PN-AAV-998
47390

HEALTH CARE FINANCING

A Preliminary Financial Study of the Health Care System on St. Vincent and the Grenadines

January 1982

Management Sciences for Health
141 Tremont Street
Boston, Massachusetts 02111

INTRODUCTION

The countries of the Eastern Caribbean are committed to the goal of health for all by the year 2,000, to the resolutions of the World Health Organization on primary health care and to the global targets contained in these resolutions. The individual countries are now in the process of formulating policies and plans with which to meet this commitment.

Implementation of policies and plans require financial and other resources. Financial resources are limited in all countries and there are always competing claims. Should governments invest more money in agricultural development, education or health? There are many alternative investments which would have a beneficial impact on the well-being of the population. It is, therefore, important that policies and plans be adopted that are: first, financially possible; and second, make maximum possible use of the financial resources available.

Among the resolutions tabled at the Health Ministries' conference 1981 is one requesting the Secretary General of CARICOM to seek the cooperation of interested agencies in helping member states meet their commitment to health for all through a primary health care strategy. In this context, USAID/Barbados plans to develop a primary health care project for funding in FY 1983. This one objective of this preliminary financial study is to provide those who will eventually be responsible for the design of that project, with a general description of health care financing in several of the member states. This study should also prove useful to policy makers and planners when they consider the financial implications of alternative policies and plans.

USAID/Barbados sought answers to several categories of financial questions. First, what are the current expenditure breakdowns between preventive and curative services, between in-patient and outpatient care, and between the public and private sectors, and among personal emoluments, commodities and capital costs? They also wanted an identification of current primary health care expenditures and an analysis of expenditure trends. Second, what are the sources of the revenues from which the expenditures are financed and what are the current trends in these sources? Sufficient information was found to answer most of these questions with considerable specificity.

Third, USAID posed several questions dealing with the consistency between current and future health policies and plans and current financial allocations. Answers to these questions tend to be general, not specific in nature, because new health policies and plans are now being formulated. A financial assessment of these policies and plans will require, first, further specification of implementation details and second, a more in-depth analysis of the financial implications implicit in these details.

USAID's fourth and final category of questions dealt with the feasibility of alternative financing mechanisms. The method by which a country finances its health care system is a political and historical question more than a financial one. One indicator of the degree to which people are willing to personally contribute towards the cost of quality health services is the size of the private sector where they pay directly for goods and services. The size and composition of the private sector was investigated in considerable detail. In addition, one alternative financing mechanism, a self-financing revolving fund for drugs, was investigated in considerable detail in a country where both the financial and political variables suggested that it might be a feasible alternative. This investigation could serve as a model for the analysis of other alternative financing mechanisms in other countries.

Preliminary financial studies of health care systems were carried out in three countries, St. Vincent and the Grenadines, St. Kitts/Nevis, and Dominica. In addition, a preliminary investigation was made into the feasibility of establishing a self-financing mechanism for drug distribution on Dominica.

It should be stressed again that these studies are preliminary in nature. The questions of finance are central to all health care sytems and deserving of much more time. In particular, further financial analysis and planning should be done as each country develops five-year plans for the health sector. The recurring costs of the increased and improved services implicit in these plans needs to be estimated carefully, and where necessary, alternative financing mechanisms investigated in acccordance with country-specific priorities. Similarly, the recurring cost implications of the new USAID project should be carefully estimated and compared to resource availability.

In brief, this series of studies goes quite a long way towards defining current financial resource availability and makes some projections about future availability and makes some projections about future availability. The next, and equally important step, is to carefully estimate future financial resource needs in the light of policies, plans and projects which are now being formulated. It may turn out that alternative financing mechanisms will be needed in those cases where the projected needs exceed projected availability.

Acknowledgments

This preliminary financial study of the health care system on St. Vincent and the Grenadines was made possible by the Permanent Secretary of Health, Mr. Owen Cuffy. Despite a hectic daily schedule, he managed to find time to discuss financial issues and to arrange apopointments with his staff. Two of his staff also deserve special thanks. Mr. Carl Brown, Health Educator, helped by locating sources of financial information and by spending many hours after work discussing the problems of health care financing. Mrs. Vernie Bowman, Senior Nursing Officer, took time out from her busy schedule and provided most of the reports from which health statistics were drawn for use in this report. These and other officials demonstrated a level of competence and dedication which, if matched by financial resources, assure that the future development of health care on St. Vincent and the Grenadines will be both rapid and cost-effective.

TABLE OF CONTENTS

	Introduction	i
	Acknowledgments	iii
	Table of Contents	iv
	List of Tables	v
I.	Recurrent Government Revenues	1
II.	Government Health Sector Allocations	3
III.	Service Breakdown of Recurrent Government Health Expenditures	6
IV.	Cost of Services Delivered	9
V.	Uses of Funds	15
VI.	Capital Expenditures	18
VII.	Private Sector Expenditures	21
VIII.	Summary and Recommendations	24
	Appendix A: Supporting Tables	26

LIST OF TABLES

Table 1:	Recurrent Government Revenues	1
Table 2:	Proportion of Governments Recurrent Financial Resources Allocated to Health	3
Table 3:	Government Health Sector Purchasing Power	4
Table 4:	Classification of the 1981/1982 Government Health Budget by Type of Service	7
Table 5:	Health Status Indicators on St. Vincent and the Grenadines	9
Table 6:	Estimated Unit Cost of Important Community-Based Services	11
Table 7:	Indicators of Service Delivery at Kingstown General Hospital	13
Table 8:	Estimated 1981/1982 Unit Operating Costs at Kingston General Hospital	13
Table 9:	1981/1982 Estimated Cost per admission at three Rural Hospitals	14
Table 10:	Comparison of Personal Emoluments to Other Charges	15
Table 11:	Amount Budgeted for Other Charges per Employee	16
Table 12:	Comparison of Government and Health Sector Capital Budgets	18
Table 13:	1981/1982 Health Sector Capital Budget by Project Category	19
Table 14:	Estimate of Financial Size of Private Health Sector in 1981/1982	22
Table A1:	Recurrent Revenue of the Government of St. Vincent and the Grenadines	26
Table A2:	Allocation of Personal Emoluments in 1981/1982 Estimates by Type of Service	28
Table A3:	Allocation of Other Charges in 1981/1982 Estimates by Type of Service	31
Table A4:	Estimation of Community Health Nursing Service Cost	34
Table A5:	Estimation of Cost of D.M.O. Clinics	35
Table A6:	Estimated 1981/1982 Operating Cost of Kingstown General Hospital	36
Table A7:	Estimated 1981/1982 Operating Cost of Three Rural Hospitals	37
Table A8:	Comparison of Government and Health Sector Capital Budgets by Source	38
Table A9:	Health Sector Capital Budgets Broken down by Projects	39
Table A10:	Estimated Private Sector Drug Sales	41

I. RECURRENT GOVERNMENT REVENUES

The Government of St. Vincent and the Grenadines provides about half of all health care services free of charge to the population. The other half of health care services are provided on a fee for service basis by the private sector. (See Section VII below.) The Government finances its share from general revenues, the greatest proportion of which is raised from taxes on imports (52%). Income taxes account for an important and stable share (17% in 1981/1982.

The rate of increase in government revenues is one indicator of its capacity to expand health services, since it is much easier to allocate new, previously uncommitted, funds in accordance with new priorities, than it is to re-allocate old funds. Table 1 shows that estimated revenues in current E.C. dollars increased at an annual rate of 21.4% between fiscal years 1976/1977 and 1981/1982, while the rate of increase in actual revenues between 1975/1976 and 1980/1981 was 20.4%. The rate of inflation, however, as indicated by the retail price index was 13.3% between January 1976 and January 1981. The annual rate of increase in the Governments' purchasing power was, therefore, much less. The purchasing power of the revenue budget has increased about 6.9% per year while that of actual revenues increased 6.3% per year.

TABLE 1: RECURRENT GOVERNMENT REVENUES(1)

FISCAL YEAR	CURRENT $ ESTIMATE	($000 EC) ACTUAL	PRICE(2) INDEX	PURCHASING POWER ESTIMATE	($000 EC) ACTUAL	% OVER OR UNDER
1981/82	70,881		586.3	62,563		
1980/81	48,229	45,767	517.5	48,229	45,767	-5
1979/80	43,166	44,799	432.0	51,709	53,665	+4
1978/79	32,368	39,155	375.4	44,620	53,976	+21
1977/78	28,613	30,881	331.0	44,735	48,281	+8
1976/77	26,835	22,432	309.2	44,913	37,544	-16
1975/76		18,100	277.2		33,791	
AVE: %(3)	21.4	20.4	13.3	6.9	6.3	+2

(1) Table 1 is derived from Table A1 in Appendix A. Detailed notes on sources are provided with Table A1.

(2) The index of retail prices was obtained from the Department of Statistics, Ministry of Finance, Planning and Development. March 1964 = 100. The January Figure was used, since January comes in the middle of the fiscal year. The figure for 1981/82 is a projection using the rate of increase (13.3%/year) experienced during the previous 5 years. Preliminary information on the first 6 months of 1981 suggest, however, that the rate of retail price increase slowed dramatically.

(3) In the first 5 columns, the figure given is the annual rate of growth (%) required to achieve the top figure in each column using the bottom figure as a base. The figure in the right-hand column is a weighted average also expressed in terms of per cent.

The six to seven per cent per year increase in purchasing power is significant. It represents a real increase in the Government's ability to buy goods and services for its people of approximately $32.00 per year. Should increased outlays be necessary to finance the recurring costs of an improved primary health care system with increased population coverage, the government currently has expanding resources which could be used in this way.

There will, however, be many computing claims on the limited annual increase in purchasing power. Some of these claims may deserve higher priority than expansion of free health services. Possibilities include expanded education services, agricultural research and development, improved roads and port facilities, etc.

It is interesting to note that "medical revenues" have increased more slowly than other revenues, exceeding the rate of inflation by only 1.4% per year. Further investigation might indicate that many people would be willing to contribute more financially for certain health services, if they had confidence in the quality of those services.

II. GOVERNMENT HEALTH SECTOR ALLOCATIONS

The Government of St. Vincent and the Grenadines demonstrates the priority it places on health services by allocating 14% of its recurrent budget to those services. This proportion is large compared to many other countries; allocations of seven to eight per cent being much more common.

Analysis of expenditure information indicates that the government's health sector spends apporoximately 98% of its budget. The government as a whole, however, overspends its budget by 12%. The health sector is apparently much less successful than other sectors in obtaining supplemental financial allocations during the year. Thus, expenditures in the government's health sector average 13% of total government spending.

TABLE 2: PROPORTION OF GOVERNMENT'S RECURRENT FINANCIAL RESOURCES(1) ALLOCATED TO HEALTH

FISCAL YEAR	HEALTH ALLOCATION(2) ($000 E.C.)		%	TOTAL GOVERNMENT ($000 E.C.)		%	HEALTH SHARE (%)	
	ESTIMATE	ACTUAL	OVER/ UNDER	ESTIMATE	ACTUAL	OVER/ UNDER	ESTIMATE	ACTUAL
1981/82	9,278			68,394			14	
1980/81	6,444			47,894			13	
1979/80	5,906	5,566	-6	43,166	47,330	+10	14	12
1978/79	5,253	5,277	0	31,323	41,062	+31	17	13
1977/78	3,949	3,871	-2	28,613	30,303	+6	14	13
1976/77	3,829	3,920	+2	26,835	26,724	0	14	15
1975/76		3,567			24,536			15
AVE. %(3)	19.4	11.8	-2	20.6	17.9	+12	14	13

(1) All figures are taken or derived directly from the "Estimates" for 1976/77 through 1981/82.

(2) The "Health Allocation" figures include both the administrative costs of the Ministry and the direct costs of providing medical and health services to the population. The figures for 1979/80 and earlier years were adjusted to reflect the community development function of the Ministry. The community development items were fairly easily identified in the budgets. The proportion expended was assumed to be the same for the health and community development functions.

(3) The annual growth rate (%) required to reach the top figure starting with the bottom figure is given in all columns denominated in $000 E.C. A weighted average is given in all columns denominated in per cent.

Table 3 presents a little more pessimistic picture. The purchasing power of actual expenditures in the Government's health sector was almost unchanged, comparing 1979/80 with 1975/76. In fact, 1979/80 expenditures represented an 8% decline in purchasing power from 1078/79 expenditures. This problem can also be seen in the right-hand column of Table 2. The share of government expenditures devoted to health has dropped from a high of 14.7% in 1976/77 to 11.8% in 1979/80.

TABLE 3: GOVERNMENT HEALTH SECTOR PURCHASING POWER(1)

FISCAL YEAR	CURRENT $ ($000 E.C.)		PRICE INDEX	PURCHASING POWER (JAN.'81 $000 E.C.)		% OVER/ UNDER
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL	
1981/82	9,278		586.3	8,189		
1980/81	6,444		517.5	6,444		
1979/80	5,906	5,566	432.0	7,075	6,668	-6
1978/79	5,253	5,277	375.4	7,241	7,274	0
1977/78	3,949	3,871	331.0	6,174	6,052	-2
1976/77	3,829	3,920	309.2	6,408	6,561	+2
1975/76		3,567	277.2		6,659	
AVE. %(2)	19.4	11.8	13.3	5.0	0.0	-2

(1) Current $ figures are the same as those used for the "Health Allocation" in Table 2. The Price Index is the same as the one used in Table 1. (See note (2) under that table.)

(2) In the first 5 columns, the figure given is the annual rate of growth (%) required to achieve the top figure in each column using the bottom figure as a base. The figure in the right-hand column is a weighted average.

Budget data look somewhat better. The 1981/82 estimate represents a 27% increase in purchasing power over 1980/81 and a 27.8% increase over 1976/77. It should be noted, however, that most of the 1981/82 increase is due to a government-wide salary increase, which is unlikely to be repeated on the same scale in the near future. There is likely to be a significant increase in the purchasing power of 1981/82 expenditures. This increase, however, doesn't appear to be the start of a new trend. Barring a change in government policy, future increases in current dollars are likely to offset inflation only.

If, as seems likely in the case of St. Vincent and the Grenadines, the objective of health for all requires real increases in funding for primary health care, there appear to be only 4 ways to get those funds.

1. The decline in government health expenditures relative to total expenditures can be slowed, stopped or reversed. This depends on national policy.

2. Within the government health sector, resources can be reallocated, giving primary health care a greater share. This depends on health policy. Implicit in this alternative is the difficult-to-implement reduction in funding for services not considered to be primary health care, notably hospital services. The current large capital development budget for Kingstown General Hospital makes this alternative still less likely.

3. Within the primary health care subsector improved cost-effectiveness can lead to an expansion of services without increasing financial outlays. Health Policy, however, already seems to be taking advantage of some of the major sources of savings; for example, use of less expensive auxiliary personnel to perform certain specified functions that might otherwise require the attention of more highly trained and more expensive personnel.

4. Community participation can be developed. The community can provide services in kind thereby reducing the need for government funding or the community can reimburse the government for some of the services and materials it receives through some form of alternative financing mechanism.

All of the above possibilities should be evaluated in the context of the five-year health plan which is currently being developed.

III. SERVICE BREAKDOWN OF RECURRENT GOVERNMENT HEALTH EXPENDITURES

The Government's health expenditures support a broad range of services from sanitation to specialized hospital care. They also support a training program for nurses, nursing assistants and community health aids, as well as a health ministry that oversees the operation of the health system and manages its further development. Table 4 provides a preliminary classification of government health expenditures by the type of service they support.

TABLE 4: CLASSIFICATION OF THE 1982 GOVERNMENT HEALTH BUDGET BY TYPE OF SERVICE

	Preventive Services		Curative Services		Sub total Health Services		Training Support		Administrative Support		Sub total Support Services		Total	
	$000 E.C.	%	$000 E.C.	%	$000 E.C.	%	$000 E.C.	%	$000 E.C.	%	$000 E.C.	%	$000 E.C.	%
Community based	1,483	22	880	13	2,363	35	350	25	373	33	723	29	3,086	33
Inpatient			4,392	65	4,392	65	1,049	75	749	67	1,798	71	6,190	67
Sub Total Health Services	1,483	22	5,272	78	6,755	73								
Training	175	12.5	1,224	87.5			1,399	55						
Administration	228	20	894	80					1,122	45				
Sub total Support Services	403	16	2,118	84							2,521	27		
Total	1,886	20	7,390	80									9,276	

NOTE:

This breakdown is approximate. The dividing line between preventive and curative services is not clear. For example, early case detection and treatment of infant diarrhea is a curative service, in that sick children are identified and treated. It is also, however, a preventive service, since a major purpose is to prevent dehydration which frequently results from diarrhea.

Tables A2 and A3 in Appendix A provide the detailed allocations by budgetary line item. These allocations involved a good bit of judgement. They are not based on standard objective criteria. Someone more familiar with the health system could certainly refine and improve upon these allocations.

The right-hand column in Table 4 shows that roughly two thirds of the government' health expenditures support the provision of inpatient services. The remaining one third supports "Community-based Services", the combination of all preventive services plus outpatient services. "Community-based Services" are primary health care services. As the government starts to implement policies and plans in support of its commitment to primary health care as a strategy for achieving health for all by 2000, the share of community-based services in government expenditures will probably increase. While the allocation is admittedly subjective, and comparisons with other countries are of questionable validity due to varying health conditions, Table 4 does suggest that community-based services are underfunded and accorded relatively low priority at the present time.

The bottom row in Table 4 shows that roughly four fifths of the government's health expenditures support provision of curative services. The remaining fifth supports preventive services. Again, the government's primary health care strategy will probably result in a shift of government resources towards cost-effective preventive services. There are no hard and fast guidelines for the allocation of financial resources between preventive and curative services, however, a twenty percent allocation for preventive services seems low.

The $1,122,000 allocation for "Administrative Support" services overstates the allocation for administration, because it includes funds which could not easily be divided among the three types of health services. (See the note at the bottom of Table A3 in Appendix A.) The actual amount being allocated for administration deserves further study. The most cost-effective way to increase the quality and quantity of services being delivered could be to improve the level of administrative support activities; for example in logistics, supervision, information, planning and finance.

It should also be noted at this time that the current format of the "Estimates" is not very useful from a management or planning perspective. Tables A2 and A3 show the current format. It is basically a line item budget. There is almost no differentiation either by institution or by type of activity. (Note that there is some division of personnel by institution.) The lack of budgets for individual institutions makes it difficult to delegate meaningful responsibility to those institutions. Institutional budgets would also aid in calculating the unit costs associated with the services being provided. St. Kitts/Nevis uses a budget broken down by institutions and has delegated considerable budgetary responsibility to institutional managers.

Program budgeting is not very easy to apply in health, because of the tendency for institutions and individuals to provide a wide range of services. Program budgeting is easiest to apply where services are provided through vertical programs. Nevertheless, Dominica uses program budgeting. On St. Vincent and the Grenadines consideration should be given to a combination of institutional and geographical budgeting. Health districts would each have their own budget. In addition, any large institution with anticipated expenditures exceeding $100,000 should have its own budget.

IV. COST OF SERVICES DELIVERED

The health status of the population on St. Vincent and the Grenadines is relatively good, particularly considering the level of economic development and the relative remoteness of certain population groups. Birth and death registration is believed to be virtually complete. There is however, reason to doubt information on the size of the population. Projections had put the 1980 population at about 120,000. The 1980 census counted just under 100,000. Since population is the denominator in the birth and death rates given below, these figures should be used with caution. There is also a relatively small discrepancy in the number of births and infant deaths for 1978 and 1979 between the 1979 Digest of Statistics and the "Fifth (1980) Annual Report of the National Family Planning Programme."

TABLE 5: HEALTH STATUS INDICATORS ON ST. VINCENT AND THE GRENADINES

YEAR	(1) POPULATION	(2) BIRTH RATE (PER 1,000 POP.)	(3) DEATH RATE (PER 1,000 POP.)	(4) INFANT MORTALITY (PER 1,000 BIRTHS)	(5) MATERNAL MORTALITY (PER 1,000 BIRTHS)
1980	122,283	25.0		40.9	
1979	119,942	28.0 (28.4)	5.8	36.3 (38.1)	0.9
1978	117,646	27.3 (27.8)	6.3	49.9 (49.2)	1.5
1977	113,223	27.8	6.9	52.2	0.0
1976	109,743	34.5	7.2	54.1	1.1
1975	106,275	32.0	7.8	(64.4)	0.3

(1) End of year population figures are from Table II.2 in Digest of Statistics For the Year 1979. The 1980 figure is a simple projection using the rate of increase experienced between 1978 and 1979.

(2) Calculated using the number of births from "National Family Planning Programme Fifth Annual Report." Figures in parentheses use number of births from Table II.2 in Digest of Statistics For the Year 1979.

(3) Calculated using number of deaths from Table II.2 in Digest of Statistics For the Year 1979.

(4) As reported in "National Family Planning Programme Fifth Annual Report," Figures in parentheses calculated using the number of infant deaths and number of births from Table II.2 in Digest of Statistics For the Year 1979.

(5) Calculated using the number of deaths due "complications of pregnancy, childbirth and puerperium" from Table II.5 and the numbers of births from Table II2 in Digest of Statistics For the Year 1979.

In general the rates all seem to be moving in the desired direction. The reported infant mortality rate has dropped from about 60 to about 40 per thousand births over 5 years. The birth and death rates also appear to have dropped significantly. If the population is around 100,000, instead of 120,000, however, these declines may not be significant. It is comforting to note, though, that the total number of deaths reported decreased each year from 1975 through 1979. The total number of births reported has varied erratically, but 1980 had the lowest figure.

Service statistics reporting is quite good. Annual reports for "Community and Rural Hospitals Services" and for the "St. Vincent National Family Planning Programme" were available for both 1979 and 1980. Both contain information of potential usefulness to managers and planners. Both were produced three to six months after the end of the reporting period. Both are ten to 12 page mimeographed documents which deserve praise for their practicality. (Health service statistics reports in many less developed countries contain a great deal of nearly useless trivia published 1 to 2 years after the end of the reporting period; so late that the information is of no use to managers and of greatly reduced use to planners.) An information systems consultant is currently in St. Vincent assisting with revisions which should eventually improve the content of these reports.

Table 6 provides unit cost estimates of some important community-based services. The unit costs are very rough estimates. First, it was not easy to estimate the financial resources expended for community Health Service nursing and for D.M.O. clinics. Tables A4 and A4 in Appendix A provide estimates of the operating costs of these two branches of the Community Health Service. The total operating costs estimated in these tables are probably fairly close to the true costs, although the Medical Staff in Community Health Service may have official responsibilities in addition to D.M.O. clinics, thereby indicating that less than 90% of their salaries should be allocated to those clinics.

Table 6 contains two more major assumptions First, the calendar 1980 service statistics are assumed to be accurate; that is, the reporting rate was assumed to be 100%; and, further, it is assumed that they represent a close approximation to the quantity of services being delivered in fiscal year 1981/82. Second, the time allocations in Table 6 are rough guesses not based on data or on intimate knowledge of the operation of the community health service.

Keeping in mind that the figures are approximate, it is interesting to note that while ante-natal and child clinics cost much less per session than D.M.O. clinics, the costs per attendance are similar because the average D.M.O. clinic attracts many more (99) patients than the ante-natal (7.5) or child welfare (13) clinic. The government appears to be spending about $22.50 per year for each active family planning acceptor and somewhat less for each home visited by a health worker. Immunizations appear to cost about $5.50 per dose.

TABLE 6: ESTIMATED UNIT COST OF IMPORTANT COMMUNITY-BASED SERVICES

#	TYPE OF SERVICE	SERVICE UNITS DELIVERED	%TIME ALLOCATED	SERVICE EXPENDITURE $ E.C.	SERVICE UNIT COST $ E.C.
1a	Ante-natal clinics	1,273	14% of N.S.	162,956	128
1b	New attendances at ante-natal clinics	2,358	14% of N.S	162,956	·69.11
1c	Total attendance at ante-natal clinics	9,507	14% of N.S.	162,956	17.14
2	Total deliveries	365	3% of N.S.	34,919	95.67
3a	Child welfare clinics	1,144	13% of N.S.	151,316	132
3b	Total attendance at child welfare clinics	15,055	13% of N.S.	151,316	10.05
4	Family planning active users	5,140	10% of N.S	116,397	22.65
5a	Homes visited	15,109	25% of N.S.	290,993	19.26
5b	Persons contacted during home visits (all age groups)	62,169	25% of N.S.	290,993	4.68
6	Dressings done	75,837	25% of N.S.	290,993	3.84
7a	D.M.O. clinics	596	100% of N.S.	535,674	899
7b	Total atttendane at D.M.O. clinics	59,039	100% of N.S.	535,674	9.07
	Total immunization doses	21,022	10% of N.S.	116,397	5.54

..OTE:

Types of services were selected from "Annual Report for 1980 Community and Rural Hospitals Services" except for the "Family planning active users" which was from "St. Vincent and the Grenadines National Family Planning Programme Fifth Annual Report." The number of "Service Units Delivered" was taken directly, or derived through simple addition, from the same reports. Under "% Time Allocated," N.S. refers to the nursing costs of the community Health Service (See Table A4 in Appendix A), and D.M.O. refers to the costs of D.M.O. clinics. (See Table A5 in Appendix A.) The percentages do not add to 100, because in some cases, different units have been used as indicators of the quantity of the same service. Thus the number of child welfare clinics and attendance at those clinics are two measures of the same service. Services that have the same number in the left-hand column use duplicating time allocations. Immunization services are assumed to overlap with all other services. Its 10% time allocation has been included in the allocations to other services. Double counting is not a problem, since immunizatio is understood to be part of these other services; for example, it is part of the standard package of services provided at child welfare clinics.

At this point, the purpose is not to point out the high or low unit cost of a particular service, but to present a practical methodology. Those who are more familiar with the health system can then adjust the assumptions and develop more accurate estimates. Those same people will be also able to make much better use of the information, since they will know something about the quality of the service. On this point, however, even an outsider can tell a lot just from the numbers. For example, he would question the quality of service a patient receives at a D.M.O. clinic when the average attendance is 99. Does a nurse screen the patients, allowing only the very sick to see the doctor? Does the doctor stay at the clinic for 10 hours (6 minutes per patient) or for 3 hours (2 minutes per patient)?

In evaluating the meaning of unit cost information, the question of quality is just as important as the magnitude of the unit cost figure itself.

Kingstown General Hospital produces two pages of annual service statistics. The 1980 "report" was prepared in March 1981, while the 1978 report was prepared in January 1979, both timely indeed. Given that Kingstown General directly or indirectly uses approximately 50% of the Government's health budget, however, a more thorough report appears warranted. Such a report should attempt to regularly relate services provided with the use of financial and human resources.

In general, Kingstown General Hospital appears to be a well-utilized hospital providing a reasonable quality of service. Table 7 presents several indicators of hospital performance during the last four years. The data show a reasonably high level of occupancy and a falling, relatively short, average length of stay.

TABLE 7: INDICATORS OF SERVICE DELIVERY AT KINGSTOWN GENERAL HOSPITAL

YEAR	PATIENT DAYS	AVERAGE LENGTH OF STAY	OCCUPANCY RATE $ E.C.
1980	57,241	7.1	75.6
1979	61,396	7.2	80.1
1978	58,458	7.5	75.9
1977	50,770	7.7	65.9

(1) Taken directly from the numerographed statistics for Kingstown General Hospital for 1978 and 1980.

Table A6 in Appendix A presents an estimated operating cost for Kingstown General Hospital for 198' '82 of $5,299,319 E.C. A key, but seemingly justified, assumption is that 3/4 of the cost of the nurse training program should be considered part of the operating cost of the hospital. (See note (5) to Table A6.) Table 8 presents some unit cost figures using 1980 service data applied to the 1981/82 operating cost estimate.

TABLE 8: ESTIMATED 1981/82 UNIT OPERATING COSTS AT KINGSTOWN GENERAL HOSPITAL

UNIT	# UNITS	COST PER UNIT $ E.C.
Hospital Beds	211	25,115
Patient Days	57,241	93
Patients(1)	8,062	657

(1) Calculated from patient days using an average length of stay of 7.1.

It should be repeated that the unit costs presented in Table 8 are relatively crude estimates. Indirect costs (5.8%) have been included. Non-personnel costs have been allocated to the hospital in proportion to its share of personnel costs. Furthermore, all the estimated costs have been attributed to inpatient services; that is, no costs have been attributed to outpatient services which if any, did not appear in the annual reports of service statistics. Different assumptions could reduce the patient day cost of $93, but this should only be done if it will result in a truer reflection of what the government is doing. While the patient day cost is relatively high, however, the cost per patient is relatively low, a direct result of the relatively short average length of stay, which is; itself, an indicator of the quality of case.

Unfortunately, the annual reports on "Community and Rural Hospitals Services" don't provide sufficient service information to develop similar unit cost information. About the best that can be done is to divide the number of admissions by the estimated hospital budget, thus getting an estimate of the amount spent on each patient. Estimated 1981/82 operating costs for the three rural hospitals are developed in Table A7 in Appendix A. Table 9 shows the corresponding estimated costs per admission.

TABLE 9: 1981/82 ESTIMATED COST PER ADMISSION AT THREE RURAL HOSPITALS ($ E.C.)

HOSPITAL	ESTIMATED OPERATING COST	NUMBER OF ADMISSIONS IN 1980	ESTIMATED COST PER ADMISSION
Georgetown	133,845	259	517
Chateaubelair	92,476	72	1,284
Bequia	94,909	215	441

The unit costs in Table 9 roughly correspond to what one would expect. Rural hospitals tend to offer a limited range of low-cost services. They have limited budgets. Georgetown, for example, has 20 beds with an estimated budget of $6,692 per bed, about 27% of the budget per bed at Kingstown General. Utilizatin tends to be low at rural hospitals. Where utilization is even moderate; for example, at Georgetown and Bequia, unit costs may be quite low, disregarding for the moment the question of quality of service. Where utilization is low, however, unit costs will be very high as at Chateaubelair, and this, despite the fact that service quality is not likely to be high. It costs about twice as much to treat a patient at Chateaubelair as at Kingstown General!

The above has only scratched the surface of the subject of service unit costs. There may be some information here which will be useful in the current five-year planning exercise. Hopefully, enough questions will have been raised, that some of the information which would have been useful; for example, the number of patient days at rural hospitals, will be collected in the future. Once better information is available, analyses such as this one could develop information for decision makers interested in applying cost-efectiveness criteria, or in developing a system of service fees for patients in private wards.

V. USES OF FUNDS

The Government of St. Vincent and the Grenadines breaks its recurrent budget down into 2 categories: personal emoluments and other charges. Other charges refer mainly to materials and supplies. The major items included in other charges are drugs and dressings, sanitary measures and patients dietary. Table A3 in Appendix A lists the items included in other charges in considerable detail. All non-recurrent expenditures are included in separate "Capital Estimates" and are discussed in the next section.

The ratio between personal emoluments and other charges is an indicator of the quantity of resources personnel have at their disposal to compliment their skills. There is, however, no reliable rule of thumb which says what this ratio should be. It varies from country to country depending upon relative salary scales and the type of health program. Table 10 compares the amounts budgeted for personal emoluments and other charges for the last three years.

TABLE 10: COMPARISON OF PERSONAL EMOLUMENTS TO OTHER CHARGES

YEAR	SOURCE OF FIGURE	PERSONAL	OTHER	%
1981/82	Estimate	6,198	3,078	49.7
1930/81	Estimate	3,963	2,481	62.6
1979/80	Estimate	3,698	2,208	59.7
1979/80	Actual	3,206	2,360	73.6

(1) $000 E.C.

There are two interesting observations to be made on the data presented in Table 10. First, the ratio varies considerably over short periods of time in the same health system. Thus, in 1981/82, when a major salary increase was budgeted, the ratio dropped by 21% (49.7/62.6). Second, there may be considerable variation between budgets and actual expenditures as occurred in 1979/80. This variation may be consistently in one direction from year to year. In general, salaries for all positions must be budgeted for a full 12 months. If a position is vacant for one or more months, the money can not easily be spent on personal emoluments for other positions. This rigidity does not exist to the same extent for other charges. In fact, money not spent for personal emoluments may sometimes, with Ministry of Finance approval, be reallocated and spent on other charges.

The problem of a variable salary scale can be factored out by calculating the amount budgeted or spent for other charges per employee. For purposes of comparison, it is better that this amount be shown in terms of constant dollars, since money is being related to something (in this case, employees) that is not subject to inflation.

TABLE 11: AMOUNT BUDGETED FOR OTHER CHARGES PER EMPLOYEE

YEAR	NUMBER OF EMPLOYEES	OTHER CHARGES ($ E.C.)	OTHER CHARGES PER EMPLOYEE CURRENT ($ E.C.)	PRICE(1) INDEX	OTHER CHARGES PER EMPLOYEE (Jan/82 $ E.C.)
1981/82	614	3,078,000	5,013	586.3	5,013
1980/81	576	2,481,000	4,307	517.5	4,880
1979/80	590	2,208,000	3,742	432.0	5,079
1979/80(2)	512(3)	2,360,000	4,609	432.0	6,255

(1) As explained under Table 1, the rate of increase of the price index may have slowed substantially in 1981/82.

(2) Figures in this row are actual rather than budgeted figures.

(3) An estimated number, derived by applying the rate of financial under-expenditure to the budgeted number of personnel.

The right-hand column suggests that there has been little, if any, increase in the purchasing power of the budget for other charges per employee. In fact, if underexpenditure of personal emoluments and overexpenditure for other charges is not typical, the purchasing power available to support the work of health personnel may be substantially less in 1981/82 than in 1979/80.

Most government-run health systems suffer chronic shortages of materials and supplies. The health workers in the Government's health system on St. Vincent and the Grenadines suggest that their system is no exception. Medicines are reportedly in short supply. Only $38,000 E.C. is budgeted for petrol, diesel and gas for the whole health sytem for a whole year. What happens to workers morale and productivity when they run out of medicines? What happens to supervisory schedules when there is not more money for petrol?

The information available is not sufficient to make a conclusive argument that budgetary allocations for other charges deserve priority over the hiring of new personnel. The question appears, however, to deserve further investigation. This is especially true under circumstances where hiring commitments are frequently made long before the financial consequences become apparent. Thus where a commitment is made to hire nurse trainers who successfully complete training, the full impact of this commitment is not felt on the budget until three years later. At that time, proposals to increase purchases of drugs or petrol or food for patients may take second priority.

In conclusion, material and supply shortages appear to be a problem. Allocations in this area do not appear to be keeping up with inflation. Planners need to carefully project the cost of personnel commitments, not only in terms of the financial burden the additional salaries will place on the budget, but also in terms of the additional expenditure for the materials and supplies these people will need to perform effectively.

Training programs have long-term operating cost implications in much the same way as construction projects which will be discussed in the next section.

VI. CAPITAL EXPENDITURES

The Government of St. Vincent and the Grenadines has ambitious plans for the expansion of the physical infrastructure of the health sector. The 1981/82 capital budget exceeds more than one third the budget for recurring costs. The health sector accounts for 22% of the government's 1981/82 capital budget. As indicated in Table 12, the government's capital budget has grown very rapidly, even after taking inflation into account. Growth of the health sector's capital budget has been even more rapid.

TABLE 12: COMPARISON OF GOVERNMENT AND HEALTH SECTOR CAPITAL BUDGETS

YEAR	CURRENT $ ($000 E.C.)		PRICE INDEX	PURCHASING POWER (JAN. '82 $000 E.C.)		HEALTH
	GOVERNMENT	HEALTH		GOVERNMENT	HEALTH	
1981/82	59,496	12,842	586.3	59,496	12,842	21.6
1980/81	55,294	4,785	517.5	62,645	5,421	8.7
1979/80	47,344	2,833	432.0	64,254	3,845	6.0
1978/79	29,725	1,428	375.4	46,425	2,230	4.8
1977/78	18,905	1,250	331.0	33,486	2,214	6.6
1976/77	13,297	1,727	309.2	25,214	3,275	13.0
RATE OF GROWTH	34.9%	49.4%	13.3%(1)	18.7%	31.4%	10.7%

(1) The same scale is used as in Table 1, although it is one year shorter. Thus, the apparent growth rate of the index as shown here is not 13.3% but rather 13.7%, since the rate of growth registered from January 1976 to January 1977 was only 11.5%.

Most of the growth in the capital budget is due to growth in foreign aid. Although growth of domestic financing for the government's capital budget has been greater than 100% per year, it still constitutes only 11% of the total budget. (See Table A8 in Appendix A.) The government's strong commitment to the health sector is further demonstrated by the allocation of 38.5% of total domestic capital financing health sector. Twenty per cent of the health sector's capital budget comes from domestic financing, contrasted to 11% for the government as a whole.

The 1981/82 health sector capital budget is mostly allocated to the further development of Kingstown General Hospital and to water supply projects. Expansion and/or renovation of rural hospitals and health centers are third in priority as is shown in Table 13.

TABLE 13: 1981/82 HEALTH SECTOR CAPITAL BUDGET BY PROJECT CATEGORY(1)

PROJECT CATEGORY	AMOUNT ($000 E.C.)	%
Kingstown General Hospital	5,700	44.4
Rural Hospitals and Health Centers	2,150	16.7
School of Nursing and Health Sciences	120	0.9
Water Supply	4,272	33.3
Refuse Vehicles	600	4.7
TOTAL	12,842	100.0

(1) Table A9 in Appendix A provides a complete listing of individual projects, as well as project budgets for each year since 1976/77.

There are two major difficulties in assessing the implications of the capital budget. First, there is no readily available expenditure information. A casual look at Table A9 in appendix A suggests that much of the money in the capital budget isn't spent. For example, $900,000 has been budgeted for the Georgetown Health Center for 3 years in a row. In fact, money appears to be frequently included "in" the capital budget before an agreement is signed with a foreign funder and sometimes before a likely donor is even identified. From the point of view of a financial manager, it would be helpful to classify capital projects into 2 categories, those for which funding is assured and those for which funding is still being sought.

The second major difficulty is perhaps more serious. There appears to have been very little, if any, analysis of the operationg cost implications of many of the projects. This is serious in the case of projects funded by domestic revenues, but at least in the case of these projects, it is possible to agree that future operating costs can be met from the same source as funded the capital investment, the only consequence being less money available for further capital investment.

The capital development phase of most projects is, however, funded by foreign sources. These sources are very unlikely to fund future operating costs. By funding the capital costs these foreign sources are placing an obligation for future operating costs on the government. Foreign donors are, at best, negligent, if they fail to make the government aware of the operating cost implications of the projects they fund.

It appears that donors are frequently not helping the government estimate future operating costs. A recent World Bank review of the health sector listed 10 projects. Eight of these projects, costing $6,540,000, were shown as having no operating cost implications. The two remaining projects, hospital extension and refurbishing and construction of 5 health centers, costing $3,408,000, were shown as having total operating cost implications of $31,000, less than 1 per cent of the capital cost. Actual operating costs are likely to be closer to 20 times that amount.

The Ministry of Health is currently going through a five-year planning process. Part of that process should include a fairly detailed review of the operating cost implications of all currrently planned capital development projects. Three major steps would be involved in this review.

1. Estimate total operating cost of the completed project.

2. Estimate current operating cost of any activities that will be displaced by the completed project; for example, the operating cost of a clinic that will be replaced by a health center; and subtract this amount from the estimated operating cost of the completed project.

3. Identify the likely source of funding for all increased operating costs; for example, "general government tax revenues."

Clearly, the same procedure should be followed for the development of all future projects. The current five-year plan might help in this area by providing standard guidelines and forms to be used by project designers for the estimation of expected operating costs.

Until something like this is done, it will be impossible to properly assess the financial feasibility of implementing the government's stated policy of health for all through a strategy of primary health care. Current and future government financial resources are known or can be estimated. At present the magnitude of commitments against those resources is not known.

VII. PRIVATE SECTOR EXPENDITURES

It is difficult to make an accurate estimate of the size of the private health sector on St. Vincent and the Grenadines. As the following discussion will make clear, however, it is large, growing rapidly, and clearly demonstrates the willingness of the population to contribute directly towards the financial costs of the health care they need and want.

There are four major elements in the private sector the financial magnitude of which could be estimated: drug sales, the private practices of approximately 14 doctors, the 10-bed private hospital and charges for home deliveries. According to trade statistics the sale of medicines is booming. Estimated private sector retail sales for 1981/82 are $3,905,000 E.C., a little more than 5 times the government's budget for drugs in the public sector. While the government's budget for drugs grew from $3,000,000 in 1976/77 to $700,000 in 1981/82, an annual rate of increase of 18.5%, private sector imports (cost plus duty) grew from $673,000 in 1976/77 to $1,381,000 in 1979/80, an annual rate of increase of 27.1%. Table A10 in Appendix A summarizes the data and assumptions used in estimating private sector drug sales.

Estimating the fees paid to doctors in their private practices is much more speculative. Fourteen doctors are thought to have regular private practices. The size of their practices varies enormously. Some may see as few as 10 patients per day. At least one is thought to see more than 100. An average of 40 has been assumed here. Some doctors see patients every day of the week. Most don't have regular hours on Sundays. An average of 290 days per year, about 5½ days per week has been assumed here. Finally some doctors charge $10 to $15 per consultation while others charge $25. An average of $15 has been assumed. The above assumptions suggest that people are paying about $2,436,000 for private consultations per year.

The private 10-bed hospital is reportedly doing well. Its occupancy rate is supposed to be close to 100% (assume 80%) with a daily bed charge of $100 plus medicine and surgery. Private sector drug sales have already been estimated above. Surgery charges have been assumed to be about 20% of the daily bed charge. The hospital operates 365 days a year. These assumptions suggest that the annual gross income of the hospital is about $350,000.

Nurse-midwives charge a standard fee of $20 for home deliveries. About 350 home deliveries are performed each year, producing $7,000 annually in gross income for the nurse-midwives. Table 14 summarizes these estimates of private sector activity.

TABLE 14: ESTIMATE OF FINANCIAL SIZE OF PRIVATE HEALTH SECTOR IN 1981/82

SECTOR COMPONENT	MAJOR ASSUMPTIONS	EXPENDITURES ($000 E.C.)
Retail Drug Sales	75% average private sector mark-up Continuation of 27.1% annual growth rate	3,905
Doctor Consultations	14 doctors in private practice Average of 40 patients per day per doctor Average of 290 days per year per doctor Average charge of $15 per patient	2,436
Private 10-bed hospital	80% Occupancy Rate 365 days per year $100 per day bed charge Surgery charges equal 20% of bed charges	350
Home Deliveries	350 home deliveries at $20 per delivery	7
TOTAL		6,698

The above is almost certainly an underestimate of private sector health expenditures. It does not include any of the transportation costs incurred in the private sector during the process of procuring health services from either the public or private sectors, nor does it include costs incurred by those who are privately or self-referred to specialist services off the island. It also does not include special charges for medical certificates to justify work absences to employers nor service fees associated with injections which may be received during a consultation with a doctor. Finally, expenditures, probably relatively small, by private voluntary organizations and the International Planned Parenthood Federation have not been included.

If all private health expenditures could be estimated, it seems likely that privte sector expenditures would exceed those of the government.

The existence of a large private sector demonstrates that a large part of the population is willing to pay for some of the health services, particularly curative services, which it feels it needs. This suggests that, if the government finds it difficult to raise the money needed to implement its health for all policy, it should turn to the people who will willingly help finance the cost of some services.

In considering alternative financing mechanisms, it is important to consider combination of funding sources. Certain services are best paid for by the government from tax revenues; for example, most preventive services.

(1) End of year population figures are from Table II.2 in Digest of Statistics For the Year 1979. The 1980 figure is a simple projection using the rate of increase experienced between 1978 and 1979.

(2) Calculated using the number of births from "National Family Planning Programme Fifth Annual Report." Figures in parentheses use number of births from Table II.2 in Digest of Statistics For the Year 1979.

(3) Calculated using number of deaths from Table II.2 in Digest of Statistics For the Year 1979.

(4) As reported in "National Family Planning Programme Fifth Annual Report," Figures in parentheses calculated using the number of infant deaths and number of births from Table II.2 in Digest of Statistics For the Year 1979.

(5) Calculated using the number of deaths due "complications of pregnancy, childbirth and puerperium" from Table II.5 and the numbers of births from Table II2 in Digest of Statistics For the Year 1979.

Other things patients might willingly pay for directly; for example, drug costs; if they are assured of the quality and competative prices. Still other services, perhaps surgery and hospitalization, might be covered by a combination of government funds, an insurance scheme and token personal payments. The number of possible alternatives is nearly limitless.

The important principle to keep in mind that it is the government's responsibility to see that the health services needed, are in fact provided, on a reasonably, not necessarily perfectly, equitable basis. The source of funding is an important, but secondary issue. The people pay in any case, because the government's money is, ultimately, their money.

VIII. SUMMARY AND RECOMMENDATIONS

Both government revenues and health sector spending have been increasing. After taking into account the effect of inflation, however, there have been periods when government and health sector purchasing power have decreased.

At the present time, about two thirds of government recurrent health expenditures are devoted directly or indirectly to inpatient services. About 20% is expended for preventive services, and the remainder for outpatient services. There is insufficient information currently available to calculate accurate unit costs, although a methodology was presented, in the form of a worked example with very broad underlying assumptions. When unit costs are worked out, some assessment of service quality will also be necessary. For example, at the cost per patient contact at a D.M.O. clinic seems quite low, about $9.00, but this is because the doctor reportedly sees an average of 99 patients per session.

Capital expenditure in the health sector appears on the verge of rapid expansion. About 60% will be on renovation or new construction of health facilities. Almost all the remainder will be on water supply systems. The operating cost implications of the capital projects do not appear to have been adequately assessed. Even at a low rate of expenditure of the capital budget, major new burdens will be placed on the recurring budget of the health services. This is likely to have implications for the amount of general tax revenue funding which will be available for primary health care.

The private sector appears to be prosperous. People are paying a lot of money for medicines, perhaps as much as $40 per person per year. They are also paying a lot for private consultations with physicians. A relatively wealthy upper and upper-middle class are keeping the small private hospital very busy. Further demonstration that the people are willing to contribute directly to meet the costs of health services is not needed.

The following are tentative recommendations, based on an all-to-brief study, which should help the government's health service reach the announced goal of health for all by 2000.

1. Undertake a careful, thorough assessment of the projected recurring costs of all currently planned capital projects. This review should include the recurring cost implications of current training programs. It should also include the recurring costs of any new primary health care activities. An ideal time to perform this review would be upon completion of the first draft of the country's five-year health plan.

2. Assuming the review of projected recurring costs indicates a potential shortage of funds, investigate alternative financing mechanisms to make use of resources currently used in the private sector. One such measure is currently under consideration; charging for drugs provided at public institutions to patients who received their prescription as a result of a private consultation.

3. Alternative financing mechanisms will probably require improved accounting and general information systems. Improvement of the health statistics and management information system should continue to receive high priority. Simplicity should be stressed. The health system on St Vincent and the Grenadines is small and will continue to be small. Sophisticated, computerized systems are not needed and may tend to make the information less accessible to the health workers who need it for their decision making.

4. Neither the annual report of the National Family Planning Programme nor the report of community and Rural Hospital Services nor the two-page annual service statistics summaries of Kingstown General Hospital included any financial information. These reports would be improved, if such information were included. The first two reports would also be improved by identification of information sources; for example, monthly activity report; and the reporting rate.

5. Permanent Secretary of Health cited planning and management as his priority concern in the Ministry of Health. The possibility of adding senior staff to the Ministry with planning and management skills and/or aptitude should receive priority consideration. Foreign donors should consider long-term technical assistance in this area, particularly if the Ministry can identify suitably placed counterparts.

6. The format of the government's health sector budget should be revised. It is recommended that separate budgets be developed for each geographical district, and for each institution within those districts which has anticipated expenditures in excess of $100,000 per year. This revision of the budget format will be useful for planning purposes, even if management decentralization is not currently being considered. Should managment decentralization be undertaken in the future, the needed budgetary format will already be in place.

APPENDIX A: SUPPORTING TABLES

TABLE A1: RECURRENT REVENUE OF THE GOVERNMENT OF ST. VINCENT AND THE GRENADINES ($000 E.C.)

YEAR	IMPORT[9] DUTIES	OTHER[9] TAXES (mostly on imports)	INCOME[9] TAX	HEALTH[10] SECTOR REVENUES	FOREIGN[9] BUDGETARY	ALL OTHER[11] REVENUE	TOTAL[9] ESTIMATED	TOTAL[9] ACHIEVED	% UNDER/ OVER
81/82[1]	12,500	24,015	11,980	216	0	22,170	70,881		
80/81[2]	10,500	12,717	10,300	199	500	11,551	48,229	45,767	-5
79/80[3]	10,591	12,213	10,971	128	2,705	8,191	43,166	44,799	+4
78/79[4]	8,031	9,625	8,790	143	4,484	8,082	32,368	39,155	+21
77/78[5]	6,871	8,165	5.719	138	2,154	7.834	28,613	30,881	+8
76/77[6]	5,587	6,389	4,766	96	0	5,594	26,835	22,432	-16
75/76[7]	4,194	4,789	4,039	94	0	4,984		18,100	
74/75[8]	7,069	4,907	6,368	151	1,959	8,395		26,890	
AVE. GROWTH[12] SINCE 75/76	20.0%	30.8%	19.9%	14.9%	-	28.2%	21.4%	20.4%	+2

26

(1) Estimate from 1981/1982 Estimates of St. Vincent and the Grenadines

(2) Revised Estimate from 1981/82 Estimates of St. Vincent and the Grenadines

(3) Actual from 1981/1982 Estimates of St. Vincent and the Grenadines

(4) Actual from 1980/1981 Estimates of St. Vincent and the Grenadines

(5) Actual from the 1979/1980 Estimates of St. Vincent

(6) Actual from the 1978/1979 Estimates of St. Vincent

(7) Actual from the 1977/1978 Estimates of St. Vincent

(8) Actual from the 1976/1977 Estimates of St. Vincent

(9) From page 2 of the above mentioned estimates

(10) From page 8 of the above mentioned estimates

(11) Calculated as the remainder using the figure in the "Total Achieved" column, except for 1981/1982.

(12) Calculated as the annual rate of growth required to achieve the 1981/1982 figure using the 1975/1976 figure as a base. For the "Total Estimated" column the 1976/77 figure was used as a base. In the "Total Achieved" column, the rate necessary to achieve the 1980/81 figure was calculated.

(13) No reason was ascertained explaining why the 1974/75 figures should have been so high. Thus, for the purposes of calculating growth rates, the figures for 1975/76 were thought to be more appropriate as a base.

PERSONAL EMOLUMENTS IN

TABLE A2: ALLOCATION OF 1981/82 ESTIMATES BY TYPE OF SERVICE[1]

CCOUNT[4] UMBER	ACCOUNT DESCRIPTION	TRAINING	ADMINIS-[2] TRATION	PREVENTIVE SERVICES	CURATIVE[3] SERVICES	OUTPATIENT SERVICES	INPATIENT SERVICES
170	All Ministry of Health Staff		158				
142 001 (1)	Senior Medical Officer		11			11	
(2)	Senior Nursing Officer		14				
(3-6)	Central Dispensary Staff				40		
(7-9)	Medical Stores Staff		33				
(10-11)	Serving Room Staff		17				
(12-15)	School of Nursing Staff & Students	966					
(16-18)	Hospital Administration						21
(19-24)	Medical Staff						126
(25)	Medical Officers				79		
(26-31)	Medical Staff Allowances						27
(32-37)	Nursing Staff						837
(38-42)	Laboratory Staff						81
(43-48)	X-Ray Department Staff						69
(49-50)	Maintenance Staff						20
(51-52)	Residence Staff						11
(53-61)	Services Staff						267
(62-65)	Leper Hospital Staff						33
(66-72)	Lewis Punnet Home Staff						132
(73-79)	Mental Health Center Staff						217
(83-89)	Medical Staff in C.H.S.[5]					164	
(90-92)	Dental Staff in C.H.S					49	
(93-98)	Health Nursing Services in C.H.S.			164		164	
(99-104)	Health Inspectors			171			
(105-107)	Dispensary Service Staff					89	
	PAGE TOTALS	966	233	335	119	477	1,841

ACCOUNT(4) NUMBER	ACCOUNT DESCRIPTION	TRAINING	ADMINIS-(2) TRATION	PREVENTIVE SERVICES	CURATIVE(3) SERVICES	OUTPATIENT SERVICES	INPATIENT SERVICES
	TOTALS FROM PREVIOUS PAGE	966	233	335	119	477	1,841
214 2001(108)	Physiotherapist						10
(109)	Nutrition Officer			10			
(110)	Dietetic Technician			13			
(111)	Health Educator			7			
(112)	Library Assistant		4				
(113)	Graphic Artists			7			
(114)	Optometrist Allowance					4	
(115-121)	Georgetown Rural Hospital Staff						55
(122-127)	Bequia Rural Hospital Staff						39
(128-133)	Chateaubelair Rural Hospital Staff						38
(134-139)	Nat'l Family Planning Programme Staff			88			
(140-141)	Hospital Laundry						43
TOTAL (NOT INCLUDING SALARY INCREASE)		966	237	460	119	481	2,026
PERCENT DISTRIBUTION		22.5	5.5	10.7	2.8	11.2	47.2
PROPORTIONAL DISTRIBUTION OF SALARY INCREASES TOTALLING $1,909.		430	105	205	53	214	902
TOTAL (INCLUDING SALARY INCREASES)		1,396	342	665	172	695	2,928
PROPORTIONAL ALLOCATION OF CURATIVE AMONG OUTPATIENT AND INPATIENT						33	139
	TOTAL	1,396	342	665		728	3,067

(1) Allocation among the 6 service classifications is a matter of judgement in many cases. Those who know more about the individual accounts and the specific job descriptions of the personnel will be able to improve upon this allocation. Partial allocations may be warranted in many cases. For example x-ray personnel may perform services for outpatients as well as inpatients.

(2) Administration refers to those activities which support the health service delivery system, but are not necessarily involved directly in the delivery of one or another type of health service.

(3) Curative services is used as a category only when it was thought difficult to specify whether an item supported outpatient or inpatient services. Eventually this category was the relative size of the allocations in these 2 categories.

(4) Account numbers are those provided in the 1981/82 Estimates

(5) C.H.S. Stands for Community Health Service.

TABLE A3: ALLOCATION OF OTHER CHARGES IN 1981/82 ESTIMATES BY TYPE OF SERVICE ($000 E.C.)(1)

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	TRAINING	ADMINIS-TRATION	PREVENTIVE SERVICES	CURATIVE SERVICES	OUTPATIENT SERVICES	INPATIENT SERVICES
1170 002-080	Other Ministry of Health Charges		160				
290-298	Medical and Health in the Ministry		207				
2142 038	Medical Library		3				
080	Visiting Specalists						22
115	General Maintenance		28				
121	Transport of Drugs and Stores		8				
131	Drugs and Dressings				700		
132	Chemicals and Equipment for Drug Mfg.				25		
133	Instruments and Equipment		90				
135	Staff Uniforms		38				
137	Linen and clothing						44
181	Radiological Sundries						46
182	Laboratory Chemicals and Equipment						50
209	Nurses Training	3					
210	Electricity		110				
211	Cleaning Materials		38				
212	Upkeep of Grounds						10
216	Petrol, diesel, gas		38				
217	Rentals & casual wages, Dispensaries				15		
220	Maintenance of Vehicles and Plant		40				
223	Conveyance of Patients						3
231	Druggist's Sundries				7		
232	Patients' Dietary						518
233	Medical Comforts				1		
236	Mental Health Center Industries					2	
237	Health Education Materials			2			
241	Burials						8
242	Upkeep of district Cemetaries		2				
252	Allowance to Mental Patients on Parole					1	
253	Overseas Medical Treatment						10
	PAGE TOTALS	3	762	2	748	3	711

TABLE A3: CONTINUED: PAGE 2

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	TRAINING	ADMINIS-TRATION	PREVENTIVE SERVICES	CURATIVE SERVICES	OUTPATIENT SERVICES	INPATIENT SERVICES
	TOTALS FROM PREVIOUS PAGE	3	762	2	748	3	711
2142 280	Histology and Other Investigations						6
281	Supply of Spectacles					6	
282	Sanitary Measures (St. Vincent)			707			
283	Sanitary Measures (Grenadines)			6			
284	Maintenance of Arnos Vale Plant			2			
285	Nutrition Education			1			
286-289	National Family Planning Programme			20			
980	Renovation of Drug Mfg. Unit (none)						
981	Furniture and Equipment		15				
982	Immunization Programme			15			
983	Medical aid Unit at Amos Vale Airport (none)						
986	Aedes Aegypti Programme			65			
987	Purchase of New Equipment		3				
988	Financing of Mental Health Center						3
	TOTAL OTHER CHARGES	3	780	818	748	9	720
	Apportion "Curative Services" between outpatient and inpatient services in same ratio as salary allocation					143	605
	TOTAL OTHER CHARGES	3	780	818		152	1,325
	TOTAL PERSONAL EMOLUMENTS (TABLE 2)	1,396	342	665		728	3,067
	GRAND TOTAL	1,399	1,122	1,483		880	4,392

TABLE A3: CONTINUED: PAGE 2

(1) See Notes for Table 2A. Allocation is even more difficult in the case of "other charges." In the case of "other charges," "Administration" was also allocted a number of items which have little or nothing to do with administration, e.g. #981 Furniture and Equipment." Since there was no way to determine whch type of service is supported by these items, they were lumped under administration and will eventually be allocated in proportion to the other financial resources that were directly allocated to particular types of service.

TABLE A4: ESTIMATION OF COMMUNITY HEALTH NURSING SERVICE COST(1)

ITEM	AMOUNT $ E.C.
Medical Staff in Community Health Service (10% of time for nursing supervision)	16,400
Health Nursing Services in Community Health Service	328,000
Dispensary Services Staff (10% only in support of nursing services)	8,900
Nutrition Officer	10,000
Dietetic Technician	13,000
Health Educator	7,000
National Family Planning Programme Staff	88,000
Graphic Artists	7,000
Salary Increase (44.5% of all items listed above)(2)	212,844
Allocation of Administrative Personnel and 25% of Training Costs (12.5% of items listed above)(3)	86,393
TOTAL PERSONAL EMOLUMENTS	777,537
OTHER CHARGES (49.7% of personal emoluments)(4)	386,436
GRAND TOTAL COST OF COMMUNITY HEALTH NURSING SERVICE	1,163,973

(1) Amounts are taken from or derived from Tables A2 and A3.

(2) In Table A2, total salaries without the increase were $4,289,000. The total budgeted for the salary increase is $1,909,000. (1,909/4,289 = 44.5%)

(3) In Table A2, total salaries for administration and 25% of training were $691 (342,000 + 349,000) while all other salaries totaled $5,507,000 (1,047,000 + 665,000 + 728,000 + 3,067,000). (691/5507 = 12.5%) (See note (3) in Table A7.)

(4) In Table A3, the total of "other charges" was $3,078,000 (3,000 + 780,000 + 818,000 + 152,000 + 1,325,000) while the total of all salaries was $6,198,000 (1,396,000 + 342,000 + 665,000 + 728,000 + 3,067,000). (3,078/6,198 = 49.7%

TABLE A5: ESTIMATION OF COST of D.M.O. CLINICS(1)

ITEM	AMOUNT $ E.C.
Medical Staff in Community Health Service (90%; 10% included in Table A4)	147,600
Dispensary Services Staff (40%; 10% included in Table A4; 50% allocated to rural hospitals)	35,600
Salary Increase (44.5% of all items listed above)(2)	81,524
Allocation of Administrative Personnel Costs (5.8% of all items listed above)(3)	15,354
Nursing Costs (10% of Total Personal Emoluments in Table A4)	77,754
Health Educator	7,000
TOTAL PERSONAL EMOLUMENTS	357,832
OTHER CHARGES (49.7% of personal emoluments)(4)	177,842
GRAND TOTAL COST OF D.M.O. CLINICS	535,674

(1) Amounts are taken from, or derived from, Tables A2 and A3.

(2) See note (2) in Table A4.

(3) Training expenditures not included, although they were included in Table A4. Some training expenditures are included indirectly in the next line "Nursing Costs." In Table A2, total salaries for administration were $342,000 while all other salaries totaled 5,856,000 (1,396,000 + 665,000 + 728,000 + 3,067,000). (342/5,856 = 5.8%)

(4) See note (4) in Table A4.

TABLE A6: ESTIMATED 1981/82 OPERATING COST OF KINGSTOWN GENERAL HOSPITAL(1)

ACCOUNT #	ITEM	AMOUNT $ E.C.
2142 001(16-18)	Hospital Administration	21,000
(19-24)	Medical Staff	126,000
(25)	Medical Officers	79,000
(26-31)	Medical Staff Allowances	27,000
(32-37)	Nursing Staff	837,000
(38-42)	Laboratory Staff	81,000
(43-48)	X-Ray Department Staff	69,000
(49-50)	Maintenance Staff	20,000
(51-52)	Residence Staff	11,000
(53-61)	Services Staff	267,000
(12-15)	75% of School of Nursing Staff and Students(5)	724,500
(108)	Physiotherapist	10,000
(140-141)	Hospital Laundry	43,000
	Salary Increase (44.5% of all items listed above)(2)	1,030,398
	Allocation of Administrative Personnel Costs (5.8% of all items listed above)(3)	194,062
	TOTAL PERSONAL EMOLUMENTS	3,539,960
	OTHER CHARGES (49.7% of personal emoluments)(4)	1,759,360
	GRAND TOTAL	5,299,319

(1) Account numbers and amounts are taken from Tables A2 and A3.

(2) See note (2) in Table A4.

(3) See note (3) in Table A5.

(4) See note (4) in Table A4.

(5) The assumption that student nurses provide an essential service to the hospital appears to be fully justified. If one chose, however, to ignore student nurse training costs, the cost of operating the hospital would be reduced by $1,658,111 to $3,641,208, a 31% reduction.

TABLE A7: ESTIMATED 1981/82 OPERATING COST OF THREE RURAL HOSPITALS ($ E.C.)

ITEM	GEORGETOWN	CHATEAU-BELAIR	BEQUIA
Hospital Staff Salaries(1)	55,000	38,000	39,000
Salary Increase (44.5% of above)(2)	24,475	16,910	17,355
Allocation of Administration and 25% of Training Personnel Costs (12.5%)(3)	9,934	6,864	7,044
TOTAL PERSONAL EMOLUMENTS	89,409	61,774	63,399
Other Charges (49.7% of personal emolyments)(4)	44,436	30,702	31,509
GRAND TOTAL	133,845	92,476	94,909

(1) From the 1981/82 Estimates. See Table A2.

(2) See note (2) in Table A4.

(3) Twenty five percent of training added to administration as general overhead. (75% of training costs had been allocated to Kingstown General Hospital.) See note (3) in Table A4.

(4) See note (4) in Table A4.

TABLE A8: COMPARISON OF GOVERNMENT AND HEALTH SECTOR CAPITAL BUDGETS BY SOURCE ($000 E.C.)(1)

YEAR	TOTAL GOVERNMENT							HEALTH SECTOR							
	REVENUE	%	LOANS	%	GRANTS	%	TOTAL	REVENUE	%	LOANS	%	GRANTS	%	TOTAL	%
1981/82	6,646	11	20,475	34	32,375	54	59,496	2,562	20	2,000	16	8,280	64	12,842	22
1980/81	2,136	4	28,215	51	24,943	45	55,294	75	2	2,000	42	2,710	57	4,785	9
1979/80	373	1	22,955	48	24,016	51	47,344	30	1	200	7	2,603	92	2,833	6
1978/79	793	3	12,875	43	16,057	54	29,725	300	21	0	0	1,128	79	1,428	5
1977/78	243	1	8,540	45	10,122	54	18,905	0	0	820	66	430	34	1,250	7
1976/77	176	1	6,375	48	6,746	51	13,297	0	0	1,170	68	557	32	1,727	13

(1) From "Estimates" for the years indicated. "Revenue" indicated domestic financing. "Loans" and "Grants" indicate foreign financing.

TABLE A9: HEALTH SECTOR CAPITAL BUDGETS BROKEN DOWN BY PROJECTS ($000 E.C.)(1)

ACCT. #	DESCRIPTION	81/82	80/81	79/80	78/79	77/78	76/77
224	Rewiring Kingstown Hospital						80
212	Refurbishing Kingstown Hospital					300	300
501	Pediatric Unit - General Hospital	200	600	1,300	1,000	2	
503	General Hospital Redevelopment I	4,500	300				
105	General Hospital Redevelopment II	1,000					
	TOTAL KINGSTOWN HOSPITAL	5,700	900	1,300	1,000	302	380
502	Georgetown Health Center	900	900	900			
403	Completion of Marriaqua Health Center	250		275			
504	Union Island Health Center	900	100				
802	Clinics	100					
	TOTAL RURAL HOSPITALS AND HEALTH CENTERS	2,150	1,000	1,175			
	REBUILDING MORTUARY (102)			30			
226	Renovation Extension Hospital (sic) (School of Nursing)						49
201	Nurses Quarters		60				
803	School of Nursing and Health Sciences	120					
	TOTAL NURSING	120	60				49

TABLE A9: CONTINUED PAGE 2

322	Land Aquisition - Water Development						350
310	Water Development	2,000	2,000	200	300	820	820
804	Rural Water Supplies	110	150	128	128	128	128
104	Rural Water Supplies - Local Costs	1,562	75				
805	Repairs - Water Supply Systems	600					
	TOTAL WATER SUPPLY	4,272	2,225	328	428	928	1,298
206	Refuse Vehicles	600	600				
	GRAND TOTAL	12,842	4,785	2,833	1,428	1,250	1,727

(1) From the "Estimates" for the indicated years.

TABLE A10: ESTIMATED PRIVATE SECTOR DRUG SALES

YEAR	($000 E.C.)(1) MINISTRY OF HEALTH		% OVER/ UNDER	($000 E.C.)(2) TOTAL DRUG IMPORTS		($000 E.C.)(4) PRIVATE SECTOR SHARE	($000 E.C.)(5) PRIVATE SECTOR RETAIL SALES
	ESTIMATE	ACTUAL		COST	DUTY		
81/82	700						3,905
80/81	600						3,072
79/80	500	611	+22	1,911	81	1,381	2,417
78/79	425	409	- 4	1,439	77	1,107	1,937
77/78	425	300	-29	1,079	53(3)	832	1,456
76/77	300	264	-12	886	51	673	1,178
75/76		215					
74/75		243					
AVE.(%)	18.5(6)	20.3(6)	- 7	29.2(6)	16.7(6)	27.1(6)	27.1(6)

(1) All figures in these columns taken directly from the "Estimates" for 1981/82, 1980/81, 1979/80, 1978/79, 1977/78 and 1976/77.

(2) Information in these columns obtained from the Department of Statistics. The figures represent the total of all items listed under code #541 in the Departments classification system. The data shown for FY 79/80 actually represents information for calendar 1979, and similarly for the other years.

TABLE A10: CONTINUED PAGE 2

(3) This entry was not obtained directly from the Department of Statistics, but was estimated by applying the average proportion of duty to cost calculated from the data for years 79/80, 78/79 and 76/77.

(4) The "Private Sector Share" was calculated as the difference between cost plus duty for "Total Drug Imports" and Ministry of Health Actual Expenditures.

(5) The "Private Sector Retail Sales" were estimated as 175% of the "Private Sector Share." The figures for 80/81 and 81/82 were obtained by projecting the rate of increase, 27.1% per year, experienced during the previous 4 years.

(6) Figures in this row are the annual rate of growth required to achieve the top figure in each column using the bottom figure as a base, except in the case of the third column, where the figure is a weighted average.