17 1 Married - spouse present 2 Married - spouse absent 3 Widowed 4 Divorced 5 Separated 6 Never married	0 Under 17 1 Married - spouse present 2 Married - spouse absent 3 Widowed 4 Divorced 5 Separated 6 Never married
1 Under 17 1 At home 2 Not at home	H 1 Under 17 1 At home 2 Not at home	1 Under 17 1 At home 2 Not at home	H 0 Under 17 1 At home 2 Not at home	0 Under 17 1 At home 2 Not at home
Y (5b) N Days				
HL days (8) None (9)				
SL days None (9)				
Days None	Days None	Days None	Days None	Days None
1 Y 2 N (10) Days None	9a. 1 Y 2 N (10) Days None	1 Y 2 N (10) Days None	9a. 1 Y 2 N (10) Days None	1 Y 2 N (10) Days None
Enter condition in item C Asa 10b Y N (NP) Enter condition in item C (10b)	10a. Enter condition in item C Asa 10b Y N (NP) Enter condition in item C (10b)	Enter condition in item C Asa 10b Y N (NP) Enter condition in item C (10b)	10a. Enter condition in item C Asa 10b Y N (NP) Enter condition in item C (10b)	Enter condition in item C Asa 10b Y N (NP) Enter condition in item C (10b)
Enter condition in item C (10b)				

Enter item C (BED DAYS) from 5b for all persons

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<p>11a. During the past 2 weeks, did anyone in the family, that is you, your —, etc., have any (other) accidents or injuries? Y N (12)</p> <p>b. Who was this? — Mark "Accident or injury" box in person's column.</p> <p>c. What was the injury?</p> <p>d. Did anyone have any other accidents or injuries during that period? Y (Reask 11b and c) N If "Accident or injury" ask:</p> <p>e. As a result of the accident, did — see a doctor or did he cut down on the things he usually does? Y (Enter injury in item C) N</p>	<p>11b. Accident or injury injury</p> <p>e. Y (Enter injury in item C) N</p>
<p>12a. During the past 2 weeks, did anyone in the family go to the dentist? Y N (13)</p> <p>b. Who was this? — Mark "Dental visit" box in person's column.</p> <p>c. During the past 2 weeks, did anyone else in the family go to a dentist? Y (Reask 12b and c) N If "Dental visit," ask:</p> <p>d. During the past 2 weeks, how many times did — go to a dentist?</p>	<p>12b. Dental visit</p> <p>d. No. of dental visits (N)</p>
<p>Do not ask for children 1 yr. old and under.</p> <p>Mark box or ask:</p> <p>13. ABOUT how long has it been since — LAST went to a dentist?</p>	<p>13. 1. 2-week dental visit</p> <p>2. Past 2 weeks not reported (12)</p> <p>3. 3 weeks-6 months</p> <p>4. Over 6-12 months</p> <p>5. 1 year</p> <p>6. 2-4 years</p> <p>7. 5+ years</p> <p>8. Never/ago 1 or under</p>
<p>FOOTNOTES</p>	

<input type="checkbox"/> Accident or injury <input type="checkbox"/> Injury	11b.	<input type="checkbox"/> Accident or injury <input type="checkbox"/> Injury	<input type="checkbox"/> Accident or injury <input type="checkbox"/> Injury	11b.	<input type="checkbox"/> Accident or injury <input type="checkbox"/> Injury
<input type="checkbox"/> Y (Enter injury in item C) <input type="checkbox"/> N	e.	<input type="checkbox"/> Y (Enter injury in item C) <input type="checkbox"/> N	<input type="checkbox"/> Y (Enter injury in item C) <input type="checkbox"/> N	e.	<input type="checkbox"/> Y (Enter injury in item C) <input type="checkbox"/> N
<input type="checkbox"/> Dental visit	12b.	<input type="checkbox"/> Dental visit	<input type="checkbox"/> Dental visit	12b.	<input type="checkbox"/> Dental visit
<input type="checkbox"/> No. of dental visits (NP)	d.	<input type="checkbox"/> No. of dental visits (NP)	<input type="checkbox"/> No. of dental visits (NP)	d.	<input type="checkbox"/> No. of dental visits (NP)
<input type="checkbox"/> 2-week dental visit	13.	<input type="checkbox"/> 2-week dental visit	<input type="checkbox"/> 2-week dental visit	13.	<input type="checkbox"/> 2-week dental visit
<input type="checkbox"/> 2. Past 2 weeks not reported (12) <input type="checkbox"/> 3. 2 weeks-6 months <input type="checkbox"/> 4. Over 6-12 months <input type="checkbox"/> 5. 1 year <input type="checkbox"/> 6. 2-4 years <input type="checkbox"/> 7. 5+ years <input type="checkbox"/> 8. Never/age 1 or under		<input type="checkbox"/> 2. Past 2 weeks not reported (12) <input type="checkbox"/> 3. 2 weeks-6 months <input type="checkbox"/> 4. Over 6-12 months <input type="checkbox"/> 5. 1 year <input type="checkbox"/> 6. 2-4 years <input type="checkbox"/> 7. 5+ years <input type="checkbox"/> 8. Never/age 1 or under	<input type="checkbox"/> 2. Past 2 weeks not reported (12) <input type="checkbox"/> 3. 2 weeks-6 months <input type="checkbox"/> 4. Over 6-12 months <input type="checkbox"/> 5. 1 year <input type="checkbox"/> 6. 2-4 years <input type="checkbox"/> 7. 5+ years <input type="checkbox"/> 8. Never/age 1 or under		<input type="checkbox"/> 2. Past 2 weeks not reported (12) <input type="checkbox"/> 3. 2 weeks-6 months <input type="checkbox"/> 4. Over 6-12 months <input type="checkbox"/> 5. 1 year <input type="checkbox"/> 6. 2-4 years <input type="checkbox"/> 7. 5+ years <input type="checkbox"/> 8. Never/age 1 or under
FOOTNOTES					

<p>14. During the past 2 weeks (the 2 weeks outlined in red on that calendar) how many times did -- see a medical doctor? Do not count doctors seen while a patient in a hospital.</p>	<p>14. 000 <input type="checkbox"/> None Number of visits } NP</p>
(Besides these visits)	
<p>15a. During that 2-week period did anyone in the family -- go to a doctor's office or clinic for shots, X-rays, tests, or examinations</p>	<p>Y N (16)</p>
<p>b. Who was this? -- Mark "Doctor visit" box in person's column.</p>	<p>15b. Doctor visit</p>
<p>c. Anyone else?</p>	<p>Y (Reask 15b and c) N</p>
<p>d. How many times did -- visit the doctor during that period?</p>	<p>d. Number of visits (NP)</p>
<p>16a. During that period, did anyone in the family get any medical advice from a doctor over the telephone?</p>	<p>Y N (17)</p>
<p>b. Who was the phone call about? -- Mark "Phone call" box in person's column.</p>	<p>16b. Phone call</p>
<p>c. Any calls about anyone else?</p>	<p>Y (Reask 16b and c) N</p>
<p>d. How many telephone calls were made to get medical advice about -- ?</p>	<p>d. Number of calls (NP)</p>
<p>Fill item C (DV), from 14-16 for all persons. Ask 17a for each person with visits in DV box.</p>	
<p>17a. For what condition did -- see or talk to a doctor during the past 2 weeks?</p>	<p>17a. Condition (item C THEN 17d) Pregnancy (17e) No condition</p>
<p>b. Did -- see or talk to a doctor about any specific condition?</p>	<p>b. Y N (NP)</p>
<p>c. What condition?</p>	<p>c. Enter condition in item C Ask 17d</p>
<p>d. During that period, did -- see or talk to a doctor about any other condition?</p>	<p>d. Y (17c) N (NP)</p>
<p>e. During the past 2 weeks was -- sick because of her pregnancy?</p>	<p>e. Y N (17d)</p>
<p>f. What was the matter?</p>	<p>f. Enter condition in item C (17d)</p>
<p>18a. During the past 12 months, (that is since ___ date ___ a year ago), about how many times did -- see or talk to a medical doctor? (Do not count doctors seen while a patient in a hospital.) (Include the -- visits you already told me about.)</p>	<p>18a. 000 <input type="checkbox"/> Only when in hospital 002 <input type="checkbox"/> None Number of visits</p>
<p>b. ABOUT how long has it been since -- LAST saw or talked to a medical doctor? (Include doctors seen while a patient in a hospital.)</p>	<p>b. 1 <input type="checkbox"/> 2-week DV 2 <input type="checkbox"/> Past 2 weeks not reported (14 and 17) 3 <input type="checkbox"/> 2 wks.-6 mos. 4 <input type="checkbox"/> Over 6-12 mos. 5 <input type="checkbox"/> 1 year 6 <input type="checkbox"/> 2-4 years 7 <input type="checkbox"/> 5+ years 8 <input type="checkbox"/> Never</p>

00 <input type="checkbox"/> None Number of visits } NP	14.	00 <input type="checkbox"/> None Number of visits } NP	00 <input type="checkbox"/> None Number of visits } NP	14.	00 <input type="checkbox"/> None Number of visits } NP	00 <input type="checkbox"/> None Number of visits } NP
Doctor visit	15a.	Doctor visit	Doctor visit	15b.	Doctor visit	Doctor visit
Number of visits (NP)	d.	Number of visits (NP)	Number of visits (NP)	d.	Number of visits (NP)	Number of visits (NP)
Phone call	16a.	Phone call	Phone call	16b.	Phone call	Phone call
Number of calls (NP)	c.	Number of calls (NP)	Number of calls (NP)	d.	Number of calls (NP)	Number of calls (NP)
Condition (Item C THEN 17d) Pregnancy (17e) No condition Y N (NP) Enter condition in item C Ask 17d Y (17c) N (NP) Y N (17d) Enter condition in item C (17d)	17a.	Condition (Item C THEN 17d) Pregnancy (17e) No condition Y N (NP) Enter condition in item C Ask 17d Y (17c) N (NP) Y N (17d) Enter condition in item C (17d)	Condition (Item C THEN 17d) Pregnancy (17e) No condition Y N (NP) Enter condition in item C Ask 17d Y (17c) N (NP) Y N (17d) Enter condition in item C (17d)	17a.	Condition (Item C THEN 17d) Pregnancy (17e) No condition Y N (NP) Enter condition in item C Ask 17d Y (17c) N (NP) Y N (17d) Enter condition in item C (17d)	Condition (Item C THEN 17d) Pregnancy (17e) No condition Y N (NP) Enter condition in item C Ask 17d Y (17c) N (NP) Y N (17d) Enter condition in item C (17d)
000 <input type="checkbox"/> Only when in hospital 000 <input type="checkbox"/> None Number of visits 1 <input type="checkbox"/> 2-week DV 2 <input type="checkbox"/> Past 2 weeks not reported (14 and 17) 3 <input type="checkbox"/> 2 wks.-6 mos. 4 <input type="checkbox"/> Over 6-12 mos. 5 <input type="checkbox"/> 1 year 6 <input type="checkbox"/> 2-4 years 7 <input type="checkbox"/> 5+ years 8 <input type="checkbox"/> Never	18a.	000 <input type="checkbox"/> Only when in hospital 000 <input type="checkbox"/> None Number of visits 1 <input type="checkbox"/> 2-week DV 2 <input type="checkbox"/> Past 2 weeks not reported (14 and 17) 3 <input type="checkbox"/> 2 wks.-6 mos. 4 <input type="checkbox"/> Over 6-12 mos. 5 <input type="checkbox"/> 1 year 6 <input type="checkbox"/> 2-4 years 7 <input type="checkbox"/> 5+ years 8 <input type="checkbox"/> Never	000 <input type="checkbox"/> Only when in hospital 000 <input type="checkbox"/> None Number of visits 1 <input type="checkbox"/> 2-week DV 2 <input type="checkbox"/> Past 2 weeks not reported (14 and 17) 3 <input type="checkbox"/> 2 wks.-6 mos. 4 <input type="checkbox"/> Over 6-12 mos. 5 <input type="checkbox"/> 1 year 6 <input type="checkbox"/> 2-4 years 7 <input type="checkbox"/> 5+ years 8 <input type="checkbox"/> Never	18a.	000 <input type="checkbox"/> Only when in hospital 000 <input type="checkbox"/> None Number of visits 1 <input type="checkbox"/> 2-week DV 2 <input type="checkbox"/> Past 2 weeks not reported (14 and 17) 3 <input type="checkbox"/> 2 wks.-6 mos. 4 <input type="checkbox"/> Over 6-12 mos. 5 <input type="checkbox"/> 1 year 6 <input type="checkbox"/> 2-4 years 7 <input type="checkbox"/> 5+ years 8 <input type="checkbox"/> Never	000 <input type="checkbox"/> Only when in hospital 000 <input type="checkbox"/> None Number of visits 1 <input type="checkbox"/> 2-week DV 2 <input type="checkbox"/> Past 2 weeks not reported (14 and 17) 3 <input type="checkbox"/> 2 wks.-6 mos. 4 <input type="checkbox"/> Over 6-12 mos. 5 <input type="checkbox"/> 1 year 6 <input type="checkbox"/> 2-4 years 7 <input type="checkbox"/> 5+ years 8 <input type="checkbox"/> Never

Ages 17.	19a. What was -- doing MOST OF THE PAST 12 MONTHS -- (For males: working or doing something else? if "something else," ask b. What was -- doing? if 45+ years and was not "working," "keeping house," or "going to school," ask. c. Is -- retired? d. If "retired," ask: Did he retire because of his health?	19. & 20. 1 <input type="checkbox"/> Working (24a) 2 <input type="checkbox"/> Keeping house (24b) 3 <input type="checkbox"/> Retired, health (23) 4 <input type="checkbox"/> Retired, other (23) 5 <input type="checkbox"/> Going to school (26) 6 <input type="checkbox"/> 17- something else (23) 7 <input type="checkbox"/> 6-16 something else (25)
Ages 6-16	20a. What was -- doing MOST OF THE PAST 12 MONTHS -- going to school or doing something else? if "something else," ask b. What was -- doing?	8 <input type="checkbox"/> 1-5 years (21) 9 <input type="checkbox"/> Under 1 (22)
Ages under 6		
21a. Is -- able to take part at all in ordinary play with other children? b. Is he limited in the kind of play he can do because of his health? c. Is he limited in the amount of play because of his health?		21a. Y N (28) b. 2 Y (28) N c. 2 Y (28) N (27)
22a. Is -- limited in any way because of his health? b. In what way is he limited? Record limitation, not condition.		22a. 1 Y 5 N (NP) b. _____ (28)
23a. Does -- health now keep him from working? b. Is he limited in the kind of work he could do because of his health? c. Is he limited in the amount of work he could do because of his health? d. Is he limited in the kind or amount of other activities because of his health?		23a. 1 Y (28) N b. 2 Y (28) N c. 2 Y (28) N d. 3 Y (28) N (27)
24a. Does -- NOW have a job? b. In terms of health, is -- NOW able to (work - keep house) at all? c. Is he limited in the kind of (work - housework) he can do because of his health? d. Is he limited in the amount of (work - housework) he can do because of his health? e. Is he limited in the kind or amount of other activities because of his health?		24a. Y (24c) N b. Y 1 N (28) c. 2 Y (28) N d. 2 Y (28) e. 3 Y (28) N (27)
25. In terms of health would -- be able to go to school?		25. Y 1 4 (28)
26a. Does (would) -- have to go to a certain type of school because of his health? b. Is he (would he be) limited in school attendance because of his health? c. Is he limited in the kind or amount of other activities because of his health?		26a. 2 Y (28) N b. 2 Y (28) N c. 3 Y (28) N
27a. Is -- limited in ANY WAY because of a disability or health? b. In what way is he limited? Record limitation, not condition.		27a. 4 Y 5 N (NP) b. _____
28a. About how long has he { been limited in -- been unable to -- had to go to a certain type of school? } b. What (other) condition causes this limitation? if "old age" only, ask: Is this limitation caused by any specific condition? c. Is this limitation caused by any other condition? Mark box or ask: d. Which of these conditions would you say is the MAIN cause of his limitation?		28a. 000 <input type="checkbox"/> Less than 1 month 1 _____ Mos. 2 _____ Yrs. b. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) c. Y (Mark 28b and c) N <input type="checkbox"/> Only 1 condition d. _____ Enter main condition

<input type="checkbox"/> Working (24a) <input type="checkbox"/> Keeping house (24b) <input type="checkbox"/> Retired, health (23) <input type="checkbox"/> Retired, other (23) <input type="checkbox"/> Going to school (26) <input type="checkbox"/> 17+ something else (23) <input type="checkbox"/> 6-16 something else (25)	19. & 20.	<input type="checkbox"/> Working (24a) <input type="checkbox"/> Keeping house (24b) <input type="checkbox"/> Retired, health (23) <input type="checkbox"/> Retired, other (23) <input type="checkbox"/> Going to school (26) <input type="checkbox"/> 17+ something else (23) <input type="checkbox"/> 6-16 something else (25)	<input type="checkbox"/> Working (24a) <input type="checkbox"/> Keeping house (24b) <input type="checkbox"/> Retired, health (23) <input type="checkbox"/> Retired, other (23) <input type="checkbox"/> Going to school (26) <input type="checkbox"/> 17+ something else (23) <input type="checkbox"/> 6-16 something else (25)	19. & 20.	<input type="checkbox"/> Working (24a) <input type="checkbox"/> Keeping house (24b) <input type="checkbox"/> Retired, health (23) <input type="checkbox"/> Retired, other (23) <input type="checkbox"/> Going to school (26) <input type="checkbox"/> 17+ something else (23) <input type="checkbox"/> 6-16 something else (25)	<input type="checkbox"/> Working (24a) <input type="checkbox"/> Keeping house (24b) <input type="checkbox"/> Retired, health (23) <input type="checkbox"/> Retired, other (23) <input type="checkbox"/> Going to school (26) <input type="checkbox"/> 17+ something else (23) <input type="checkbox"/> 6-16 something else (25)
<input type="checkbox"/> 1-5 years (21) <input type="checkbox"/> Under 1 (22)		<input type="checkbox"/> 1-5 years (21) <input type="checkbox"/> Under 1 (22)	<input type="checkbox"/> 1-5 years (21) <input type="checkbox"/> Under 1 (22)		<input type="checkbox"/> 1-5 years (21) <input type="checkbox"/> Under 1 (22)	<input type="checkbox"/> 1-5 years (21) <input type="checkbox"/> Under 1 (22)
Y N (28) 2 Y (23) N 3 Y (28) N (27)	21a. Y N (28) b. 2 Y (28) N c. 2 Y (28) N (27)	Y N (28) 2 Y (28) N 3 Y (28) N (27)	Y N (28) 2 Y (28) N 3 Y (28) N (27)	21a. Y N (28) b. 2 Y (28) N c. 2 Y (28) N (27)	Y N (28) 2 Y (28) N 3 Y (28) N (27)	Y N (28) 2 Y (28) N 3 Y (28) N (27)
1 Y N (NP) _____ 28)	22a. 1 Y N (NP) b. _____ 28)	1 Y N (NP) _____ 28)	1 Y N (NP) _____ 28)	22a. 1 Y N (NP) b. _____ 28)	1 Y N (NP) _____ 28)	1 Y N (NP) _____ 28)
1 Y (28) N 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	23a. 1 Y (28) N b. 2 Y (28) N c. 2 Y (28) N d. 3 Y (28) N (27)	1 Y (28) N 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	1 Y (28) N 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	23a. 1 Y (28) N b. 2 Y (28) N c. 2 Y (28) N d. 3 Y (28) N (27)	1 Y (28) N 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	1 Y (28) N 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)
Y (24c) N Y N (28) 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	24a. Y (24c) N b. Y N (28) c. 2 Y (28) N d. 3 Y (28) N e. 4 Y (28) N (27)	Y (24c) N Y N (28) 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	Y (24c) N Y N (28) 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	24a. Y (24c) N b. Y N (28) c. 2 Y (28) N d. 3 Y (28) N e. 4 Y (28) N (27)	Y (24c) N Y N (28) 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)	Y (24c) N Y N (28) 2 Y (28) N 3 Y (28) N 4 Y (28) N (27)
Y N (28) 2 Y (28) N 3 Y (28) N	25. Y N (28) 26a. 2 Y (28) N b. 2 Y (28) N c. 3 Y (28) N	Y N (28) 2 Y (28) N 3 Y (28) N	Y N (28) 2 Y (28) N 3 Y (28) N	25. Y N (28) 26a. 2 Y (28) N b. 2 Y (28) N c. 3 Y (28) N	Y N (28) 2 Y (28) N 3 Y (28) N	Y N (28) 2 Y (28) N 3 Y (28) N
4 Y N (NP) _____	27a. 4 Y N (NP) b. _____	4 Y N (NP) _____	4 Y N (NP) _____	27a. 4 Y N (NP) b. _____	4 Y N (NP) _____	4 Y N (NP) _____
000 <input type="checkbox"/> Less than 1 month 1 ____ Mos. 2 ____ Yrs. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) Y (Reask N 28b and c) <input type="checkbox"/> Only 1 condition Enter main condition	28a. 000 <input type="checkbox"/> Less than 1 month 1 ____ Mos. 2 ____ Yrs. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) Y (Reask N 28b and c) <input type="checkbox"/> Only 1 condition Enter main condition	000 <input type="checkbox"/> Less than 1 month 1 ____ Mos. 2 ____ Yrs. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) Y (Reask N 28b and c) <input type="checkbox"/> Only 1 condition Enter main condition	000 <input type="checkbox"/> Less than 1 month 1 ____ Mos. 2 ____ Yrs. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) Y (Reask N 28b and c) <input type="checkbox"/> Only 1 condition Enter main condition	28a. 000 <input type="checkbox"/> Less than 1 month 1 ____ Mos. 2 ____ Yrs. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) Y (Reask N 28b and c) <input type="checkbox"/> Only 1 condition Enter main condition	000 <input type="checkbox"/> Less than 1 month 1 ____ Mos. 2 ____ Yrs. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) Y (Reask N 28b and c) <input type="checkbox"/> Only 1 condition Enter main condition	000 <input type="checkbox"/> Less than 1 month 1 ____ Mos. 2 ____ Yrs. Enter condition in item C Ask 28c <input type="checkbox"/> Old age only (NP) Y (Reask N 28b and c) <input type="checkbox"/> Only 1 condition Enter main condition

<p>29a. Was -- a patient in a hospital at any time since (date) ___ a year ago?</p>	29a.	Y N (Item C)
<p>b. How many times was -- in a hospital since (date) ___ a year ago?</p>	b.	___ Times (Item C)
<p>30a. Was anyone in the family in a nursing home, convalescent home, or similar place since (date) ___ a year ago?</p>		Y N (31)
<p>b. Who was this? - Circle "Y" in person's column if "Y," Ask</p>	30b.	Y
<p>c. During that period, how many times was -- in a nursing home or similar place?</p>	c.	___ Times (Item C)
<p>31a. Was -- born in a hospital? Ask for each child 1 year old or under if date of birth is on or after reference date. If "Yes," and no hospitalizations entered in his and/or mother's column, enter "1" in 29y and item C. If "Yes," and a hospitalization is entered for the mother and/or baby, ask 31b for each.</p>	31a.	Y N (NP)
<p>b. Is this hospitalization included in the number you gave me for --? If "No," correct entries in 29 and item C for mother and/or baby.</p>	b.	Y N
<p>FOOTNOTES</p>		

Y N (Item C)	29a	Y N (Item C)	Y N (Item C)	29a	Y N (Item C)	Y N (Item C)
____ Times (Item C)	b.	____ Times (Item C)	____ Times (Item C)	b.	____ Times (Item C)	____ Times (Item C)
Y	30b	Y	Y	30b	Y	Y
____ Times (Item C)	c.	____ Times (Item C)	____ Times (Item C)	c.	____ Times (Item C)	____ Times (Item C)
Y N (NP)	31a	Y N (NP)	Y N (NP)	31a	Y N (NP)	Y N (NP)
Y N	b.	Y N	Y N	b.	Y N	Y N

FOOTNOTES

1	<p>32c. DURING THE PAST 12 MONTHS, did anyone in the family (you, your --, etc.) have -</p> <p>If "Yes," ask 32b and c.</p> <p>b. Who was this? Enter name of condition and letter of line where reported in appropriate person's column in item C.</p> <p>c. During the past 12 months, did anyone else have ...?</p> <p>Conditions affecting the digestive system.</p> <p>Make no entry in item C for cold, flu, or grippe even if reported in question 32.</p>	<p>A. Gallstones?</p> <p>B. Any other gallbladder trouble?</p> <p>C. Cirrhosis of the liver?</p> <p>D. Fatty liver?</p> <p>E. Hepatitis?</p> <p>F. Yellow jaundice?</p> <p>G. Any other liver trouble?</p> <p>H. Diabetes?</p>	<p>I. Any disease of the pancreas?</p> <p>J. Ulcer?</p> <p>K. Hernia or rupture?</p> <p>L. A disease of the esophagus?</p> <p>M. Gastritis?</p> <p>N. FREQUENT indigestion?</p> <p>O. Any other stomach trouble?</p> <p>P. Enteritis?</p>
2	<p>32c. Does anyone in the family (you, your --, etc.) NOW have - If "Yes," ask 32b and c.</p> <p>b. Who is this? Enter name of condition and letter of line where reported in appropriate person's column in item C.</p> <p>c. Does anyone else have ...?</p> <p>32d. DURING THE PAST 12 MONTHS, did anyone in the family (you, your --, etc.) have - If "Yes," ask 32e and f.</p> <p>e. Who was this? Enter name of condition and letter of line where reported in appropriate person's column in item C.</p> <p>f. During the past 12 months, did anyone else have ...?</p> <p>Conditions C-N and V are conditions affecting the bone and muscle.</p>	<p>A. Permanent stiffness or any deformity of the feet, leg, fingers, arm or back? (Permanent stiffness - joints will not move at all)</p> <p>B. Paralysis of any kind?</p> <p>C. Arthritis of any kind or Rheumatism?</p> <p>D. Gout?</p> <p>E. Lumbago?</p> <p>F. Osteomyelitis? (os-tee-oh-my-uh-lite-iss)</p> <p>G. A bone cyst or bone spur?</p> <p>H. Any other disease of the bone or cartilage?</p>	<p>I. Trick knee?</p> <p>J. A slipped or ruptured disc?</p> <p>K. Curvature of the spine?</p> <p>L. REPEATED trouble with neck, back, or spine?</p> <p>M. Bursitis or Synovitis? (sin-uh-vite-iss)</p> <p>N. Any disease of the muscles or tendons?</p>
3	<p>32c. DURING THE PAST 12 MONTHS, did anyone in the family (you, your --, etc.) have -</p> <p>If "Yes," ask 32b and c.</p> <p>b. Who was this? Enter name of condition and letter of line where reported in appropriate person's column in item C.</p> <p>c. During the past 12 months, did anyone else have ...?</p>	<p>A. Goiter or other thyroid trouble?</p> <p>B. Diabetes?</p> <p>C. Cystic fibrosis?</p> <p>D. Anemia?</p> <p>E. Epilepsy?</p> <p>F. Multiple sclerosis?</p> <p>G. Migraine?</p>	<p>} Glandular disorders</p> <p>Blood disorder</p> <p>} Conditions affecting the nervous system</p>

1	<p>32c. DURING THE PAST 12 MONTHS, did anyone in the family have -</p> <p>If "Yes," ask 32b and c.</p> <p>b. Who was this? Enter in item C.</p> <p>c. During the past 12 months, did anyone else have . . . ?</p> <p>Conditions affecting the digestive system.</p> <p>Make no entry in item C for cold, flu, or gripe even if reported in question 32.</p>	<p>Q. Diverticulitis?</p> <p>R. Colitis?</p> <p>S. Spastic colon?</p> <p>T. FREQUENT constipation?</p> <p>U. Any other bowel trouble?</p> <p>V. Any other intestinal trouble?</p>	<p>W. Cancer of the stomach, colon or rectum?</p> <p>X. During the past 12 months, did anyone in the family have any other condition of the digestive system? If "Yes," ask: Who was this? - What was the condition? (Enter in item C)</p>
2	<p>32d. DURING THE PAST 12 MONTHS, did anyone in the family have -</p> <p>If "Yes," ask 32e and f.</p> <p>e. Who was this? Enter in item C.</p> <p>f. During the past 12 months, did anyone else have . . . ?</p> <p>Conditions O-U and W-Z are conditions affecting the skin.</p>	<p>O. A tumor, cyst or growth of the skin?</p> <p>P. Eczema or psoriasis? (so-rye-uh-sis)</p> <p>Q. TROUBLE with dry or itching skin?</p> <p>R. TROUBLE with acne?</p> <p>S. A skin ulcer?</p> <p>T. Any kind of skin allergy?</p>	<p>U. Dermatitis or any other skin trouble?</p> <p>V. TROUBLE with fallen arches, flatfoot or clubfoot?</p> <p>W. TROUBLE with ingrown toenails or fingernails?</p> <p>X. TROUBLE with bunions, corns, or calluses?</p> <p>Y. A disease of the hair or scalp?</p> <p>Z. Any disease of the lymph or sweat glands?</p>
3	<p>32a. DURING THE PAST 12 MONTHS, did anyone in the family have -</p> <p>If "Yes," ask 32b and c.</p> <p>b. Who was this? Enter in item C.</p> <p>c. During the past 12 months, did anyone else have . . . ?</p>	<p>M. Neuralgia or neuritis?</p> <p>I. Sciatica?</p> <p>J. Nephritis?</p> <p>K. Kidney stones?</p> <p>L. Any other kidney trouble?</p> <p>M. Bladder trouble?</p> <p>N. Prostate trouble?</p> <p>O. Disease of the uterus or ovary?</p> <p>P. Any other female trouble?</p>	<p>Conditions affecting the nervous system:</p> <p>Genito-urinary conditions</p>

(1)

4	<p>32a. Does anyone in the family (you, your --, etc.) NOW have - If "Yes," ask 32b and c.</p> <p>b. Who is this? - Enter name of condition and letter of line where reported in appropriate person's column in item C.</p> <p>c. Does anyone else have...?</p> <p>A-L are conditions affecting hearing -s on speech</p>	<p>A. Deafness in one or both ears?</p> <p>B. Any other trouble hearing with one or both ears?</p> <p>C. Tinnitus or ringing in the ears?</p> <p>D. Blindness in one or both eyes?</p> <p>E. Cataracts?</p> <p>F. Glaucoma?</p> <p>G. Color blindness?</p>	<p>H. A detached retina or any other condition of the retina?</p> <p>I. Any other trouble seeing with one or both eyes even when wearing glasses?</p> <p>J. A cleft palate or harelip?</p> <p>K. Stammering or stuttering?</p> <p>L. Any other speech defect?</p> <p>M. A missing finger, hand, or arm, toe, foot, or leg?</p> <p>N. A missing (breast), kidney or lung?</p>
5	<p>32a. Has anyone in the family (you, your --, etc.) EVER had - If "Yes," ask 32b and c.</p> <p>b. Who was this? - Enter name of condition and letter of line where reported in appropriate person's column in item C.</p> <p>c. Has anyone else ever had...?</p> <p>Conditions affecting the heart and circulatory system.</p>	<p>A. Rheumatic fever?</p> <p>B. Rheumatic heart disease?</p> <p>C. Hardening of the arteries or arteriosclerosis?</p> <p>D. Congenital heart disease?</p> <p>E. Coronary heart disease?</p> <p>F. High blood pressure?</p>	<p>G. Stroke or a cerebrovascular accident?</p> <p>H. Hemorrhage of the brain?</p> <p>I. Angina pectoris?</p> <p>J. Myocardial infarction?</p> <p>K. Any other heart attack?</p>
6	<p>32a. DURING THE PAST 12 MONTHS, did anyone in the family (you, your --, etc.) have - If "Yes," ask 32b and c.</p> <p>b. Who was this? - Enter name of condition and letter of line where reported in appropriate person's column in item C.</p> <p>c. During the past 12 months did anyone else have...?</p> <p>Conditions affecting the respiratory system.</p>	<p>A. Bronchitis?</p> <p>B. Bronchiectasis? (brong ke-ek tob-sis)</p> <p>C. Asthma?</p> <p>D. Hay fever?</p> <p>E. Nasal polyp?</p> <p>*If reported in question 32 only, ask: 1. How many times did -- have... in the past 12 months? - If 2+, enter in item C. If only 1 time, ask: 2. How long did it last? - If 1 month or longer, enter in item C. If less than 1 month, do not record. If tonsils or adenoids removed during the past 12 months, enter condition causing removal in item C. *Make no entry in item C for cold, flu, red, sore, or strep throat, or "virus" reported in answer to question 32.</p>	<p>F. Sinus trouble?</p> <p>G. Deflected or deviated nasal septum?</p> <p>H. *Tonsillitis or enlargement of the tonsils or adenoids?</p> <p>I. *Laryngitis?</p>

4	<p>32a. Does anyone in the family NOW have - If "Yes," ask 32b and c.</p> <p>b. Who is this? Enter in item C.</p> <p>c. Does anyone else have . . . ?</p> <p>Conditions O-W are impairments. Conditions Y and Z affect the nervous system.</p>	<p>D. Palsy or cerebral palsy?</p> <p>P. Paralysis of any kind?</p> <p>Q. Curvature of the spine?</p> <p>R. REPEATED trouble with back or spine?</p> <p>S. Any TROUBLE with fallen arches or flatfoot?</p> <p>T. A clubfoot?</p>	<p>U. PERMANENT stiffness or any deformity of the back, foot, or leg? (Permanent stiffness - joints will not move at all)</p> <p>V. PERMANENT stiffness or any deformity of the fingers, hand, or arm?</p> <p>W. Mental retardation?</p> <p>X. Any condition caused by an old accident or injury? If "Yes," ask: What is the condition?</p> <p>Y. Epilepsy?</p> <p>Z. REPEATED convulsions, seizures, or blackouts?</p>
5	<p>32a. DURING THE PAST 12 MONTHS, did anyone in the family (you, your . . . etc.) have - If "Yes," ask 32b and c.</p> <p>b. Who was this? Enter in item C.</p> <p>c. During the past 12 months did anyone else have . . . ?</p> <p>Conditions affecting the heart and circulatory system.</p>	<p>L. Damaged heart valves?</p> <p>M. Tachycardia or rapid heart?</p> <p>N. Heart murmur?</p> <p>O. Any other heart trouble?</p> <p>P. Aneurysm?</p> <p>Q. Any blood clots?</p>	<p>R. Gangrene?</p> <p>S. Varicose veins?</p> <p>T. Hemorrhoids or piles?</p> <p>U. Phlebitis or thrombophlebitis?</p> <p>V. Any other condition affecting blood circulation?</p>
6	<p>32a. DURING THE PAST 12 MONTHS, did anyone in the family have - If "Yes," ask 32b and c.</p> <p>b. Who was this? Enter in item C.</p> <p>c. During the past 12 months, did anyone else have . . . ?</p> <p>Make no entry in item C for cold, flu, red, sore, or strep throat, or "virus" reported in answer to question 32.</p> <p>Conditions affecting the respiratory system.</p>	<p>J. Tumor, cyst, or growth of the bronchial tube or lung?</p> <p>K. Emphysema?</p> <p>L. Pleurisy?</p> <p>M. Tuberculosis?</p> <p>N. Abscess of the lung?</p>	<p>O. Tumor, cyst, or growth of the throat, larynx, or trachea?</p> <p>P. Any work-related respiratory condition such as dust on the lungs, silicosis or pneumoconiosis?</p> <p>Q. During the past 12 months did anyone in the family have any other respiratory, lung, or pulmonary condition? If "Yes," ask: Who was this? - What was the condition? (Enter in item C)</p>

Appendix B
Actuarial Exercise

**RAW PREMIUM CALCULATION PERMEMBER/PERMONTH FOR THE
EXISTING BENEFIT PACKAGE**

**RAW PREMIUM
RM/RM
(Per month/Per member)**

1. OP at HC 2.667.392.000,00 : 15.489.748,00 = 172,20

- (2.667.392.000,00 is capition budget permonth for budget year of 1989).
- (15.489.748,00 is total members of ID card holder times average per family (3.872.437,00 X 4)).

2 & 3. OP at HDSP TYPE.

	Average	Rate	Number of Hospital	=	
Packet 1 = A	500,00 X	5.000,00 X	2	=	5.000.000,00
B	500,00 X	2.500,00 X	22	=	27.500.000,00
C	400,00 X	400,00 X	122	=	19.520.000,00
D	400,00 X	760,00 X	169	=	51.376.000,00

					103.396.000,00
 Packet 2 = A	 2.500,00 X	 1.833,00 X	 2	 =	 9.165.000,00
B	2.500,00 X	430,00 X	22	=	23.650.000,00
C	1.500,00 X	75,00 X	122	=	13.725.000,00
D	1.500,00 X	35,00 X	169	=	8.872.500,00

					55.412.500,00
 Packet 3 = A	 1.000,00 X	 1.570,00 X	 2	 =	 3.140.000,00
B	1.000,00 X	900,00 X	22	=	19.800.000,00
C	600,00 X	50,00 X	122	=	3.660.000,00
D	600,00 X	60,00 X	169	=	6.084.000,00

					32.684.000,00

					191.492.500,00
					=====

Members (M) = 15.489.748,00

Raw Premium = 191.492.500 : 15.489.748,00 = 12,36

Rate is estimated number of case for 27 Provinces.

4. IP in HC Type D Hosp -----> insignificant

5. IP.

Average Cost Rate *) Hosp Lns

A. 7.500,00 X 356,00 X 2 X 14 = 74.760.000,00
 B. 4.500,00 X 365,00 X 22 X 9 = 325.215.000,00
 C. 3.250,00 X 76,00 X 122 X 9 = 271.206.000,00
 D. 2.250,00 X 30,00 X 169 X 5 = 57.037.500,00

 728.218.500,00 : 15.489.748,00 = 47,01

*) Average number of cases per month, for period of July - Dec. 1987.

1 A, one of 2 Hosp; B, three of 22 Hosp; C, twenty two of 103; D, thirty seven of 190).

6. Mid wife & TBA.

15.000,00 (av.cost) X 1.689,00 (number of cases) = 25.335.000,00

25.335.000,00 : 15.489.748,00 = 1,64

7. Delivery at Hosp.

Los = 4 days

Case = 3.183,00

	Average Cost	Rate	Weight	Los	
Daily rate D.	2.250,00	X 3.183,00	X 0,80	X 4	= 22.917.600,00
C.	3.250,00	X 3.183,00	X 0,10	X 4	= 4.137.900,00
B.	4.500,00	X 3.183,00	X 0,05	X 4	= 2.864.700,00
A.	7.500,00	X 3.183,00	X 0,05	X 4	= 4.774.500,00

 34.694.700,00

34.694.700,00 : 15.489.784,00 = 2,24

8. Glasses.

Rate Average Case

11.599,00 X 20.000,00 = 231.980.000,00 : 15.489.748,00

= 14,98

9. Hearing Aid.

150,00 X 100.000,00 = 15.000.000,00 : 15.489.748,00

= 0,97

10. Teeth

400,00 X 50.000,00 = 20.000.000,00 : 15.489.748,00

= 1,29

Ext 75.000,00 X 0,25 = 18.750,00
 100.000,00 X 0,75 = 75.000,00

 93.750,00

93.750,00 X 151,00 = 14.156.250,00 : 15.489.748,00

= 0,91

Note 1 - Rate for No.6,7,8 based on actual cases served for the period of 1986.

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- Rate for No. 2, 10. based on actual cases served for the period of 1987.

11. Drugs.

	Average Cost	Rate	
- OP in Hosp :	4.698,00	X 169.000,00	= 789.264.000,00
			789.264.000,00 : 15.489.748,00 = 50,95
	Rate is referred cases by health centre		

	Average Cost	
- Primary OP :	100	X 15.489.748,00 : 15.489.748,00 = 100,00
(Average Cost for 1988 per ID is Rp.400,00 : average dependants per ID is 4)		

- In Patient (I.P).

Type	Average Cost	Rate	Los	Hosp	
A.	1.125,00	X 358,00	X 14	X 2	= 41.118.000,00
B.	3.281,00	X 365,00	X 9	X 22	= 237.117.870,00
C.	2.455,00	X 76,00	X 9	X 122	= 205.699.320,00
D.	1.730,00	X 30,00	X 5	X 169	= 43.055.500,00

					527.790.690,00
					527.790.690,00 : 15.489.748,00 = 34,07
(Average cost : based on budget for drugs of 1988)					

12. Minor Surgery. -----> in significant.

13. Seps Services.

a. Haemodialyses	
110/ea X 110.000,00	= 12.100.000,00 : 15.489.748,00 = 0,78
b. Heart Surgery.	
93.729.845,00	: 15.489.748,00 = 6,05

14. Special Hosp.

a. Total cases 130.	
8.208.544,00	: 15.489.748,00 = 0,53
b. Private/military.	
20.141.544,00	: 15.489.748,00 = 1,30

15. Flood -----> in significant.

	Raw prantus.
	pa/pa (permonth/permember)
1. OP at HC	172,20
2 & 3. OP at Hosp	12,36
4. IP at HC Type D, Hosp	insignificant
5. IP	47,01

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6.	Mid Wife	1,64
7.	Delivery at Hosp	2,24
8.	Glasses	14,98
9.	Hearing Aid	0,97
10.	Teeth	1,29
	Ext	0,91
11.	Drugs	
	- OP in Hosp	50,95
	- Primary OP	100,00
	- IP	34,07
12.	Minor Surgery	insignificant
13.	Sppl Services	
	a. Haemodialyses	0,78
	b. Heart S	5,05
14.	a. Special Hosp	0,53
	b. Private military	1,30
15.	Blood	insignificant

Total 447,28
 $447,28 \times 15.489.718,00 = 6.928.254.485,46 \times 12 = 83.139.053.825,10$

22 = 95,00 B
 Cost = 83,14 B (87,51 Z)

 18,86 (12,49 Z)

10%

Appendix C
Presentation Outline

PRESENTATION

by

Robert G. Shouldice, D.B.A.

August 19, 1988

OUTLINE

I. Introduction and Scope of Work.

1. Review the terms of reference which govern the development of premium and benefit packages currently being offered through the ASKES health insurance program for government employees.
2. Assess the extent, quality and suitability of existing secondary data available on the ASKES health insurance system for the purposes of this study.
3. Design a methodology, protocol and preliminary instruments to conduct the actuarial study.
4. Advise the PMU and ISTI regarding the timing and content of future technical assistance needs, both domestic and expatriate, to finalize the actuarial study.

II. Philosophy and Conceptual Framework

A. Principles of DUKM

- (1). All people of Indonesia covered by some form of health insurance.
- (2). Integrated package of services paid per capita by insurance carriers.
- (3). All insurers and providers should be accredited/approved/certified by a government organization (outside independent organization ?).
- (4). All activities should be sanctioned, guided and coordinated through the Minister of Health's Office
- (5). Both government and private sectors will participate in this effort.

(2). Benefits should define a minimum level of medical service and accommodation (for inpatient care); this should be defined as the "standard level of care" available to all groups of members -- standards of health services and accommodations.

(3). Benefits should be well defined and understood by the PHB, the ASKES members and the Providers. They should be specific.

III. Actuarial Analyses and Methodology

A. What is the Actuarial Sciences (Art)?

B. Steps and Formulae for Our Studies. The following steps and formulae are used in this process to create per member per month (PMPM) pure or raw premiums.

Step 1. Rate of use (per person or cost per
per 1,000 members per month x service unit =
Cost of the service unit per month for
all members

Step 2. Cost of service units/month for all members =
Total members
Cost per member per month (pmpm)

Step 3. PMPM cost of service units X + Y + Z + ... N =
Raw or pure premium pmpm

Step 4. Load or discount pure premium for each group of members to develop premium.

Step 5. Calculate total premium revenues by:

Premium x members in group 1 + premium x
members in group 2 + ... premium x members
in group N = total premium revenues.

Step 6. Compare total premium revenue to total estimated costs of the program and make adjustments if necessary.

N.B. This process should be used for each sub-group of the ASKES population, e.g. rural vs urban, group 1 and 2 employees vs. group 3 and 4 employees, pensioners vs active employees, etc.

C. Final adjustments may include the following:

1. Changing the services included in or excluded from the benefit packages.
2. Adding or deleting co-payments, deductible, or co-insurance.
3. Increasing or decreasing compensation levels to providers (e.g. capitations and tariffs).
4. Changing the efficiency and productivity of the providers by requiring more services for the same capitation of tariff.
5. Increasing or decreasing the premium levels.
6. Use a capitation for all services and place providers "at risk."

D. Output of Actuarial and Underwriting Analysis

1. Premium = Revenue of PHB
2. Understanding of Level of Risk assumed by PHB
3. Need for adjustments in the program

IV. Exercise using PHB's 1988 rates of service use and costs

Please refer to the Actuarial Exercise Handout.

V. Special studies

- A. Need for base-line data regarding ASKES population.
- B. Cost-benefit of special studies
- C. Output of the studies will help create standards for PHB: rate tables (rates of use by groups of members), costs of the services, agreement on types of services to include in the benefit package, agreement on the level of services to include in the benefit package, etc.

D. List of data elements to be collected either through review of secondary sources or through special studies. Note that priority in the data collection effort should be given to the most costly services (to PHB) which include outpatient at the health center, inpatient, drugs, eye glasses, outpatient at the hospital and sophisticated services.

1. Demographic and Socio-economic:

- a. Age
- b. Sex
- c. Group of employee (ID/occupation)
 - (1) active: 1,2,3 and 4.
 - (2) pensioner: civilian or military
- d. Geographic location of member -- province, district, sub-district
- e. Family size

2. Epidemiologic:

- a. Use of outpatient services at health centers
- b. Use of outpatient services at hospitals
- c. Use of inpatient services by class of accommodation and class of hospital
- d. Use of drugs
- e. Use of other services

3. Costs:

- a. Outpatient services
- b. Outpatient services at hospitals
- c. Inpatient services at hospitals by class of accommodation and class of hospital
- d. Drugs
- e. Eye Glasses
- f. Sophisticated services
- g. Other services (use the list of 15 current benefit package services or as defined in the current study.

4. Benefits:

- a. Outpatient visits at health centers and hospitals by type of visit
- b. Inpatient hospital services by diagnosis
- c. Drugs
- d. Eye glasses
- e. Sophisticated services by type of service
- f. Other services by type of service

5. Member's perception:
 - a. Current use of services
 1. Within ASKES system
 2. Outside providers
 - b. Level of satisfaction of ASKES system
 - c. Perceived need for services.

6. Projections:
 - a. Growth of ID holders, pensioners and dependents
 - b. Unmet need/demand for health services.
 - c. Additional/modified benefits

- E. List of Special Study Areas:
 1. Outpatient Services
 2. Outpatient services at the hospital
 3. Inpatient services
 4. Sophisticated services
 5. ASKES member's demography and socio-economic data
 6. Costs of outpatient services
 7. Costs of inpatient services
 8. Costs of other services
 9. Use and costs of drugs
 10. Need/demand for health services by ASKES members
 11. Members's perceptions/member satisfaction

N.B. First, all secondary sources of information should be exhausted in the search for use rates, demographic and cost data. Then, special studies should be undertaken using the methodology provided in the consultant's final report.

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VI. Recommendations

- A. Relationship of this study with the other USAID studies (e.g. drugs, hospitals, MIS, manpower, village health funds, etc.)
- B. Ongoing data collection (Please see Annex VII to B. Abel-Smith's latest report, p.25.)
- C. Business plan for PHB.
- D. Timing and content of future technical assistance
 - 1. Finalize data collection methodology and instruments at termination of Paul Galvin's visit.
 - 2. PHB's staff (in association with USAID representatives and the domestic consultant) to manage and complete the actual data collection effort during the next three to four months.
 - 3. PHB's staff in association with the domestic and expatriate consultants develop inferences, conclusions and recommendations -- probably late December 1988 or early in 1989. At that time the team should finalize the ongoing data collection/reporting activities of PHB regional offices, and complete work on the actuarial/capitation approaches as well as the development of base-line rate tables and costs.