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Health

Introduction

This section commences with a brief overview of the present health system, followed by a discussion of the present health situation, policy developments, health staff, resources, and concluding with a look at the major issues for the future. As with education, primary health care emerges as the area of first priority.

Overview of the Health System

International Comparisons

Samoa has relatively good education and health services, compared with the developing world generally. As a single measure of child well-being (children being a vital foundation to human resource development), UNICEF ranks the nations of the world in accord with their under-five mortality rate. The lower end of the scale commences at one (Sierra Leone, recording 316 deaths per 1,000 population) through to a rank of 189 (Japan, Norway, and Sweden, which all record under-five mortality rates of 4 per 1,000). Samoa, ranking 110 on this scale with 27 per 1,000, is well ahead of such countries as Thailand, Mexico, and the Philippines. For Samoa, the present rate reflects enormous strides in public health since 1960, when it stood at 210.

Long-term Community-Government Partnership

Community-based primary public health care has a relatively long and successful history in Samoa. The National Committee of Women is the umbrella body for Village Women's Committees, which have been responsible for village clinics since the 1920s. As with school committees, village clinics have been village responsibilities, with Government pro-

viding professional nursing, other medical staff, and operational supplies. This long partnership, with demonstrably successful outcomes, has considerable future potential.

More relevant comparisons with similar Pacific Island small states are presented in Table 7.1. Again, Samoa compares very favorably within this set. In the broader scheme of Pacific Island states, the nation is presently doing well.

Table 7.1 Regional Comparisons for Health

	Life expectancy		Under 5 mortality rate (/1000) 1998	Infants with low birth weight 1990–97 %
	1970	1998		
Fiji Islands	64	73	23	12
Kiribati	na	60	74	3
Micronesia	na	67	24	9
Palau	na	na	34	8
Samoa	57	71	27	6
Solomon Islands	60	72	26	20
Tonga	na	71	23	2

Note: na. data not available or not applicable. The UNICEF population estimate has been maintained for consistency of this set of tabular data.

Source: UNICEF (2000).

For all states shown in the table, the increasing average lifespans demonstrate the general progress that has been made in economic betterment, education, and public health during the past 30 years. There has been a general and marked trend to both lower crude death rates and lower crude birth rates.

Health Facilities

The Department of Health consists of divisions covering the following services: clinical, corporate, dental, health planning, information, laboratory, nursing, public health, radiology, ultrasonic, pharmacy, and research. There are 33 government health facilities in Samoa; their distributions by health region (Upolu Urban, Upolu Rural and Savai'i Island) are as follows:

- I Upolu Urban, Apia (Region): Tupua Tamasese Meaole Hospital
- II Upolu Rural (Region): 2 District Hospitals, 7 health centers, and 10 subcenters
- III Savai'i Island: 2 District Hospitals (Malietoa Tanumafili II and Sataua), 4 health centers, and 8 subcenters

There is only one private hospital in Samoa, the Medcen Hospital, which was opened at the end of 1998. It is a new, modern hospital of 20-bed capacity, situated at Vailima, a village located on the outskirts of Apia. It caters to American Samoans, expatriates in Samoa, and others able to afford the services. The Medcen Hospital is owned and operated by two local doctors and other investors and provides various consultant services. The Government has assisted with finance to encourage the expansion of private medical services in order to ease some of the demand on the public sector. Further de facto government assistance comes from trained staff leaving the public sector to join this private venture.

Table 7.2 provides an overview of health facilities. There were 476 public hospital beds available in 1998, in comparison to 539 in 1997. The reduction generally reflects low past utilization rates of health facilities: bed occupancy rates of only about 50 percent for the two major hospitals and less than 10 percent for other facilities.

Table 7.2 Hospital Facilities and Hospital Beds in 1991 and 1998

Year	1991	1998
Total number of health facilities	33	33
Total number of hospital beds	670	476
Ratio of persons to one hospital bed	241	350

Source: Department of Health Statistics.

Increasing Integration

Health systems are in the process of further change. Present policy now supports a more integrated medical service, placing the great majority of public-sector doctors into two hospitals, one on each of the main islands of Upolu and Savai'i. A few doctors will remain in the several district hospitals, but change is being directed to the integrated use of central facilities through improved roads and radio-telephone communication.

Village clinics under registered nurses continue as the key source for primary health services, with further support coming from an increase of environmental health officers (one planned per district). The village clinic is now operated in the morning by a registered nurse, who may then do extension work in the afternoons to include services for persons not entitled to use the village clinics. Note that access to clinics is generally strictly limited to villagers represented by the Village Women's Committee. Families that have been expelled or otherwise

placed in an anomalous position have not had access to clinics in the past. The new system provides access by everyone to primary health care.

The concentration of most physicians at the two central hospitals has caused some concern in communities about access and transportation costs. This should be remedied through a system of mobile clinics that is now commencing. It will increase the ease of village access to rapid transport for medical emergencies. The Department of Health has been supplied with a fleet of vehicles, primarily through donor assistance. An ambulance system is emerging but at present requires strengthening.

The Present Health Situation

Basic Health Indicators

Basic health indicators from within Samoa depict the past decade as one of improvement, as shown in Table 7.3. Numerous methodological issues make one cautious about reading too much into the figures. Margins of error and annual variation due to sampling the relatively small population are never stated but obviously exist. Births and deaths are often not registered. Thus care should be taken in assuming that trends are occurring when situations are likely to be more stable than the data may indicate.

Table 7.3 **Selected Basic Indicators of Health**

	1990	1991	1992	1996	1999
Life expectancy years	63	—	—	69	69
Crude birth rate ^a	28.1	30.6	25.4	24.0	30.9
Crude death rate ^a	4.3	5.1	4.8	4.6	6.4

Notes: a. Per 1000 population.

Sources: Department of Health (1991–96); Demographic and Health Survey (1999).

Epidemiological Transition

The data do demonstrate that the foundation for good health has existed with only minor changes during the past ten years. Samoa has a youthful population and health services have gained increasing control over infectious disease. The nation's health is undergoing a transition to concern for lifestyle diseases, principally those resulting from dietary practices and lack of sufficient exercise.

Overweight an Increasing Risk

An increasing risk factor is overweight among a larger proportion of the population. This is associated with other risk factors for good health that include hypertension, hyperlipidaemia, smoking, and a decline in physical activity. Outcomes include diabetes and coronary problems that necessitate increasingly expensive medical treatment. The present situation highlights the need for further integrated health prevention programs to lower the potential for massive treatment costs in the future.

Malnutrition

Malnutrition and lack of food do not appear to be serious problems. A recent household expenditure survey posited food deficits for some 48 percent of the population. However, the methodology for recording inputs appears to have been deficient, as it is understood that home-produced food was substantially underrecorded. In early 2000, the World Health Organization was finalizing a nutrition survey for Samoa and indications were that major problems of malnutrition do not occur at present. Food remains sufficient and the semisubsistence rural system, as it now functions, continues to cope adequately in filling basic food requirements that are both home-grown and imported.

Lifestyle Changes

The key concern is that the Samoans' average diet is loaded with carbohydrates and fats. Traditional custom, cheap imported fatty off-cuts (such as poultry tails, lamb flaps and chicken wings), and modern processed foods do not constitute a healthy diet. It is not that people cannot produce leafy greens, fruit and other vegetables within subsistence and family gardens; rather they prefer the fats and sugars. The result is an increasingly overweight population at risk for diabetes, hypertension, and coronary problems. Hodge and Dowse (1993) sampled rural and urban areas of Samoa and recorded striking increases in obesity, diabetes, and hypertension among men from a baseline of 1978 to 1991; increases in hypertension and obesity also occurred among women in the same period. The *Demographic and Health Survey 1999* appears to confirm this trend up to the present: some 18 percent of all deaths are recorded as falling within the nexus of obesity, diabetes, hypertension, and coronary failure. (Note that causes of death, as well as the deaths themselves, relied on informant's memories, so that the categories "illness," "other," and "old age" accounted for 23 percent of the deaths

and there were 31 percent more deaths reported for 1978 than 1977, the two years for which information was sought.)

Despite the limitations of methodologies and data, what does appear clear is that this problem will grow with larger numbers of older persons in the population and increasing affluence amongst younger persons. No single solution will solve the complex nexus of problems that include social, cultural, physical, and genetic components. Rather, a multi-pronged approach is needed and the genesis for this has come from Department of Health activities.

Hospital Morbidity

Hospital consultations averaged 220,000 a year in 1997 and 1998. For these years the most common reasons for outpatient visits were, in order of importance, influenza and other respiratory diseases, wounds and injuries, headaches, body pains, and unclassified diarrhea. These reasons for consultation are similar to those reported in many other developing countries. During this same period, hospital inpatients averaged 11,000 a year in Samoa. In Table 7.4 the five principal reasons for admission in 1998 (the latest year available) are compared to those of previous years. The table shows a health system primarily caring for a youthful population: obstetric admissions generally accounted for one third of all admissions every year. The Health Department reports that the occurrence of respiratory diseases has consistently decreased during the last ten years, indicative of an improving health situation with changing priorities. Injury and poisoning is the third most common reason for inpatient status. This indicates a potential area for public health prevention activities focusing on youth and other age groups at risk through the increasing use of motor vehicles, alcohol, drugs, and other elements of change in society.

Table 7.4 Principal Reasons for Admission to Hospital, 1994, 1996, and 1998

Hospital Morbidity	1994	1996	1998
	%	%	%
Pregnancy, childbirth and the puerperium	31	35	35
Diseases of the respiratory system	14	15	14
Injury, poisoning, and certain other consequences	7	7	7
Infectious and parasitic diseases	8	7	7
Conditions originating from the perinatal period	5	4	6
All other ^a	35	32	31
Total inpatient number	12,123	11,395	11,036

Note: a. In 1994 and 1996 circulatory and digestive admissions ranked fractionally higher than perinatal.

Source: Department of Health statistics.

Hospital Mortality

Hospital mortality, that is the number of deaths reported by hospitals, decreased to 256 in 1998 from 297 in 1997. The data demonstrate the variation that occurs within a small population annually. They indicate the need for close monitoring in order to respond effectively to health needs. Table 7.5 compares the leading causes of reported deaths in 1998 with those for 1995 and 1996:

Table 7.5 Primary Causes of Death Among Hospital Inpatients, 1995, 1996, and 1998

Hospital Mortality	1995	1996	1998
	%	%	%
Diseases of the circulatory system	24	26	25
Diseases of the respiratory system	10	12	14
Conditions originating from the perinatal period	8	10	14
Infectious and parasitic diseases	8	8	14
Diseases of the digestive system	7	8	7
Other	43	35	26
Total recorded inpatient deaths	288	318	256

Source: Department of Health statistics.

Diseases of the circulatory system have been the leading cause of hospital deaths in Samoa during the past six years. This reflects the epidemiological transition now underway, where the risk of communicable disease is being reduced while lifestyle and other factors increase the risk of noncommunicable disease.

Indicators of Maternal and Child Health

Samoa's infant mortality rate (the annual number of infant deaths under one year of age per 1,000 live births) has fluctuated during the past years as shown on Table 7.6. The *Demographic and Health Survey 1999* infers an infant mortality rate of 25 per 1,000 live births from its sample of 20 percent of the population. This is slightly better than the average rate within the region and far better than in most Asian developing countries. Further investigation is required and the situation should be

Table 7.6 Infant Mortality Rate

	1990	1991	1992	1996	1997
Infant Mortality Rate	22	22	25	20	22

Source: Department of Health statistics.

clearer as the institutional strengthening program enhances the data collection systems to include the registration of births, which now has gaps. Note that rates of various health-related events often increase as a reflection of the improvement in data collection, rather than because of an actual increase of the event. Also note that with Samoa's level of 4,000–5,000 live births a year, only a slight increase or decrease in absolute numbers of deaths changes the rate.

The number of maternal deaths recorded in 1997 and 1998 was 3 and 2, yielding a maternal death rate of 6 and 4 per 100,000 live births, respectively; these figures are down from a maternal mortality rate of 14 in 1990. The majority of births take place in hospitals; some 20 percent of babies are delivered by traditional birth assistants. Improvements to birth registration are planned through activities to strengthen traditional birth assistants' recording abilities.

Family Planning

Family planning services are provided primarily to improve maternal and child health. The focus is on planning rather than limiting numbers. This includes birth spacing and planning for affordable family sizes. Provision of family planning information and services occurs through the Department of Health and NGOs, including the Samoa Family Planning Association and the Fiaola Clinic at Mulivai.

Safe Water Supplies

In terms of general public health, access to safe water remains a problematic issue for Samoa, as it is for other parts of the Pacific (Table 7.7). At present this is being addressed, especially in the urban area of Apia. The problems are not technical but socioeconomic. The Apia situation is instructive. Present household consumption is on the order of some 1,000 liters per person per day. To meet demand, it has been necessary to mix treated and untreated water. The installation of water meters and a requirement for payment per unit should help to remedy this situation. Where meters have been installed and charges collected, usage has dropped to 250 liters a day; where meters have been installed in an area that used 1,500 liters daily, usage dropped to 900 liters even before charges started. Community information, education, and communication will be vital to sustain the provision of safe water supplies. An institutional strengthening project at the Samoa Water Authority continues to assist with these problems. Further steps toward a solution should be forthcoming in the very near future: the Department of

Table 7.7 **Safe Water and Sanitation Access in Various Pacific Island Countries, 1990–1997**

	Total with safe water	population access to	Population with access to adequate sanitation	
			Urban population	Rural population
	%		%	%
Fiji Islands	77		100	85
Kiribati	75		45	54
Micronesia	22		39 ^a	39 ^a
Palau	88		98 ^b	98 ^b
Samoa	68		100	95
Solomon Islands	68		60	9
Tonga	95		95 ^c	95 ^c

Notes: a. Only available figure records a total of urban and rural at 39 percent.

b. Only available figure records a total of urban and rural at 98 percent.

c. Only available figure records a total of urban and rural at 95 percent.

Source: UNICEF (2000).

Health is working with the World Health Organization and the Samoa Water Authority to implement safe water standards.

Sanitation

The Asian Development Bank is commencing assistance to further improve sanitation. Although not reflected in Table 7.7, sanitation has become a problem as Apia grows and is subject to flooding during the wet season. The Department of Health is also continuing to address the problems of sanitation in rural areas. The department is responsible for inspecting village water and sanitation facilities as well as for other public health issues.

Communicable Diseases

Real progress has been made in the control and prevention of communicable diseases. The risk of common childhood diseases has been lowered through expanding immunization coverage. The Department of Health reports that communicable diseases such as poliomyelitis, tetanus, and diphtheria have been virtually eradicated in Samoa and that the incidence of whooping cough, tuberculosis, and measles remains relatively low. This situation may be attributed to the high coverage of immunization, as shown in Table 7.8.

International comparisons of health statistics show that Samoa is a leader in child immunization. The rates (even allowing for a 2–3 percent margin of error) are excellent by any standard. They are far ahead

Table 7.8 **Immunization for Children, 1995–1998**

Vaccine	1995	1996	1997	1998
	%	%	%	%
DPT (3 doses)	94	95	96	95
Polio (3 doses)	94	95	96	95
BCG	99	99	98	98
Measles	97	97	96	97
Hepatitis B (3 doses)	96	98	95	96

Source: Department of Health Statistics.

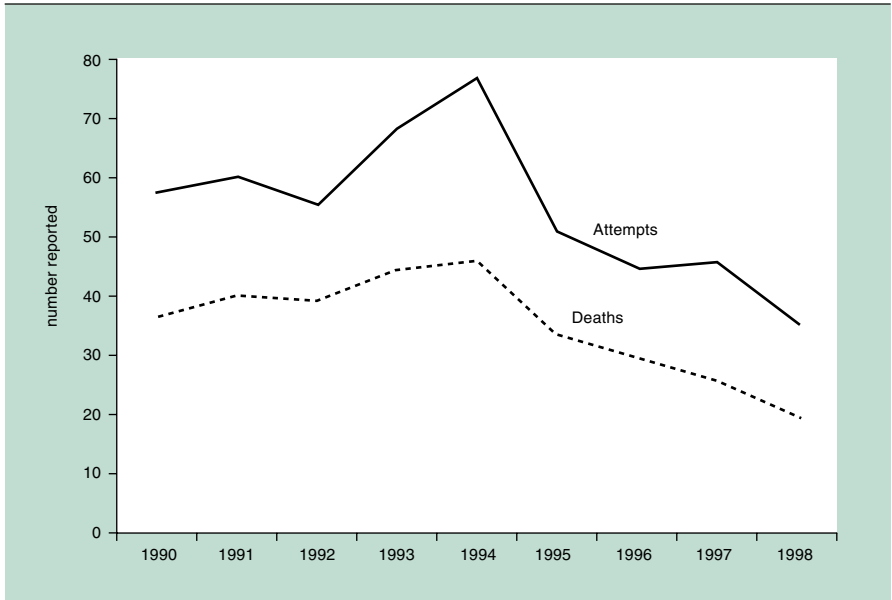
of New Zealand and Australia, where rates have slipped below 90 per cent in some cases due to a variety of factors, principally complacency.

Tuberculosis and leprosy have very low incidence rates and may be eradicated shortly. Other communicable diseases remain as a set of diminished but still troublesome problems. Outbreaks of disease such as dengue and typhoid still occur, although no fatalities were recorded for either 1997 or 1998. The Department of Health is working to control these and others, including influenza, diarrhea, filariasis, and sexually transmitted diseases including AIDS. A total of nine HIV-positive cases have been recorded in Samoa and six have developed into AIDS. All blood donors are carefully screened.

Suicide

Suicide remains a problem in Samoa. Since 1970, there has been a considerable increase in the number of people, particularly youths, reported as having committed suicide. Again, the increase may be a function of improved reporting. However, at an average of some 20 persons a year, it clearly remains a serious problem. From 1992 to 1998, suicide was amongst the ten leading causes of mortality. Between 1996 and 1998, however, the number of suicides declined by almost 50 percent from the peak in 1994, as shown in Figure 7.1.

Ingesting *Paraquat* (a highly toxic herbicide) as a method for committing suicide still predominates and figured in 13 out of the 25 attempts in 1997 and 10 out of the 19 attempts in 1998. Interestingly, the *Demographic and Health Survey 1999* recorded the equivalent of only 12 suicides per year for 1997 and 1998 but recorded 107 cases of accidental death per year, leading to an inference that suicide remains a problem. Public health authorities, NGOs, and others have tackled the problem, which appears to have subsided slightly since 1995. The World Health Organization is presently sponsoring a study on this multifaceted problem

Figure 7.1 **Reported Suicide Attempts and Deaths, 1990–1998**

Source: Department of Health statistics.

that should shed light on the situation and suggest further ways to reduce suicide rates.

Health Policy

Strategic Objectives

In accordance with the reform mission of government, the Department of Health has developed a national health sector strategic plan, *Partnerships in Health*. The Department's vision is that "By the year 2003 all Samoans will be living in safe, healthy environments, well informed on and participating in health matters, living healthy lifestyles and accessing essential primary, secondary and tertiary health services provided by the most appropriate health care provider in a safe, ethical, caring and empowering environment" (Health Sector Strategic Plan 1998–2003).

To achieve the vision, the Department of Health lists eight overall strategic objectives and further sectoral objectives in its Operational Plan for 1999/2000. Within the context of this plan, it is implementing the three strategies that are outlined below aimed at fulfilling its priority

objective to: “ensure environments which improve, promote and protect public health.”

- To reorientate health services toward the principle of primary health care, preventative health, and health promotion, which encourage health settings approaches to health promotion.
- To promote and encourage individual, family group, community, and workplace responsibility for health.
- To foster health-promoting partnerships with individuals, families, communities, organizations, and workplaces (Department of Health 1998).

International Assistance

Support for the health strategy has come through an increase in recurrent budget expenditure provided by the Government and through international assistance. Major international involvement in health care is shown in Table 7.9.

Table 7.9 An Outline of Health Project Activities

Funding Organization	Brief Project Description
World Bank	Strengthening and developing policy regarding health funding, legislation and regulation; priority interventions in women's health; and health services planning, facilities master planning, and rehabilitation
AusAID	Institutional strengthening across the Department of Health, to include the strengthening of hospital management, the strengthening of primary health care services, and a strong emphasis on noncommunicable disease prevention and control
NZODA	Child health policy and services improvement
JICA	Hospital construction
WHO	Support for project management, communicable disease management, and other small-scale activities

Sources: World Bank; AusAID.

Priorities for the Years 2000 and 2001

In tandem with these projects and with its other strategic areas, the Department of Health will focus on three priorities for the years 2000–2001: health promotion and disease prevention, strengthening the partnership with the private sector, and institutional strengthening.

The presently highly subsidized cost structure of the health system will be placed under review and a variety of options considered for

future implementation. These may include the private provision of health insurance, changes to user fees, an expanded or increased tax base, or possible other cost recovery measures.

Population Policies

The Department of Health is presently tasked with drafting a population policy document for cabinet approval. The drafting process has been ongoing for some five to six years. It is not a pressing issue. Net population growth continues at 0.5 percent and a health-focused family planning service has been in operation for some time. Thus the de facto population policy has been one of improvements to maternal and child health care rather than targeting any specific family size.

Human Resources

At the end of 1998, there were 919 employees in the Department of Health, of whom 759 were permanent staff. Table 7.10 shows the situation for key medical staff during selected years 1991–1998.

Table 7.10 **Medical Doctors and Registered Nurses in Samoa, 1991, 1996, and 1998**

	1991	1996	1998
Medical doctors	60	57	57
Samoan nationals	42	49	52
Expatriates	18	8	5
Registered nurses (RN)	258	257	248
Total medical officers and RNs	318	305	305

Source: Department of Health Statistics.

Medical Officers

Staff shortages are an ongoing problem with no simple solution and some 30 percent of presently serving government medical officers (doctors) have reached their retirement ages of 56 or over. One means presently being entertained for alleviating the shortage is allowing professional staff to work part-time across public and private practice. This is not allowed at present but could ease the pressure. Other measures are in operation. Seven newly qualified doctors returned and joined the health service at the beginning of 1998. Between now and the end of 2003, approximately four newly qualified doctors should return each year to continue strengthening health services. Assuming the stream of newly

qualified entrants to service can be maintained, this should allow the newly emerging integrated system to function efficiently. It will provide the institutional strengthening with targets and reinforce the importance of the government reforms to devolve management, leadership, and service aspects of decision making to line agencies.

Nurses

Nursing personnel consist of some 250 registered nurses and 100 enrolled nurses, the latter having but one year of postsecondary training. The geographic distribution of registered nurses is provided in Table 7.11. Approximately one third of the nurses now working are older than the official retirement age of 55 for government workers. This is indicative of the general problem of attracting and keeping nursing staff, who make up close to half of the professional health workforce. The problems appear to parallel those of teachers. As with teachers, further focus on primary health-care providers will be necessary.

Table 7.11 Registered Nurses in Upolu and Savai'i Islands, 1991 and 1998

	1991	1998
Registered Nurses	258	248
Upolu Urban Services	205	159
Upolu Rural Services	50	52
Savai'i Island	43	37
Ratio of persons per registered nurse	631	672

Source: Department of Health Statistics.

Nurses provide the foundation for primary health care, including health promotion, health maintenance, rehabilitation, and care. They manage and implement immunization, disease surveillance, maternal and child health care, school health, other public and preventive health activities, and family planning.

Financial Resources

A real increase in government recurrent expenditure within the health sector raised the level from 7.9 percent of the total government expenditure in 1991 to 9.4 percent by 1995. In 1996/1997, the recurrent expenditure for health amounted to 7.8 percent of the total national operating budget. This was increased to 10.4 percent in the following year. Currently, health expenditure represents more than 12 percent of the total recurrent budget. In the 1999/2000 estimated recurrent health

budget of some SAT\$28 million, an additional SAT\$15 million will be provided to the department by overseas assistance. For the financial years 1996/1997 and 1997/1998 about 44 percent of the recurrent budget was dedicated to personnel, and some 50 percent for operating supply; capital costs were around 3 percent.

Table 7.12 Per Capita Expenditure on Public Health, 1993/94 to 1997/98

	1993/94	1994/95	1995/96	1996/97	1997/98
Approximate per capita expenditure ^a	92	87	99	95	126

Note: a. In tala at approximately SAT\$3 to US\$1, 1999.

Source: Department of Health statistics (based on gross estimated recurrent expenditure).

Table 7.12 shows that per capita spending is in the order of US\$40 per person. This is excellent value given the level of service and the national health indicators to date for Samoa. It indicates what can be done on a relatively small resource base and with the challenges of maintaining staff and services that such a system presents.

Subsidized Health Care

Health care fees are heavily subsidized by the Government. A charge is made of 50 sene per patient per attendance at outpatient facilities during normal working hours and increases to 2 tala per attendance during weekends, holidays, and after normal working times. For hospitalization, a flat fee ranging from SAT\$2.00 to SAT\$4.50 is charged per inpatient for the period of admission at the hospital. There is room for improvement in the collection procedures: for example, when the payment section closes for lunch, services become free. Treatment is free for children under one year of age as well as for adults over 65. This could be a major, and potentially expensive, benefit for emigrants who return to retire and is discussed in the final sections of Chapter 5.

The Health Sector Strategic Plan 1998–2003 notes that there are escalating costs for pharmaceuticals, medical supplies, overseas treatment, and diagnostic technology, with user charges not covering even the costs of collection. The project to be funded by the World Bank plans to investigate means to improve this situation.

Overseas Treatment

A growing resource issue is patients who are sent abroad for further treatment. This is consuming some 10 percent of recurrent expenditure on health annually. Two funding sources exist: patients may be sent either under the New Zealand Aid Scheme or through the sponsorship of the Government of Samoa. The majority of overseas-transferred patients were victims of heart diseases (34 percent), followed by malignancies/cancers (20 percent), and then a variety of conditions. This pattern has been similar for the past six to eight years. A feature of the pattern is the impact of rheumatic fever in causing coronary problems. The Department of Health is vigorously pursuing this with a variety of responses, including early detection of coronary damage and efforts to further reduce rheumatic fever. However, the larger problem of inducing changes in risky lifestyles, as discussed earlier, will continue to dominate. The alternative is an almost certain massive escalation of treatment costs in the future.

Priority Issues

Health and education are tightly woven into the Samoan way (*fa'a samoa*) through village committees. Thus, stakeholder and grassroots participation has a long and successful history in Samoa. This grassroots community involvement presents enormous opportunities. At the same time, it has brought challenges.

One means to improve health care has been through the integration of services, with a more rational central hierarchy that concentrates many services. The Department of Health has also worked to upgrade nursing qualifications and divide community nursing between morning village clinic sessions and afternoon house calls to ensure an inclusive approach to those who may not be entitled to village clinic access. The place of preventive health within this scheme has been increasing and now includes the placing of environmental health officers in nearly every district. The strengthening of prevention is also targeted through the primary education system, where a project is commencing that provides hygiene and public health awareness materials to supplement the primary curriculum.

The next great challenge for both health and education is to further and sustainably strengthen their primary sectors. The Department of Health understands the importance of primary health care. It is taking a realistic stance on the sociopolitical challenges to balance secondary and tertiary health services with primary health care, given that the

latter consistently has been proven the most cost-effective expenditure of public health funds. However, as in virtually all countries, primary health care is often not as publicly popular as secondary and tertiary treatment services. The search for an appropriate balance is ongoing.

For health, a continued focus on primary health care will allow government reforms to proceed to their logical end, that is the devolution of management and leadership to discrete geographical areas. The present institutional strengthening programs in both health and education face the task of further developing horizontal links across their primary sectors to continue the process of building stakeholder involvement and commitment. This includes the private sector, NGOs, and the villages and especially the village committees dedicated to health and education. This may encompass more documentation of commitments as agreements are reached on responsibilities and mutual support. At present both health and education have opened dialogue with stakeholders, and this is to be applauded. It will be important to sustain and enlarge these processes while avoiding blame or finger-pointing as difficulties arise.

The government reform process specifically aims to devolve much greater responsibility to line agencies, in this case, specifically to health and education. These responsibilities are to include hiring and dismissing staff and generally assuming responsibility for both outputs (the present concern) and outcomes (the requirements of the future). Both health and education are moving toward the reorganization of their management fabric. The next step is to devolve management and leadership to clearly defined local levels where outcomes such as functional literacy or infant mortality can be measured, understood, and responded to locally.