Indonesia

Improvement of Community Health Center Project

Report Date: January 2003
Field Survey: November 2002

1. Project Profile and Japan's ODA Loan

Location Map of the Project

A public health center designated to receive supplies/equipment

1.1 Background

Indonesian medical treatment facilities can be classified as regional hospitals or public health centers, depending on their purpose, at the provincial, district, and municipal levels. Mainly handled at the public health facilities are primary health care, health education, vaccinations, and environmental hygiene. Health centers are systematically linked to hospitals at the three levels by an integrated referral system[1].

Since the commencement of the national five-year development plans in Indonesia, public health centers have been established around the country in order to improve access to basic health care, a development that has contributed to the popularization of vaccinations, a reduction in the instance of communicable disease, and declines in a range of causes of death. In tandem with the expansion of facilities, a number of issues related to the quality of health care services as well as health care center operations began to draw attention, which has in turn led to greater awareness of such critical issues as the creation of a referral system, standardization of facilities and equipment/supplies used at health centers, as well as operational procedures, expansion of health care facilities in remote areas, and improving the quality of health care workers.

Under the sixth five-year development plan (REPELITA VI, fiscal 1994-98), the issues of maternal and child health and the overcoming of communicable diseases remained critical, and the provision of basic health care services was considered paramount to achieving them. In order to facilitate the realization of these goals, the upgrading of health center operations became increasingly crucial. Donors including international aid agencies offered their support in this sector.

[1] This refers to a system whereby the various levels of medical institutions cooperate to delegate appropriate division of labor, in terms of treatment and transfer of patients, in order to realize efficient regional medical services.

1.2 Objectives

The objective of the ODA loan was to improve health care in the designated region by offering services across a broader geographical area, and improving the quality of such care, by providing materials/equipment and personnel training to public health centers. In particular, the loan was intended to realize the goal of offering medical care services in remote and poverty-stricken regions. Assistance was not limited to individual health care facilities, but encompassed the referral system for the whole of each targeted district. The loan was specifically marked to assist access to health care, and to bolster the role of the health care center in referral systems, which included the transfer of patients to regional hospitals. A number of districts in the five target provinces were provided with assistance in the form of a project model.

1.3 Project Scope

(1) Target regions

The loan targeted the five capital cites of the provinces of the Sumatra Island region (North Sumatra, Jambi, Bengkulu, South Sumatra, and Lampung) and 14 poverty-stricken districts, for a total of 19 districts and municipalities.

Table 1: Number of public health centers in project target regions

Province	District	No. of villages	No. of public health centers	Province	District	No. of villages	No. of public health centers
North Sumatra (six districts)	Nias	657	166	South Sumatra (four districts)	Ogan Komering Ulu	490	162
	South Tapanuli	1,627	293		Ogan Komering Ilir	416	132
	North Tapanuli	857	178		Muara Enim	278	140
	Dairi	157	117		Palembang Municipality	72	96
	Deli Serdang	279	192				
	Medan Municipality	144	72				
Jambi (three districts)	Bungo Tebo	233	108	Lampung (three districts)	South Lampung	638	219
	Solok	320	123		North Lampung	556	208
	Jambi Municipality	55	50		Bandar Lampung Municipality	84	70
Bengkulu (three districts)	South Bengkulu	403	140	Five provinces	Nineteen districts/ municipalities	7,719	2,713
	North Bengkulu	398	189				
	Bengkulu Municipality	55	58				

Note: Figures represent data collected at the time the survey was conducted.

(2) Planned project description

1) Provision of medical equipment and supplies to health centers including basic-care facilities
2) Provision of transport in support of traveling clinics and health education
3) Provision of non-medical supplies and equipment
4) Extension and restoration of health centers
5) Consultation services, as follows:

1) Operational supervision, 2) training in handling of medical equipment and supplies, 3) pharmaceuticals management training, 4) regional health center management training, 5) quality assurance training[2]

[2] Training to encourage the expanded use of methodology designed to facilitate improvement of service on the facility staff's own initiative

1.4. Borrower/Executing Agency:

Government of the Republic of Indonesia/Ministry of Health

1.5. Outline of Loan Agreement

Loan Amount Loan Disbursed Amount	1,644 million yen 782 million yen
Exchange of Notes Loan Agreement	November 1994 November 1994
Terms and Conditions -Interest Rate -Repayment Period (Grace Period) -Procurement	 2.6 % 30 years (10 years) General untied
Final Disbursement Date	December 2000

2. Results and Evaluation

2.1 Relevance

Indonesia's fifth national five-year development plan (fiscal 1989-1993) failed to achieve desired levels in major target health indices including infant mortality rates and average life expectancy. Indonesia's figures were low in comparison with other ASEAN nations, and the gap between rural and urban areas remained conspicuous. Mortality rates for communicable diseases were high, with diarrhea and infections respiratory diseases accounting for over 40% of deaths of children aged under five. The number of cases of tuberculosis was estimated to have increased to 500,000, and the instance of diarrhea was also on the rise

In order to resolve this situation and ensure an improvement in medical services, the sixth five-year development plan (fiscal 1994-1998) designated the expansion of basic health services as the ongoing focal point of medical sector policy. Specifically, the plan singled out the expansion of maternal and child healthcare and the fight against communicable diseases as important issues. By providing preventive care as well as early-stage treatment in these areas at the health center level—through facilities with solid roots in the region, plus expanded health center activities—the plan aimed to offer evenly distributed, high-quality medical services and thereby to bolster the quality of health around the nation.

Figure 1: Health center facilities

At present, the following specific targets related to basic health care services at health centers, consolidated in the government's health policy program, are being implemented under Indonesia's new national development policy, known as PROPENAS (fiscal 2000-2004).

- Prevention of the outbreak and spread of infectious diseases
- Reducing the instance of infection, mortality, and disease-induced disability
- Extension of areas with access to basic medical services, plus more equitable access
- Enhanced impact and efficiency of basic medical and related services
- Promotion of the use of safe and effective pharmaceuticals through medical services and medical networks, as well as of traditional forms of treatment

In the midst of the given situation, the project—which incorporated the goals of expansion of health center facilities, training of personnel engaged in work at local health centers, expansion of medical services in remote areas, and enhancement of the referral system—was determined to be duly relevant. In order to accomplish the goals of the sixth five-year plan, the government initiated a project to enhance the administration and activities of local health centers. Carried out by several entities, the project was divided by region and administered by the World Bank, the Asian Development Bank, the Indonesian government, and the Japanese government. The ODA loan project discussed here covered one particular region of Indonesia.

Though major health indices in Indonesia are improving, they remain low in comparison with other ASEAN countries, and outbreak rates for certain communicable diseases have worsened. Further, expanded availability of basic medical services has been delayed due to the sluggish economy induced by the Asian currency crisis, a situation which has made access to health care services for the poor even more urgent. In light of these factors, the project—with its goals of expanded and enhanced health center function with focus on local health care activities, was deemed relevant and highly significant at the time of evaluation.

2.2 Efficiency

2.2.1 Project Scope

The original project plan—based on cost estimates at the time of appraisal—called for the uniform distribution of standardized medical supply and equipment sets at each health center concerned.

Figure 2: Supplies and equipment provided by the project

At the same time, it was also forecast that necessary equipment would differ depending on the local area and the particular health center. Since it was determined that conferring uniform sets on each center would result in cases of both deficiencies and overabundance of supplies and equipment, the plan was altered so that supplies would be delivered, to the greatest possible extent, on an individual basis to accommodate the needs of each center.

Part of related consulting services, a needs assessment survey was carried out accordingly, based on which a list of materials and equipment to be provided by the project was submitted.

In conducting this survey, it was initially determined that standardized equipment lists (which were updated continuously) determined by the government would be followed under the plan. Medical supplies and equipment would be tailored depending on the needs of each health center as requested to the district and municipal health bureaus covered by the project. The needs assessment survey resulted in the scheduled procurement of 154 medical supply/equipment items.

Due to the impact of the Asian currency crisis of 1997, however, the original procurement plan had to be significantly revised. Specifically, the price of imported pharmaceuticals rose due to the drop in local currency value induced by the crisis. Since pharmaceutical procurement could not be readily dispensed with, however, the Ministry of Health budget assigned priority to importing pharmaceuticals, a step which left the project void of its own sufficient funds.

Eighty-four percent of the funds required for supplies and equipment procured for the project was funded by the ODA loan, while the remaining 16% was initially to be funded by the government. However, since only approximately 28% (yen-base) of the originally planned government fund budget was actually allotted for the project, an additional needs assessment survey was conducted, resulting in a reduction of items to be procured for the health centers from a total of 154 to 27.

Due to the above factors, items eliminated consisted of all scheduled dental examination equipment and supplies and a portion of the vaccination sets, plus non-medical equipment including electricity generators, nutrition and health care educational materials, and cataract testing/x-ray cars. According to interviews carried out with provincial government health bureaus covered by the project, the eliminated items were either not considered high priority within the context of the prevailing budget constraints, or it was determined that equipment then available could still be utilized.

Regarding the project's training component, the following types of training were implemented with a slight decline in M/M: 1) medical equipment operations, 2) pharmaceuticals handling, 3) local health care administration and guidance, and 4) quality assurance (QA). Further, with the aim of enhancing medical equipment operations and local health care administration through information control, training to facilitate better operations of the information control system known as SP2TP[3] was added to the list. This latter was supervised by project consultants with additional M/M.

2.2.2 Implementation Schedule

Originally scheduled for completion in March 1999, the project was delayed by roughly 19 months, for a completion date of October 2000. According to the Project Completion Report (PCR), the cause of the delay was the lengthy period of time required for bidding on equipment procurement, which in turn was induced by the cuts in procurement materials and equipment amidst budget constraints brought about by government cutbacks of project funds. Another issue cited was insufficient preparations on the part of the South Sumatra government, which also resulted in bidding delays on equipment. Heavy fog on Sumatra also contributed to delays in implementation of the training component of the project.

Although no major changes were made to the project's implementation structure, the health center facility expansion component supervising body was shifted from the provincial government under the original plan to the district and municipal governments. This was done in order to ensure greater efficiency in accommodating the diverse extension and renovation needs of each individual health center.

2.2.3 Project Cost

Project cost, as described above, was heavily impacted by the Asian currency crisis, which caused a dearth of government funds, resulting in turn in a reduction in supplies and equipment originally scheduled for procurement. The final disbursed amount of the loan totaled 780 million yen, 47% of the original sum, compared with the agreed loan amount of 1,644 million yen. The Indonesian government (Ministry of Health) appealed to JBIC to alter the terms and conditions of the loan to cover 100% of supplies and equipment costs. JBIC, however, rejected the proposal.

[3] Utilized around the country, SP2TP is part of SIMPUS, which is the Indonesian Ministry of Health's health center operations management information system. It handles information such as user data, health center activity implementation status, status of operations, and medical supplies/equipment data. Prior to project implementation, problematic factors such as inadequate operation status, insufficient hardware, and the need for improved software were cited

2.3 Effectiveness

2.3.1 Research Methodology

The following six categories were researched in order to ascertain the effectiveness of the project: 1) provision of supplies and equipment and circumstances of usage, 2) impact of training programs, 3) improvement in the quality of health center services, 4) trends in the number of health center users, 5) expanded activities of the Posyandu (village level meeting halls for discussions on health issues), and 6) expansion of the referral system. Nine health centers (seven project target centers and two outside the scope[4] of the project) in each of four districts/municipalities in two provinces were selected and case studies carried out on them. Of the centers surveyed, seven had undergone all training programs conducted as part of the project. Further, in order to collect data on the quality of health center service from the point of view of the user, research included on-site interviews with 98 clients at project-assisted centers.

Table 2: Case Study Health Centers (effectiveness research)

Province	District/ Municipality	Breakdown of case study health centers	User survey *1	Total no. of health centers (No. of small-scale, basic facilities)	Total no. of health centers assisted by the project
North Sumatra	Medan Municipality	Total of eight locations • Project-assisted Puskesmas (seven within the municipality) • Non project-assisted Pustu: (small-scale, basic health center, one within the municipality)	49	76 (37)	34 • includes small-scale, basic facilities
	Deli Serdang District	Total of nine locations • Project-assisted Puskesmas (seven within the district) • Non project-assisted Puskesmas (two outside the district, in Binjai)		211 (163)	48 • not including small-scale, basic facilities
South Sumatra	Palembang Municipality	Total of nine locations • Project-assisted Puskesmas (seven within the municipality) • Non project-assisted Puskesmas (two within the municipality)	49	99 (63)	N/A
	OKI District	Total of nine locations • Project-assisted Puskesmas (seven within the district) • Non project-assisted Puskesmas (two within the district)		142 (112)	7 • not including basic, small-scale facilities

Source: Figures on health center totals and project-assisted centers were obtained from the respective district and municipality government health bureaus. Statistics are current as of December 2002.
Note: Among case study centers surveyed, on-site user interviews were conducted on project-assisted facilities only.

For purposes of the survey, one urban and one rural area each were chosen for the target districts (including districts with numerous remote, hard-to-access areas). Also surveyed were centers in districts and municipalities that had received the complete training offered by the project.[5]

[4] Non project-assisted health centers have also been aided in terms of supplies and equipment by the Indonesian government, the difference between such assistance and the ODA loan project being the quality assurance and other training provided under the latter

[5] Quality assurance training was provided only in two districts/municipalities within each of the provinces (in case study-designated provinces, districts and municipalities shown in Figure 2). Since the training was limited to seven locations within each of the selected districts and municipalities, the project's case study sample was limited to the centers shown in Figure 2. Due to the fact that the case study focused on the issue of participation/non-participation in training programs, some centers that did not receive any materials and equipment via the ODA loan also included in the study.

Figure 3: Map of case study regions (North and South Sumatra)

Indonesia's public health centers carry out 18 different types of health-related activities[6], including basic medical care, health education, prevention measures, and environmental sanitation. Center clients consist mainly of patients seeking general consultations or maternal and child care. Normally, among the 18 kinds of care given, certain categories are assigned priority in terms of funding due to their greater importance in the given geographical area (usually determined at the district level). Categories generally given priority across the country include maternal/pediatric care, family planning, better nutrition, infections diseases prevention, and general consultation. At basic health care centers, known as Pustu, limitations on medical equipment and staff placement tend to curb the type of care that can rightfully be provided at such centers.

Each locally operated health center conducts health education, regular check-ups and consultations, maternal and pediatric care, vaccination drives, and so on, for rural communities including remote areas through a number of Posyandu[7], which are distributed throughout the villages under its jurisdiction. The work is accomplished with the assistance of midwives and health workers assigned to each village. Given the fact that health centers are reaching out to the communities, it can be safely stated that such centers are actively working to provide service even in remote areas. According to data collected on facilities surveyed, there was little diversity with regard to their respective roles and functions.

2.3.2 Case Studies

According to data on the surveyed health centers, services provided by such centers are improving, and the number of clients is on the rise. Further, the number of patient referrals by health centers to high-quality referral system hospitals, including district hospitals, is also increasing.

(1) Receipt and usage of equipment

Under the current project, supplies/equipment provided to health centers consisted mainly of medical devices and supplies, non-medical equipment such as furniture, filing cabinets, typewriters, etc., transport vehicles (motorcycles, traveling clinics), usage of all of which was intended to improve the overall

[6] Maternal and child care, family planning, enhanced nutrition, public sanitation, communicable disease prevention, consultation, health education, health and physical education, public sanitation nursing, workplace sanitation, oral hygiene, mental health, eye health, basic testing, record-keeping and reporting, and elderly care services as well as traditional medicine.

[7] Posyandu: Health care activities conducted by local residents, consisting of maternal and pediatric health care, vaccination drives, and health education.

capacity of the facilities. The following table indicates the equipment provided to centers (28 facilities) surveyed and their usage of said equipment. (Total supplies and equipment provided by the project are shown under "Comparison of Original and Actual Scope").

Table 3: Supplies/equipment conferred upon surveyed health centers/circumstances of equipment usage

Supply/equipment type	No. of surveyed health centers provided with supplies and equipment	No. of facilities that stated that they utilized the items procured under the project	%	Reason(s) items were not utilized
Medical supplies/equipment				
General health center medical equipment	20 / 28	18 / 20	90.0 %	Obsolete. Staff were not able to operate equipment. Insufficient electricity.
Testing facility equipment	20 / 28	18 / 20	90.0 %	
Containers/coolers	11 / 28	8 / 11	72.7 %	
Vaccination carrier	17 / 28	16 / 17	94.1 %	
Non-medical supplies/equipment				
Electricity generator equipment	2 / 28	1 / 2	50.0 %	Breakdowns
Health center furniture	15 / 28	15 / 15	100.0 %	
Typewriters	12 / 28	10 / 12	83.3 %	Breakdowns
Solar cells	N/A	N/A	-	
Traveling car equipment				
Mobile Health Center/traveling clinics	9 / 28	7 / 9	77.8 %	Breakdowns/ transfers to other health centers
Mopeds/motorcycles Two-wheelers/motorbikes	16 / 28	15 / 16	93.8 %	
Ambulance for bed-equipped health centers	2 / 7	2 / 2	100.0 %	
Motorboat	N/A	N/A	-	
Health center vehicles	N/A	N/A	-	
Extension and renovation of health center facilities				
Bed-equipped health centers	4 / 7	4 / 4	100.0 %	
Health center/basic health center Buildings	7 / 21	7 / 7	100.0 %	

Figure 4: Supplies/equipment (testing devices)

Based on data collected on the health centers surveyed, no major problems were reported with regard to the possession and usage of supplies and equipment. Regarding traveling clinic, electric generator equipment, and the like, problems have occurred where health center staff limitations and budget constraints have rendered servicing the equipment complicated. Further, certain medical supplies and equipment remained unutilized due to the fact that some, including primary testing equipment (such as microscopes, sphygmomanometers, etc.) had become obsolete. Among other reasons stated was unfamiliarity with the equipment.

At present, an equipment/medical supplies accounting system has been introduced at health center facilities, as described in the section on operation and maintenance. Under the system, data on equipment and supplies is regularly monitored and recorded for current quantity and usage, data is reported to district and municipal governments, and requirements, whether whole or partial sets of equipment, are verified. Few health centers manage their equipment and materials using identifying numbers or labeling by donor. In cases where supplies and equipment donated by the government or other donors are present together with those supplied by the ODA loan, health center staff likely referred to the documentation that came with the equipment when it was conferred, labeled it

accordingly, and ascertained its usage status.

(2) Training Impact

With a view to enhancing health center operations, the project incorporated training in the following areas: 1) medical supplies and equipment management, 2) pharmaceuticals handling, 3) local health center administration and guidance, and 4) quality assurance. Further, with the goal of enhancing information management with regard to medical supplies/equipment controls and local health center administration, training designed to bolster operations of the SP2TP information system was added.

Table 4: Summary and Impact of Project Training

Type of Training	No. of attendees	Material Covered	Tangible Results	Impact
Medical supplies/equipment management	Total of 576 health centers	Review of supplies/equipment accounting formulas and methodology Training in data entry methodology Training in storage and equipment updates Training in waste/bacteria handling Establishing monitoring procedures	Operations handbook on supplies/equipment handling Handbook on supplies/equipment disposal/bacteria management Supplies/equipment management software/database	Appropriate maintenance and operations were realized. Supplies/equipment are now utilized according to proper procedures.
Pharmaceuticals management	Approximate total of 200	Training in pharmaceuticals operations Training in LPLPO reporting systems for frequency of use as well as pharmaceutical order applications Storage procedure training Waste disposal training	Pharmaceuticals management handbook LPLPO system software/database Storage handbook	Appropriate amounts of pharmaceuticals are now dispensed.
Enhanced capacity for local area administration and guidance	Approximate total of 100	Enhancing capability to monitor health center activities as well as reporting capacity	Monitoring checklist Training module	Problems are now quickly resolved.
Quality assurance training (project-assisted health services) ・Obstetric testing ・Acute communicable respiratory disease ・Vaccination	Local health bureau staff: total of 80 Health center staff: total of 210	Analysis of health center services Participation-based problem solving Action-based planning QA monitoring	Training module Health service checklist Trainer guidelines	Testing services are now uniform.
Enhanced information management systems	Local health bureau staff: total of 60 Health center staff: Total of four	Hardware operations Use of software Data entry/output Reporting	Information management software SP2TP database Training module	Software and hardware have been installed in a total of 21 districts in five project-assisted provinces, and is utilized in 25 locations.

Note: "Impact" denotes occurrences most often cited in questionnaires filled out by project-assisted health centers surveyed. Figures on information management system improvements were taken from the Project Completion Report (PCR).

1) Medical supplies/equipment handling

The Indonesian government's Department of Settlement and Regional Infrastructure had formulated and employed its own inventory system prior to project implementation, by means of which it tracked where medical supplied and equipment had been allocated. Since the system lacked specialization in the field of medical supplies and equipment, however, information was not compiled into a database, and therefore did not allow for efficient tracking of what regions needed their equipment replaced, what

equipment had become outdated, and what additional equipment was required.

In light of the issues at hand, project training focused on medical supplies/equipment, incorporating formats for reporting on the status of said supplies/equipment (i.e. ownership and usage). Further, a manual was created depicting evaluation criteria and methodology for health center needs regarding replacements and additional equipment, as well as procedures on usage, storage, repairs, and disposal. The Indonesian government's Health Bureau stated that a certain database, developed to match reporting formats, facilitated the formulation of lists of medical supplies/equipment to be given high priority for procurement and, as a result, improvement has been noted in terms of accuracy in assessing supplies/equipment needs.

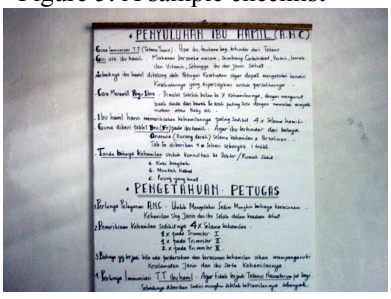
2) Pharmaceuticals management

Training in pharmaceuticals, intended for employees of district GFKs (drug warehouses located in each district) as well as health center employees, was implemented with the goal of enhancing the existing pharmaceuticals supply system (LPLPO). Participants learned to anticipate drug consumption rates based on past consumption patterns, and health center workers were instructed in the procedure of communicating regularly with GFK employees in order to place more accurate orders. More than half of the surveyed health centers that participated in the training reported that they had been able to achieve appropriate levels in terms of the quantity of pharmaceuticals acquired. Further, in conjunction with training on administration related to requests for supplies, participants acquired knowledge of standard procedures related to pharmaceuticals storage and disposal.

3) Quality assurance

The project's training component was carried out in seven locations for each of two districts/municipalities per project-assisted province, for a total of 70. Participants from the health centers included doctors (center supervisors), midwives, and nurses, totaling three from each center. Also trained were a total of four province-level and six district/municipality-level QA trainers and traveling trainer personnel from each province and district/municipality.

Figure 5: A sample checklist



Categories in which training was conducted were 1) ante natal care (ANC), 2) acute respiratory infection (ARI), and 3) vaccinations, all of which were determined to be critical areas for the health centers. During the training, checklists for the various services provided were given to health center employees, who learned system methodology to gauge how well the checklists were observed as well as factors causing discrepancies, plus additional methodology for avoiding discrepancies. Most health centers surveyed already had a checklist in place at their facilities, and trained employees on an ongoing basis to strictly adhere to procedures. At the Deli Serdang district facility surveyed, follow-up on care is carried out as necessary as part of QA activities.

Since QA was originally designed as a means of making continued improvements to services through cooperation between employees, optimal QA involves the strict observation of checklists, system analysis, strategies to correct problems, and monitoring during implementation. All of these components should form

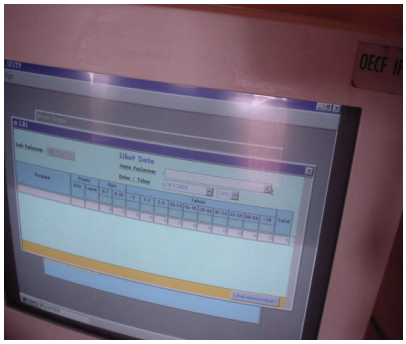
an integrated system, and should be carried out on an ongoing basis. Training has resulted in the formulation of modules that facilitate QA activity as well as of guidelines for trainer personnel engaged in providing QA guidance.

According to the executing agency, health center interest in QA, however, has been limited to the checklist observation component. Since the centers do not concern themselves with system analysis or problem solving strategies, the issue of daily efforts to improve services is currently not addressed. Further, the situation is not conducive to the popularization of QA. Though training participants are trained to provide guidance at health centers that have not received the training, these efforts are insufficient due to the fact that these individuals are too preoccupied with their daily work to offer training seminars. Further complicating matters is the fact that the government's health bureaus are, in general, unable to carry out their role in the popularization of QA due to budgetary constrains on the distribution of training materials, on the provision of supplies/equipment, and on personnel costs.

4) Enhancement of information management systems

Steps to enhance operations of the database known as SP2TP were taken in order to improve information management in the areas of supplies/equipment as well as local area health administration. Accordingly, training was carried out in the fields of software improvement and user training (hardware operations and data entry/output). Software was developed based on reporting formats created at supplies/equipment and local health administration enhancement training sessions

Figure 6: An SP2TP system screen



According to the executing agency, the database is widely installed at facilities, and is in use at non project-assisted districts as well as nearly all project-assisted provinces, districts, and municipalities. Usage in Lampung Province is particularly conspicuous, having been extended to all of the province's districts. Further, an ADB health service improvement project for provincial and district governments involves the widespread implementation of the information management system improved under the ODA-loan project. Several problems remain, however, including the fact that appropriate data and information is not necessarily forwarded from all health center locations; limitations on district and municipality staff capability regarding data processing to obtain major health indices; the fact that information does not necessarily lead to provision and replenishing of supplies/equipment due to budgetary constraints and other factors; and underutilization of the database.

(3) Improvements in the Quality of Health Care Center Services

In order to assess improvements made to health centers through the provision of supplies/equipment and training programs, a questionnaire was carried out on project-assisted heath centers and users surveyed.

1) Health center evaluation

Regarding quality of service, the majority of project-assisted health centers surveyed indicated that their

quality level had improved over the past five years. More than 80% of centers also responded that they had received positive feedback from users, while 60% also reported negative feedback.

Figure 7: Health Center Self-Evaluation of Improvements Made to Services

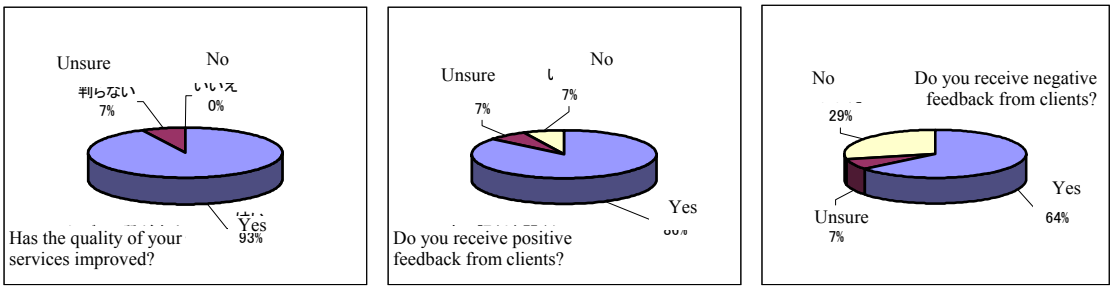


Table 5: Sample questionnaire responses on improvements made to services
(answers provided by health centers)

What was the reason behind improvements? (No. of responses = 31)	
・Additional facilities and/or supplies & equipment	35.4 %
・Health center services were standardized	22.6 %
・The government exhibited a stronger commitment	12.9 %
・Employees actively participated in training, which enhanced their capabilities	9.7 %
What kind of positive client feedback, if any, have you had?(No. of responses = 38)	
・Satisfied with services	42.1 %
・Facilities are clean and supplies/equipment are tidily arranged	34.2 %
・Service is standardized and quality is even	7.9 %
What kind of negative client feedback, if any, have you had?(No. of responses = 16)	
・Lack of communication/misunderstanding between patients and staff	43.8 %
・Certain health services are insufficient	18.8 %
・Consultation is not necessarily performed by doctors	12.5 %
・Uneven quality of service	12.5 %

Note: Some health centers surveyed submitted multiple answer.

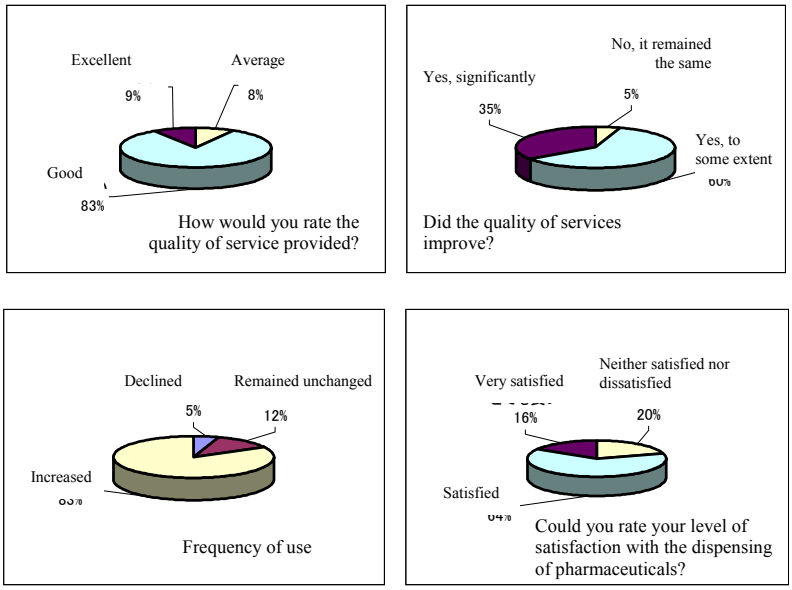
According to questionnaire data, major reasons given for improvement to the health centers concerned were the provision of extended facilities and supplies/equipment, and standardization of health care services. It can also be said that project-assisted provision of supplies/equipment and the implementation of QA training contributed, to a certain extent, to client satisfaction with services provided. Indirect impact of improved service has also resulted in an increased number of clients to health centers, and bolstered capacity to reach communities with health care services.

The same type of questionnaire was also delivered to the six non project-assisted locations surveyed, the results of which indicated that more than half of respondents reported improvements in their services. Reasons included expanded facilities and provision of supplies/equipment, stronger government commitment, and a greater number of employees. The Indonesian government has a past record of carrying out programs to expand and enhance health centers, the sole significant difference between such programs and the ODA loan project being the QA training provided under the latter.

2) Client evaluation of health centers

Most health center clients (total of 98) stated that they were satisfied with services at heath centers surveyed. A majority of clients responded that services had improved, and that they frequented the centers more often. A number of respondents also reported being happy with the dispensing of pharmaceuticals at the centers.

Figure 8: Client evaluation of health center quality of service



Further, 80% of respondents reported a link between the improved quality of services provided at the center and increased usage of the facilities. The following table indicates what factors were taken into consideration in making the determination that services had improved.

Table 6: Sample questionnaire responses on improvement of services
(provided by health center clients)

What do you think are the reasons for improved service? (No. of valid responses = 98)	
・Client needs are now adequately served by the centers	57.1 %
・Speed of health center service has improved	23.5 %
・Facilities have been properly upgraded	7.1 %
・Problems related to dispensing of pharmaceuticals have been solved/there are now resident doctor(s) at the facility	5.1 %
Specifically, which points do you feel improved?(No. of valid responses = 85)	
・Clinic services	49.4 %
・Quality of facilities and quantity of supplies/equipment	45.9 %
・Presence of permanent specialist physicians and staff	4.7 %

As indicated by data in the above table, reasons given by health center clients for their satisfaction with the clinic include the fact that center services met their expectations; clinic services were speedily performed; facilities were clean and in good condition, and the presence of permanent staff doctors, which made clients feel more at ease with the care. It is believed that improved tidiness and organization of the health centers and supplies/equipment, induced by the utilization of the checklist taught to QA training participants and the provision of furniture/medical supplies, has also led to improved quality of service. On the down side, some clients reported that consultations required more time due to the greater number of visitors to the clinic.

Figure 9: Medical supplies arranged in a cabinet

Due to their income class, health center users surveyed here were limited in their access to other medical facilities besides the public health centers. Approximately 40%-plus of those surveyed belonged to the middle class, while the remainder is classified as lower middle income. Respondents often had little or no experience with private medical institutions or district hospitals. It must be taken into consideration in evaluating their responses, therefore, that these users had few expectations of health care services to begin with.

(4) Trends in the number of health center clients

The primary reasons for client visits to public health centers include general consultation as well as obstetric and pediatric care. According to information provided by the executing agency, the fact that fees for health center services have been maintained at low rates in some cases—in order to enable access for low-income persons in the wake of the country's economic crisis—plus an increasing population, have contributed to an increased number of clients. In case study districts and municipalities, the number of outpatients was on the rise as a whole (see Table 7), in recent years reaching an average of more than 50-100 persons per day per facility.

Table 7: Trends in the number of health center visitors (outpatients) in case study districts and municipalities

	Medan Municipality		Deli Serdang District		Pelambang Municipality		OKI District	
	General consultation	Obstetric/ Pediatric care	General consultation	Obstetric/ pediatric care	General consultation	Obstetric/ pediatric care	General consultation	Obstetric/ pediatric care
1998	540,841	186,415	n.a	n.a	526,529	64,285	225,519	37,082
2001	618,154	200,198	n.a	n.a	620,320	64,912	299,415	40,005
Population*	2,035,200		1,956,996		1,487,515		976,178	

Source: Kabupaten Dinas for Health, district and municipal level governments
Note*: Figures are current as of 2001, with the exception of OKI District, for which figures were obtained in 2000.

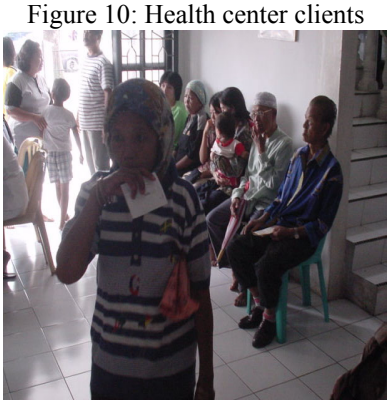
As illustrated in Table 8, of the 28 project-assisted health centers surveyed, many were seeing an increase in the number of clients. The same trend was also observed in non project-assisted centers surveyed, though the sample was small, in an increased number of infant and child patients. With health care centers in general showing climbing numbers of users, the executing agency attributes the major factors behind the trends to an expanding population as well as health center fees, which are kept at low levels.

Table 8: Changes in the number of visitors to project-assisted health centers (past five years)

	Expectant/nursing mothers		Infants		Young children	
No. of respondent health centers	17	-	19	-	17	-
No. of centers that experienced an increase in the no. of clients	9	52.9 %	14	73.7 %	14	82.4 %
No. of centers where client volume remained steady	3	17.7 %	3	15.8 %	1	5.9 %

Source: District and municipal health centers

Figure 10: Health center clients



As indicated by data collected in questionnaires carried out on health centers and center users, health care center operations have improved due to provision of supplies/equipment and training. Many clients have noted the resultant enhancement of facilities and supplies/equipment and clinic services, which have led to high approval ratings. The ODA loan project is therefore deemed to have had a role in improving the state of health care center usage among the people.

(5) Expanding upon the activities of the Posyandu (village level health care sessions)

Figure 11: A Posyandu post

In order to facilitate the popularization of health care activities in remote and rural areas, where health centers are relatively difficult to access, a number of health service outposts, known as “Posyandu,” have been established. Operated with a number of volunteers (“Kader”), the Posyandu carry out vaccinations, obstetric and pediatric care (weight measurement and other simple procedures), drives for improved nutrition, and family planning. They also provide health education and information. Operated primarily by the Kader and assisted by health center workers on a rotating basis, Posyandu activities are carried out on a monthly basis. In remote areas with limited access to public transportation, however, ongoing assistance by health center workers is complicated. For health care centers located in rural and remote areas in particular, where the number of Posyandu that must be visited is greater, there exist a number of obstacles inhibiting monthly visits. By providing traveling clinics to health centers, the ODA loan project has contributed to expanded Posyandu activity by improving access for health center workers and efficiency of operations. Of the nine health centers surveyed that received traveling clinic equipment as part of the ODA loan project, four reported an increase in the number of Posyandu visited.

Three of these four health centers were located in OKI District, South Sumatra Province, both of which encompass relatively broad areas of remote communicates among areas covered in the case study. In OKI District, a greater number of Posyandu visits has resulted in expanded vaccination drives and obstetric/pediatric care. Obstetric check-up rates (regular fourth-time check-ups (K4)), which stood six points below the average for South Sumatra of 73.2% when the project was initiated in 1996, had risen to within 0.5 percentage points of the provincial average of 81.1% in 1999.

Table 9: Expanded health care in OKI District

	1996	1999	2001	Notes
Obstetric/pediatric care				
Initial obstetric screening (K1) rate	87.5 %	93.6 %	93.9 %	
Fouth-time obstetric screening (K4) rate	67.2 %	80.6 %	86.9 %	
Vaccination				
DPT1 vaccination rate	101.8 %	103.4 %	97.6 %	For infants and children requiring vaccination
Polio 3 vaccination rate	93.1 %	93.9 %	97.6 %	
Measles vaccination rate	90.1 %	92.2 %	95.2 %	
BCG vaccination rate	90.4 %	93.5 %	95.2 %	

Source: OKI District health bureaus

Expanded Posyandu activity can also be observed for health centers without access to new modes of transport, in both centers assisted by the project and those that were not. According to questionnaires given to health centers, the role of the Kader volunteers—who are responsible for initiating activity and promoting local resident participation—is more significant than the securing of transport for a number of health centers in their efforts to expand upon Posyandu activity. The issues of increasing the remuneration for the Kader, as well as realizing the understanding and assistance of the local people on basic health care activities, are considered by many to be indispensable.

(6) Extension of the Referral System

Indonesia's referral system provides a medical care structure that efficiently and effectively links the Posyandu and rural health care outposts to health centers and district as well as provincial hospitals. Through this integrated system, expectant mothers and other patients are referred and transferred to high quality medical institutions.

However, in cases where primary care given by health center staff and village midwives is of low quality, the reporting of appropriate information can be impeded, resulting in a situation where the referral system cannot be effectively utilized. Similarly, referral system operations are also hindered by lack of sufficient means of transport and communications. In light of these difficulties, the ODA loan project aimed to enhance the referral system by providing means of transport, including ambulances, as well as communications equipment. Illustrating the operational status of the referral system, Table 10 indicates the number of patients that were referred and transferred to either district hospitals or higher level medical institutions.

Table 10: No. of patients referred by health centers to district level hospitals or higher level institutions

(OKI District)

	1996	1999	2001
No. of patients referred to district level hospitals or higher	27,089	32,119	35,055

Source: OKI District government health bureaus

The number of referrals from OKI District health centers to district-level hospitals or higher level medical institutions is on the rise. Though the conferring of two referral system ambulances to the district is thought to have contributed to an increase in the number of referrals, referral operations are also carried out by traveling clinics as well as the ambulances. Health centers that are not equipped with ambulances utilized traveling clinic vehicles featuring conveyance beds. In some instances where patients require care at district hospitals, health center workers regularly pick up such individuals at their homes and transport them to the appropriate institution.

Figure 12: Ambulance (also used as a traveling clinic)

According to answers provided in questionnaires, in 15 health centers (including non project-assisted locations), increases in the number of referrals to higher-quality level hospitals were observed. The data failed to reveal, however, any strong correlation between the conferring of ambulances and/or traveling clinics and an increased number of referrals[8]. The research indicated that, in addition to the presence of such vehicles, factors such as the presence of specialist physicians at quality hospitals, sophisticated medical facilities at such institutions, and effective communication between the hospitals and the health centers (an example of this would be regular discussions between health center supervisors and hospital staff in the Medan municipal government), all contributed to the climbing number of referrals.

(7) Promoting Project Effectiveness through Cooperation with other Aid Donors

At present in Indonesia, the World Bank, ADB, UNICEF, WHO, and others have formed a donor group known as “Partners for Health.” Working together with the Ministry of Health on policy issues, the group’s primary goal is to expand upon basic health services in the country. The World Bank and the ADB set up the Social Safety Net Adjustment Loan (SSNAL) program in the aftermath of the country’s economic crisis in order to assist the poor and low-income individuals in accessing social services. SSNAL facilitates the expansion of medical security systems, and assists expanded activities of health center facilities established and/or enhanced by the ODA loan project.

Other World Bank activities in areas assisted by the ODA loan project include the Provincial Health Program II, currently in progress in North Sumatra Province (Project cost: 895.8 million dollars; duration: 2002-2006). Featuring a focus on enhancement of administrative capacity, the project entails the following: 1) sector reform assistance at the provincial and district levels (incorporating a review of planning formulation, organizational reform, and employment policy); 2) Health sector finances (re-establishing capital allocation and donation mechanisms); and 3) assistance on decentralization of the power of the central government. The ADB, meanwhile, implemented a project known as the Family Health and Nutrition Project (Project cost: 75 million dollars; duration: 1997-2001) in North Sumatra, Jambi, and Bengkulu Provinces. The project aimed to upgrade obstetric and pediatric care (including the popularization of the maternity health record book); to popularize QA, and to improve access to health care

[8] Among 15 facilities that witnessed increases in their number of referrals, three had received vehicles via the ODA loan project

services for the poor (establishing a referral system directing patients to health centers). In South Sumatra, the WHO is contributing to extended inoculation drives by providing vaccine medication.

2.4 Impact

(1) Trends in Mortality Rates

The purpose of the ODA loan project is to contribute to the improvement of the circumstances of regional health care through bolstering health center operations. Here, continuing along the lines of the effectiveness category, trends in the major indices of infant mortality rates as well as life expectancy for case study regions are given to illustrate improvements in health-related issues.

Table 11: Trends in mortality rates

	1990	1994	2000	1990	1995	2000
	North Sumatra			South Sumatra		
Average life expectancy (years)	62.1	62.3	66.7	n.a	n.a	n.a
Infant morality rate/1000 people	61.0	51.0	41.0	73.0	n.a	46.4
	Medan Municipality			Pelambang Municipality		
Average life expectancy (years)	67.0	67.3	69.6	n.a	n.a	n.a
Infant mortality rate/1000 people	40.0	35.0	26.1	87.0	71.0	43.0
Maternal mortality rate/100,000 people	n.a	286	172 *	n.a	373	225 *
	Deli Serdang District			OKI District		
Average life expectancy (years)	62.7	62.9	68.1	n.a	n.a	n.a
Infant morality rate/1000 people	58.0	51.0	35.5	87.0	n.a	51.0

Source: Provincial, district, and municipal health bureaus as well as provincial statistics bureaus of provinces surveyed.
Note*: Figures current as of 1999

Trends in average life expectancy and infant mortality rates (national averages stood at 64.2 years and 46/1000 people respectively as of 1999) in case-study districts and municipalities began improving significantly beginning in 1990. Improvement of infant mortality rates depends largely on avoiding problems that tend to arise at the perinatal period by facilitating safe childbirth and ensuring the health of mother and child. Through improvements made to the referral system as well as Posyandu activities, and by assisting mobility of health center staff, and so on, the ODA loan project is thought to have played a significant role in the process of cutting infant mortality (e.g. through increasing regular obstetric screening rates; encouraging a greater number of births carried out with the assistance of health care workers and midwives; and facilitating better vaccination rates and early-stage discovery of infection).

Further, the quality of health care services improved due to procurement of supplies/equipment and the implementation of QA training. As a result, the health centers, now more attractive as medical institutions, witnessed increases in the number of clients utilizing maternal and child health care services. Impacted significantly by lower infant mortality rates, average life expectancy rose sharply.

Although lower maternal mortality rates can also be expected in light of better heath center operations, it is difficult to ascertain general trends in case study regions due to insufficient data. Data available for the Medan and Palembang municipalities, however, indicates a drop from 286 and 373 deaths respectively per 100,000 people in 1994 to 172 and 225 respectively in 1999. Through enhancing mobility, the ODA loan project helped to facilitate more widespread maternal and child health care services including assisted births performed by health centers and village midwives, as well as to help expand upon the referral system.

(2) Trends in Outbreaks of Communicable Diseases

Strategies to cope with communicable diseases represent a long-standing serious issue in Indonesia, with a leading cause of death among infants and children being contagious illnesses such as diarrhea and respiratory infections. Outbreak rates of communicable diseases also represent indexes useful to the assessment of improvements in health care.

Looking exclusively at outbreak figures for diarrhea and dengue fever, the numbers indicate worsening trends in recent years in case study provinces, districts, and municipalities. Despite significant declines through 1997, trends have reversed as of 1999, since which time the number of cases has risen and no improvement is evident. Although the executing agency is also uncertain as to the reasons for the reversal, the country's economic crisis has resulted in a greater population living in poverty. Since the poor tend to abide in unsanitary living conditions, this development has been cited as a possible cause of the rising instance of infection.

Table 12: Trends in outbreak rates for major communicable diseases (in terms of population)

Type of case	1995	1999	2001	1995	1999	2001
	North Sumatra			South Sumatra		
Diarhhea/1000 people	9.5	15.7	12.4 ('00)	19.7	21.2	22.5
TB/1,000,000 people	n.a	364	215 ('00)	2,230	1,389	770
Dengue fever/1,000,000 people	28.8 ('96)	8.2	12.0 ('00)	27.2	21.4 ('98)	27.9 ('00)
	Medan Municipality			Palembang Municipality		
Diarhhea/1,000 people	10.0	19.6	23.0	19.6	n.a	24.6
TB/1,000,00 people	1,778	364	284 ('00)	2,820 ('97)	578	442
Dengue fever/1,000,000 people	n.a	4.2	5.0	20.3 ('97)	7.6	5.7
	Deli Serdang District			OKI District		
Diarrhea/1,000	n.a	n.a	15.1	17.3	n.a	24.4
Dengue fever/1,000,000	n.a	n.a	n.a	21.4	n.a	17.2

Critical to the prevention of diarrhea are a supply of safe, clean drinking water as well as sanitary education on the dangers of unboiled water. Here, the role of health centers in providing the relevant health education, including sanitation issues, through Posyandu and schools is crucial. The ODA loan project had the positive impact of assisting better and expanded activities in this area through providing greater mobility, among other factors, yet due to improved health center testing and better quality services offered by health center workers, a number of cases of "hidden" illnesses have also uncovered. This has led to the unexpected rise in visible infection rates.

In 1995, the Directly Observed Treatment-Short Course (DOTS) was instituted at Puskesmas-level health centers, under the auspices of the WHO, to detect and treat cases of tuberculosis. Under the system, sputum testing is performed, primarily on health center visitors, whereupon antibiotics are administered to carriers. As of 2001, these procedures were being carried out in approximately half of the health centers around the country. In March 1999, the Indonesian government codified a national integrated strategic initiative to fight tuberculosis, at which time the disease was designated an issue of national importance. Since that time, instance of the disease has declined. The ODA loan project contributed to anti-tuberculosis strategy by providing health centers with basic testing equipment such as microscopes and the like.

(3) Repercussions of the model project

At the time the project was appraised, the initial plan stipulated that the project would not deal directly with each district in the project-assisted provinces, but that the initiative would be carried out as a model project. Gleaning lessons from the model, the executing agency would then apply it to the remaining districts. Upon consultations with the executing agency, however, it was learned that the provincial governments had little interest in the concept of the "model," and the details of a plan for the provincial government to provide an integrated package of supplies, equipment, and training following the conclusion of the project for health centers in need of operational improvement in non project-assisted districts could not be ascertained. Instead, as of the present, other aid institutions have provided assistance toward regional health care improvement following their own individual approaches.

A number of reports indicate, however, that components as well as tangible results of the project, following its conclusion, have been implemented in other provinces and districts. One such example is the training designed to enable the enhancement of information management, and the resultant database and training procedures involved. After the initial project was completed, this system was expanded to cover all the districts in Lampung and other provinces. It was also predicted that QA training would be carried out following full implementation of the original training. Though new trainers were fostered and guidelines established to this end, budgetary constraints such as those placed on personnel costs, distribution of training materials, and provision of supplies and equipment, interfered with the process of bringing the training to health centers and districts not assisted by the project.

2.5. Sustainability

2.5.1 Operation and Maintenance

(1) The Organizational Structure of Health Center Operations

Following the decentralization, the chain of command was altered from the following sequence: the government's Ministry of Health, provincial ministries of health, administrative offices at the district and municipal levels, and health centers, to the following: district and municipal heads instruct district and municipal government health bureaus, which instruct the health centers. Through this process, the authority of the central government has been largely re-distributed to district and municipal governments. Further, the institutions of Provincial Dinas (provincial government health bureaus) and Kanwil (Ministry of Health provincial offices), which coexisted at the time the project was instituted, were either integrated or are in the process of integration. Though the role of the provincial government health bureaus remains unclear, it is limited to the function of mediator between districts and municipalities within the province—which oversee health administration planning and budgetary measures—and compiling/submitting budget requests from the districts and municipalities to the central government. At present, direct responsibility for providing guidance for health center operations upon formulation of strategies, and plans to bolster and improve the centers, lies with the district and municipal government health bureaus.

According to the executing agency, one effect of decentralization cited has been a delay in the relay of information to the provincial and central governments regarding regional health issues and health center operations. As a result, the process of incorporating said information into the central government's policy and strategy in a timely manner is now complicated. Another issue that has been pointed out is the

implementational inefficiency of infectious disease control countermeasures, training programs, supplies/equipment and pharmaceuticals procurement, and positioning/transfer of personnel: since all of the above are carried out on an individual basis by each district and municipality, these smaller units of government fail to achieve economies of scale. In light of this situation, upon a review of the role of the provincial government, the ADB has lent its technical assistance to a pilot project designed to ascertain efficiency levels.

(2) Health Center Operations & Operations/Maintenance of Facilities, Supplies, and Equipment

1) Health Centers: Primary Health Care Program and Operations Monitoring

With regard to the 18 categories of the health centers' primary health care program, it is theoretically possible to assign priority and budget to certain categories depending on circumstances prevalent in the local area. In reality, however, limitations on health center staff, in terms of both capability and time, make this kind of determination impossible at present. Instead, it is currently the district and municipality health bureaus, together with local county governments, that determine which categories are to be given priority. Under the guidance of district, municipal, and country governments, the municipality of Medan, for instance, assigns priority to a total of seven projects taking local community circumstances into consideration. Priority projects differ by region, but in general consist of the following: health education, maternal and child health care, improved nutrition, preventive strategies against infectious diseases, consultation, and reporting to district government.

Consultations provided by health centers, as well as their primary health care programs, are monitored on a monthly basis by district and municipal health bureaus. Though regular monitoring had been carried out since prior to the launch of the ODA loan project, operational capacity has been enhanced through local health administration/guidance training carried out as part of the project. Health centers report on use of health center facilities, disease outbreaks, implementation of primary health care programs, and pharmaceuticals consumption following a specified format. Data collected by way of monitoring of health centers is maintained in district and municipal government databases, but there are problems with the system in that appropriate, adequate data is not necessarily forwarded from all health centers.

Meanwhile, district and municipal government health bureaus make regular visits to the health centers, during which they evaluate operations and facilities referring to a checklist. Questionnaire responses given by health centers surveyed in project case studies indicated that "any problems arising at the centers are quickly resolved thanks to the enhanced leadership qualities in the field of local health care administration." On the down side, however, major problems remained including the need for more adequate guidance from district and municipal health bureaus, as well as improved problem-solving capability, as illustrated in comments citing a "lack of regular visits" by the proper authorities, "inadequate defining of problems," and that there was a focus on "questions rather than advice" from the district authorities.

2) Maintenance of health center materials and equipment

Maintenance and replacement of supplies and equipment procured through the project via the district and municipal governments is the responsibility of the recipient health centers. In particular, it is often pointed out that maintenance of equipment featuring a power source—such as ambulances—can be difficult for health center employees to accomplish due to the need to secure spare parts, etc. The issue of repairs of said equipment is an issue of critical importance.

Further, due to the fact that equipment conferred upon health centers goes through the central government to the provincial government, and finally to the health centers, the district and municipal governments as well as the health centers, who are responsible for maintenance and operations, have no contact with suppliers, and are therefore unable to acquire maintenance contracts or warranties on the parts concerned. As a result, where district and municipal governments do not receive sufficient funds, health centers look to the local communities for assistance, such as financial assistance or grant services offered by local repair persons. The same is true for repairs needed for health center vehicles.

Health centers report yearly on the status of their medical supplies and equipment to the district or municipality that has jurisdiction over them, keeping inventory of the items in their possession. This record-keeping process enables them to clearly track when and which items need to be replaced, and the districts and municipalities can track needs by equipment type or region. Due to budget constraints at the district and municipal government levels, however, there occur many incidents where requested supplies or equipment are delayed or not supplied at all. There is also room for improvement in supply/equipment management systems operations by governmental health bureaus.

(3) Health center worker capability

According to the executing agency, no problems exist related to the number of staff at health centers, yet in general there is room for improvement of individual capabilities. In particular, talented staff are required in the fields of testing, pharmaceuticals, emergency medicine, and midwifery. Though sporadic, training through programs carried out under the auspices of the local governments is available. These are executed as pilot projects due to the limited number of participants. Following the training, individuals who have been through the course are to, theoretically, provide training to other health centers on provincial and/or district/municipal budget. Due to lack of funds, however, this type of transfer of skills is rare.

As for regional government health bureau staff, following the process of decentralization, there has arisen a situation where there is a lack of skill (including health center data analysis and processing capability) with regard to assigning priorities in health care implementation and proper delegation of resources.

Improving the ability of doctors and nurses at the health center level to handle emergency patients, particularly expectant mothers, is key to reaching the government's priority goal of achieving an even lower instance of maternal mortality. To this end, procurement of ambulances and other transport vehicles—as well as of obstetric care supplies and equipment—and the implementation of a referral system must both be accomplished simultaneously.

With a view to further reducing the rate of maternal mortality, a movement to place village midwives, known as "Bidan Desa," around the country was launched in 1995 as a supplement to health center

activities. With the guidance of health centers, the midwives undertake to conduct regular testing on expectant mothers, carry out monitoring and reporting, and promote assisted childbirth. As pointed out by the ADB, while regular checkups and a higher rate of assisted births do result in positive results to some degree, the number of midwives is still small compared with the number of villages, and they tend to be in short supply. To remedy this situation, many are offered three-year contracts. In order to facilitate further use of the skills of the midwives, these individuals should be provided with a mode of transport, and improvement should be made to their working conditions and services provided them.

2.5.2 Health Center Operations/Operations and Management Budget

Budget required to finance health center services is procured mainly from the district and municipal governments, the provincial governments, and the central government (including foreign aid funds). These monies are distributed to the centers at the discretion of the district/municipal governments. Public service workers employed at medical institutions including health centers are paid fixed salaries regardless of sector budget allocation. Other costs, such as facility overhead and operations and maintenance costs, are covered by budget allotted to the health bureaus.

At present, due to the impact of decentralization, there can occur a great deal of variation with regard to budget allotted to health-related activities in the districts and municipalities, depending on to what extent the top district/municipal authorities acknowledge such activities as important. As a result, the issue of possible variation in performance of local health administration, and the health centers that form the basis of the administration, has been cited. The impact of this phenomenon is particularly conspicuous with regard to pharmaceuticals purchasing and replacement of supplies/equipment, as well as midwife personnel placement, etc. It is the policy of the executing agency (the Ministry of Health) that approximately 15% of the district and municipal budgets be allocated toward health related purposes. Though the Ministry advices the district and municipal authorities to this effect, it is the case in South Sumatra, for instance, that these authorities, together with the provincial government, have agreed to a figure of approximately 10%. In reality, however, some districts allocate less than 10%, while others allot more.

Fees collected from clients that visit the health centers are determined by the districts and municipalities, and they differ by region. For instance, consultations are free of charge in the municipality of Medan (for clients from outside the health center region, a fee of Rp. 3000 per consultation applies). In the district of Deli Serdang, a consultation fee of Rp. 500 is assessed, while in Palembang the charge is Rp. 1000, which is paid by the patient directly. The funds are utilized in different ways depending on the district/municipality, but, as the center's own source of revenue, can be applied to operational expenses. In centers located in Palembang, all fee revenues are reported to the municipal government, whereupon 50% of the amount paid by clients is directly applied to the center's operating costs. The remaining 50% is first paid to the municipal government, from where it is distributed to the various area health centers.

In addition to revenues generated by client fees, health center revenue sources include medical payments made through the health insurance business, including ASKES, and the Social Safety Network Program (JPS-BK). The latter, engaged in the business of providing access to social services for the poor, was instituted in the wake of the currency crisis to alleviate impact wreaked on low-income groups.

In general, district/municipal government ordinary expenses consist almost entirely of government

employee salaries. Government working budget that can be applied to health center operations and maintenance is generally limited, though the amount may vary depending on the region.

The Deli Serdang district and Palembang municipal government budgets, for example, are insufficient to cover the materials needed for new programs such as QA training sessions or replacement/additional supplies and equipment, and pharmaceutical purchases are also restricted. (In Palembang, an annual sum of Rp. 2,500,000 is allotted for the purchase of drugs, yet the actual cost (budget requested) runs approximately Rp. 7,500,000). According to both governments, despite the fact that the centers have their own source of income represented by the small amount of revenue derived from clients, the current situation is such that the government budget is almost entirely consumed in covering the minimum operations and maintenance expenses required to run the centers.

Taking the example of Medan, on the other hand, despite the fact that income derived from client fees is low, because the area centers receive sufficient assistance from the municipal government, center operations and maintenance expenses are covered by these funds. The government is relatively affluent, and thereby able to afford such expenses, due to the fact that Medan is a commercially developed urban area. However, supply/equipment replacements and additions are, similarly to the cases mentioned above, not easy to obtain.

The executing agency, concerned with the lack of government budget for health-related activities, is touting the expansion of the Community Medical Services Insurance (JPKM), a plan that promotes better health paid for by citizens, as fundamental health care policy. Although this development is expected to be a significant burden on lower income groups, in order to ensure that health center and government health bureau employees strive to meet the needs of the people through more appropriate health services and that the health centers continue to develop, the centers are being promoted as efficient, effective means of servicing the people.

3. Feedback

3.1 Lessons Learned

The Asian currency crisis impacted the borrower country government in such a way that domestic currency budget outlays became extremely difficult. This complicated the procurement of supplies and equipment set out in the project's original plan. As a result, the borrower country petitioned for a change in the terms and conditions of the loan, requesting that all procurement funds, including the government's allotment, be provided in ODA loan. The request was, however, rejected. Following the currency crisis, the government began to emphasize access to social services for lower income group as an issue of importance. In light of this development, it is hoped that should similar circumstances occur in the future (unpredictable external shocks, etc.), greater flexibility with regard to ODA loan terms and conditions will be employed, leading to more significant positive impact.

Comparison of Original and Actual Scope

Item	Plan	Needs Assessment Survey Results	Actual
1. Project Scope	The list format differs from that utilized for the initial plan. The following is the original list: Health center supplies/equipment: 56 sets Bed-equipped health center supplies/equipment: 47 sets Basic-care center supplies/equipment: 723 sets Dental supplies/equipment: 97 sets Mobile dental clinic supplies/equipment: 144 sets <u>Essential examination room equipment:</u> <u>342 sets</u> Microscopes: 167 sets Objective lenses: 261 sets Ocular lenses: 97 sets Vaccination equipment: A1 pack: 432 sets B pack: 1,771 sets <u>Containers/coolers:</u> <u>432 sets</u> Refrigerators: 329 sets Mini freezers: 484 sets <u>Vaccination carriers: 1,334 sets</u>		
1. Medical equipment (27 items)			
- Manual tally eosinophil counter		127 sets	95 sets
- Diagnostic equipment		56 sets	544 sets
- Magnifying glass		337 sets	213 sets
- Reflex hammer		633 sets	409 sets
- Obstetric velvicmeter		453 sets	325 sets
- Stethoscope		735 sets	1,602 sets
- Mercury sphygmomanometer		620 sets	1,602 sets
- Anaroid sphygmomanometer		176 sets	112 sets
- Child scale		542 sets	1,008 sets
- Adult scale		651 sets	997 sets
- Sahli hemoglobinometer		470 sets	32 sets
- Electric disinfector		22 sets	544 sets
- Disinfecting tray		4 sets	65 sets
- Equipment cabinet		340 sets	155 sets
- Mayo tray		7 sets	544 sets
- Child toilet		75 sets	17 sets
- Adult toilet		100 sets	27 sets
- Pitcher		7 sets	28 sets
- Intravenous drip		18 sets	97 sets
- Sink		107 sets	544 sets
- Portable stretcher		24 sets	10 sets
- Gauze (medium)		166 sets	127 sets
- Gauze (large)		57 sets	72 sets
- Pus basin		150 sets	128 sets
- <u>Essential examination room equipment</u>		143 sets	341 sets
- <u>Containers/coolers</u>		425 sets	414 sets
- Vaccination carriers		1,284 sets	470 sets
2. Non-medical supplies/equipment			
- Computers (For provincial/district offices, etc.)	43 sets		52 sets
- Electricity generator equipment	55 sets		54 sets
- Health center furniture	473 sets		760 sets
- Health center typewriters	473 sets		460 sets
- Radio communications equipment	46 sets	Eliminated	-
- Solar power cells	147 sets		31 sets
- Nutrition education materials	53 sets	Eliminated	-
- Health education materials	53 sets	Eliminated	-
3. Rescue vehicle equipment			
- Mobile Health Center/Traveling clinic (for use by health centers)	57	171	103
- Mopeds/motorcycles	665		584
- Motorbikes	1,494	Eliminated	-
- Ambulance (for bed-equipped health centers)	19		26
- Motorboat	4		1
- Clinomobile/Traveling clinic vehicle (one per province)	5		3
- X-ray car	1	Eliminated	-
- Glaucoma testing car	1	Eliminated	-
- Drug transport vehicles (for drug warehouses)	19		16

- Business-use vehicles	-	Added	20
4. Extension/renovation of health centers			
- Bed-equipped health centers	51 locations 1,230 m^2	12,946 m^2	82 locations 10,129 m^2
- Health centers/basic care health centers	78 locations 250 m^2	3,900 m^2	
5. Consulting services	Foreign nationals /locals		Foreign nationals/locals
- Supervision	20 / 54 M/M		33 / 34.5 M/M
- Medical equipment operations training	/ 57 M/M		/ 43 M/M
- Pharmaceuticals management training	/ 57 M/M		/ 56 M/M
- Local health administration training	/ 57 M/M		/ 43 M/M
- Quality assurance training	15 / 72 M/M		7 / 37 M/M
Total	35 / 297 M/M		33 / 213.5 M/M

Item	Plan	Actual
2. Implementation Schedule		
1. Signing of loan agreement (L/A)	November 1994	November 1994
2. Consultant selected	November 1994 - June 1995	April 1995 - March 1996
3. Consulting services		
- Monitoring and supervision	July 1995 - March 1999	July 1995 - October 2000
- Medical equipment needs assessment	July 1995 - January 1996	June 1996 - July 1996
- Training		
Pharmaceuticals handling training	June 1996 - March 1999	June 1996 - October 2000
Medical equipment operations training	June 1996 - December 1998	June 1996 - September 2000
Local health care administration training	November 1996 - February 1999	November 1996 - September 2000
Quality assurance training	March 1997 - March 1999	March 1997 - October 2000
4. Procurement		
- Bid documents created	February 1996 - April 1996	August 1996 - June 1997
- Bidding period	May 1996 - July 1996	December 1996 - September 1998
- Bid assessment	August 1996 - February 1997	January 1997 - December 1997
- Contract negotiation/agreement	March 1997 - June 1997	January 1997 - January 1999
5. Supplies/equipment grants and facility extension and renovation	July 1997 - June 1998	July 1997 - June 2000
3. Project Cost		
Foreign currency	1,065 million yen	781 million yen
Local currency	869 million yen (17,380 million Rp.)	81 million yen (3,409 million Rp.)
Total	1,934 million yen	858 million yen
ODA loan portion	1,644 million yen	782million yen
Exchange rate	Rp.1 = 0.05 yen As of April 1994	Rp.1 = 0.024 yen Weighted average between March 1997-November 2000

Third Party Evaluator's Opinion on
Improvement of Community Health Center Project

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Relevance

The report is concise and covers all the relevant subjects set out in the DAC Evaluation Criteria. Provision of basic health services in Indonesia especially in poverty-stricken districts has very high relevance. Until now the issues related to the quality of the health care services is still critical in Indonesia and improvement of health services will become even more important as the people and the government authorities realize the importance of the improvement quality of human being. Government budget constraints and increasing demand for better quality of people (healthy people) means the improvement of basic care services at health centers will play an increasing vital role in the future.
With this project the quality level services provided by health centers had improved, and major reasons for this improvement were provision of extended facilities and supplies/equipment, standardization of health care services, and QA training.

The economic benefit derived from this project is very difficult to quantify, and as a consequences the estimated economic rates of return (EIRR) also is very difficult to calculate. However, it might be said that this project provides significant benefit to the society at large and especially to the people of the five provinces in which health center located.

Impact

The project resulted in positive economics and social impacts. It might be concluded that as a result of the project, the average life expectancy and infant mortality rates had improved. Improvement of infant mortality rates have been achieved among others by providing safe childbirth and ensuring the health of mother and child. On the other hand, through this project trends in the outbreak rates for major communicable diseases moved in the better direction. The trends in the outbreak of Diarrhea, TB, and dengue fever, a leading cause of death among infants and children in Indonesia improved especially since 1999.

As mentioned in this report the actual cost of this project was much lower than the estimate at the time of appraisal (about 20% in Rupiah term). The decrease was heavily impacted by the Asian currencies crisis, which caused a dearth of government funds, resulting in turn in a significant reduction in supplies and equipment originally scheduled for procurement. Due to the impact of decentralization, which has been implemented in Indonesia since 2000, the budget allocated for health-related activities will be different from one region to another region or from one district/municipals to another district/municipals. The difference will relate to the knowledge of the each regional authority about the importance of such activities. Even though it can be guaranteed that each region recognize the importance of human quality improvement.