

**Health Sector Financing  
in Nicaragua:  
Challenges for the Nineties**

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# Health Sector Financing in Nicaragua: Challenges for the Nineties<sup>1</sup>

## Executive Summary

This report presents the results of a situational analysis of the principal problems facing the Nicaraguan health sector. The report is based on a review of studies, official documents and proposals discussed with Nicaraguan officials and staff of international cooperating agencies. The first section presents a brief description and analysis of the evolution of public health expenditures and financing of the Ministry of Health (MINSa). Both levels and tendencies of expenditure and financing patterns are examined for recent years. Data are included on the contribution of foreign assistance to the financing of health programs in the 1980s, and preliminary estimates are provided of the importance of private health sector spending. Section II identifies areas for policy dialogue regarding health care financing, expenditures, and resource allocation measures that may be adopted to improve efficiency, effectiveness and distributive impact of public health services. The drastic reduction in levels of public spending on health in the last two years is leading to the explosive growth of private expenditures and a concomitant increase in the number of private providers of health goods and services (e.g., private doctor's offices, laboratories, pharmacies, etc.). In light of these changes in the structure and configuration of health care financing and expenditures, there is an urgent need for: a) redefining the role of the public and private sectors in the provision of health services, and b) developing an adequate regulatory framework with corresponding economic incentives and penalties to ensure efficiency and effectiveness of public health expenditures. The third section summarizes Nicaragua's principal health sector financing problems which were discussed with officials of USAID/Nicaragua, and outlines areas of cooperation that could be undertaken to improve the sustainability of primary health care services.

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# Health Sector Financing in Nicaragua: Challenges for the Nineties

## Contents

	<u>Page</u>
I. Structure and Trends of Domestic Expenditures on Health	1
a) Public Expenditures on Health: 1970-1990	1
b) Structure of Public Expenditures on Health: By Program and Groups of Expenditures	2
c) Sources of Financing: The Role of Foreign Assistance	8
d) Private and Public Expenditures on Health: Hypothesis	10
e) Addendum: Notes on the Budgetary Implications of the Adjustment Program and the Employment Conversion Plan	12
II. Financing and Cost Control Policies: Improving Efficiency, Effectiveness, and the Distributive Impact of National Health Expenditures	15
a) Financing of Ministry of Health Programs: Resource Mobilization	15
b) Sectoral Efficiency: Redefining Who Produces What--the Mix between the Public and Private Sectors	16
c) Improving the Effectiveness, Efficiency, and Distributive Impact of Public Expenditures: Redefining What, for Whom, and Where to Produce	17
III. Recommendations for USAID/Nicaragua	17
a) Improve Institutional Capabilities for Resource Allocation and Mobilization	17
b) Improve MINSA Capabilities to Develop Broad-scope Sectoral and Policies	18
c) Strengthen the Decentralization Process	18
d) Lines of Cooperation that may be Explored between USAID and MINSA	19
References	20
Annexes:	
Table A.1: Structure of Expenditures of the Ministry of Health of Nicaragua, 1980-84	
Table A.2: Sources of Financing of the Ministry of Health of Nicaragua, 1980-87	
Table A.3: Budgetary Implications of the Adjustment Program of March-April 1991	

## List of Tables

	<u>Page</u>
Table I.1: Nicaragua: Macroeconomic Indicators	3
Table I.2: Nicaragua: Structure of the Ministry of Health Budget, 1983	5
Table I.3: Nicaragua: MINSA Budget Structure by Program, 1986-87 and 1988-89	6
Table I.4: Nicaragua: Structure of Public Expenditures on Health, by Expenditure Category, 1986-87 and 1988-89	7
Table I.5: Nicaragua, MINSA: Sources of Financing of Public Expenditures on Health, 1980-1984	8
Table I.6: Nicaragua: Amounts of Foreign Assistance for the Financing of Health Programs, 1979-1985, By Source of Financing	9

# Health Sector Financing in Nicaragua: Challenges for the Nineties

## I. Structure and Trends of Domestic Expenditures on Health

One of the main challenges facing the current administration of the Ministry of Health is the gap between the health objectives as stated in short- and medium-term health plans, and MINSA's reduced operating capacity, resulting from drastic reductions in the level of health sector financing coming from the central Government. The redefinition of the role of the public and private sectors in providing health services, and the introduction of alternative forms of financing for those health services that are mainly the responsibility of the public sector, are the key problems facing the Ministry.

### a) Public Expenditures on Health: 1970-1990

A sharp increase in health expenditures was one of the most well-known characteristics of the Sandinista Administration. Along with a substantial increase in total Government expenditures, there was a more than proportional increase in budgetary allocations for health programs. Public expenditures on health as a percentage of the gross domestic product (GDP) increased from an average 2.3% during the period 1976-1978 to an average of 5.8% of GDP during 1987-1989. The 1980s saw a rapid expansion in health services infrastructure, with a significant increase in the number and physical conditions of hospitals, health centers and health posts, as well as in the availability of medical and auxiliary personnel and essential drugs. Preventive health programs were substantially increased, with significant effects on health indicators, especially those related to infant mortality and coverage of services.

The highest levels of public expenditures on health occurred during 1984-1986; during that period the average MINSA budget fluctuated between \$160 million to over \$220 million in 1988 constant US\$.

After implementation of adjustment policies in 1988-1989, known as the consolidation, the Ministry of Health's budget was substantially reduced. In 1989, MINSA's budget was reduced to US\$ 130 million, and in 1990, to around \$73 million (current US\$). By 1990, public expenditures on health as a percentage of GDP represented only 3%.

In 1990, real public expenditures on health are running at approximately US\$18 per capita. This per capita level of expenditure in health represents approximately one-third of the level of spending during 1985 and 1986. If the political agreements reached and the adjustment program of March-April 1991 remaining in force, the health sector budget approved for 1991 of approximately US \$ 83 million will represent in real terms a slight increase over the 1990 budget, by about US\$ 2 million. This increase would only be enough to keep up the per capita level of expenditures from the previous year.<sup>2</sup> However, following the adjustment measures taken in March-April, the monetary devaluation, and the employment conversion program, it seems improbable that this level of real per capita expenditure will be attained.

Table I.1 shows data on trends in public expenditures on health in real terms (1988 dollars) during the 1970-90 period: public expenditures on health as a proportion of GDP, as a proportion of total government expenditures and in real per capita terms.

b) Structure of Public Expenditures on Health: By Program and Groups of Expenditures

In spite of the rapid expansion of primary health care coverage during the 1980s, the expansion of hospital medical care absorbed a significant portion of MINSA's financial resources during the period. The substantial increase in internal and external resources assigned to the implementation of MINSA's programs allowed for a rapid expansion of health services at the

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<sup>2</sup> MINSA's budget estimate, at 1988 constant US\$, was made deflating budget values in current US\$, using the U.S. GNP deflator reported by the IMF (1990), page 733. For the data reported for 1988 and 1989, the deflator base was changed from 1980 to 1988; for 1990 and 1995, a deflator depreciation was assumed at 5% annually, in keeping with the U.S. inflation rate. The following deflators were obtained: 1988 = 100.0; 1989 = 103.67; 1990 = 109.63; 1991 = 115.14.

TABLE I.1

Nicaragua: Macroeconomic Indicators: Per Capita GNP, Public Expenditures  
and Public Expenditures in Health

Years	Per Capita GNP in 1988 U.S.\$	Central Government Expenditures (% of GNP)	Expenditures in Health (% of GNP)	Population (millions)	Public Expenditures in Health in 1988 U.S.\$ (millions)	Public Expenditures in Health Per Capita in 1988 U.S.\$	Public Expenditures in Health (% of Public Expenditures)
1970	1495.00	9.03	0.53	1.83	14.50	7.92	5.87
1971	1496.00	10.18	0.72	1.89	20.36	10.77	7.07
1972	1480.00	10.50	0.44	1.95	12.70	6.51	4.19
1973	1525.00	10.92	0.56	2.01	17.17	8.54	5.13
1974	1687.00	12.91	0.78	2.08	27.37	13.16	6.04
1975	1634.00	14.30	1.16	2.15	40.75	18.95	8.11
1976	1670.00	13.55	0.93	2.24	34.79	15.53	6.86
1977	1762.00	13.45	0.71	2.32	29.02	12.51	5.28
1978	1581.00	16.29	0.70	2.41	26.67	11.07	4.30
1979	1130.00	17.60	1.89	2.64	56.38	21.36	10.74
1980	1147.00	32.86	3.20	2.73	100.20	36.70	9.74
1981	1171.00	35.37	5.00	2.86	167.45	58.55	14.14
1982	1124.00	42.64	5.20	2.96	173.01	58.45	12.20
1983	1137.00	67.94	4.90	3.06	170.48	55.71	7.21
1984	1082.00	72.26	4.80	3.16	164.12	51.94	6.64
1985	1003.00		6.00	3.27	196.79	60.18	
1986	921.00		7.10	3.38	221.02	65.39	
1987	819.00		4.80	3.50	137.59	39.31	
1988	745.00		7.80	3.62	210.36	58.11	
1989	700.00		5.00	3.75	131.08	35.00	
1990	651.00		3.07	3.87	70.47	18.20	
1991p	661.00		2.72	3.99	72.00	18.02	
1992				4.12	0.00	0.00	
1993				4.25	0.00	0.00	
1994				4.39	0.00	0.00	
1995				4.54	0.00	0.00	
1996				4.67	0.00	0.00	
1997				4.81	0.00	0.00	
1998				4.95	0.00	0.00	
1999				5.10	0.00	0.00	
2000				5.25	0.00	0.00	

## Notes:

Per Capita GNP 1970-1987, Public Expenditures as % of GNP 1970-1983, and Health Expenditures as % of GNP 1970-1980 are taken from PAHO (1990).  
Population data 1970-1980 are from IMF (1990). Health Expenditures as % of GNP 1980-1987, taken from Gonzalez, J. et. al. (1990). Population data 1987-2000 projected using rates of increase reported in MINSA (1991).  
Estimates of per capita GNP are based on population rates and real GNP growth, estimated for 1988-1991. Economic growth rates were taken from EIU (1991).  
Population projections are derived from the growth rates reported in MINSA (1991b).  
p/. Budget of C\$ Gold 83 million, at an exchange rate of C\$ 1/U.S.\$1; valued in constant 1988 dollars.

## Source:

Developed from IMF (1990) p. 542-545; PAHO (1990); Gonzalez, J. et. al. (1990); IEU (1991); MINSA (1991b).

different levels of care (primary, secondary and tertiary) and for improved coverage of vaccination campaigns and preventive health programs. The rapid growth of MINSA's budget meant that there were no financial pressures to select priorities among programs or levels of care--all were priorities and all were expanded. The problem of the sustainability of these programs was not considered. The regime's need for legitimization through the enactment of a social development agenda which permitted universal access to health, education and housing, combined with the demand for health services emanating from the permanent state of war in which the country existed, were seen as critical elements for the Sandinista Government. Responding to the popular spontaneous demand for health services, even if this did not solve the main health problems in the country, was one of the mechanisms that helped to legitimize and win popular support for the Government (Bossert, T., 1985).

In 1983, the hospital care program absorbed in excess of 40 percent of MINSA's regular budget and more than 70 percent of extrabudgetary resources. Primary health care, communication and popular education, and basic rural sanitation programs represented around 16 percent of MINSA's total budget (MINSA, 1983, page 264; see Table I.2). Although there were some variations in the share of hospital and primary care expenditures, hospital care expenses increased slightly in 1986 and have been maintained at around 45 percent (MINSA, 1986). In the 1990 budget, the most significant increases went to administrative activities and hospital care programs (MINSA, 1991a, page 126). Tables I.2 and I.3 summarize the expenditure structure of the public sector budget by program for 1983 and for 1986-87 and 1988-89, respectively. Changes in the definition of program components has made it impossible to construct a consistent historical series of the structure of expenditures.

**TABLE I.2**

**Nicaragua: Structure of the Ministry of Health Budget  
By Program in Current Cordobas and Percentages (1983)**

Programs	C\$ 1983 (000)	(%)
Central Activities	126,274	8.3
Common Activities	358,204	23.4
Hospital Care	616,323	40.3
Medical Care (a)	54,266	3.6
Primary Care	213,027	13.9
Control and Erradication of Malaria	30,709	2.0
Popular Education	16,063	1.1
Basic Rural Sanitation	18,288	1.2
Others (b)	94,760	6.2
TOTAL	1,528,388	100.0

(a) Includes programs of psychiatric medical care, pediatric dermatology, physical rehabilitation and treatment of tuberculosis.

(b) Principally line items not assigned to specific programs.

SOURCE: Based on MINSA (1983)

Table I.3

Nicaragua: MINSA Budget Structure by Program  
Average Investment 1986-87; 1988-89

PROGRAM	1986/87	1988/89
Central Activities	15.1	14.9
Area Services	24.4	28.6
Hospital Care	47.2	44.8
Tropical Diseases	5.3	2.4
Investment Program	3.1	2.6
Miscellaneous a/	4.9	6.7
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>

a/ Includes human resource development programs, international medical brigades, and general allocations not assigned to specific programs.

Source: Developed from González, J. et. al. (1990) Table No. 4.

Despite efforts to reduce personnel costs, this expenditure category has continued to absorb the major part of the budget. Staff services allocations and material and supplies expenditures, whose main components are drugs and medical inputs, absorb more than three-fourths of MINSA's budget. During 1987-88, as a result of the process of consolidation, a substantial reduction was achieved in the level of employment and in the proportion of MINSA expenditures for personal services.

From 1986 through the end of 1987, employment in the sector was reduced by 4,836 employees, or about 20% of the labor force. The total number of MINSA employees decreased from 23,176 in 1986 to 18,340 in 1988 (see MINSA 1991b, p. 71). The personnel budget category fell sharply from 43% of total expenditures in 1986-87 to around 26% in 1988-89. These changes also implied a substantial reduction in the level of remuneration of health workers in real terms. The adjustment measures implemented during these years, the progressive elimination of subsidies, and especially the policies of devaluation resulted in a substantial

increase in the levels of expenditures for materials and supplies. The latter budget category grew from about a third of the MINSA budget in 1986-87 to over 50% in the 1988-89 period.

During 1989 and 1990, the consolidation policy was reversed. At the end of 1989, despite the drastic reductions in the budget and in salaries, 3,882 new employees were added to the health sector, and by 1990, the total number of MINSA employees had grown to a total of 23,185. The effect of the high level of employment and of pressures to regain salary levels in real terms led to the changes observed in the structure of expenditures in 1988-89. By 1990, the "personal services" line item absorbed more than 48% of the budget, while materials and supplies were reduced to 36% of the budget. In 1990, expenditures on materials and supplies represented a fifth of their average level in 1988 and 1989. Table I.4 summarizes these changes in the structure of the MINSA budget by major expenditures category.

Table I.4

Nicaragua: Structure of Public Expenditures on Health  
By Expenditure Category, 1986-87, 1988-89

Category	1984	1986/87	1988/89	1990	1991 <sup>a</sup>	
Personal Services	45.8	43.30	25.80	48.2	43.2	
Non-personal Services	7.0	10.50	9.10	10.1	13.3	
Materials and Supplies (Chemical Products)	29.4 17.50	34.50 35.10	54.10	36.2	36.9	
Machinery and Equipment	2.2	0.05	0.01			
Investment Program	8.2	3.10	2.80			
Common Transfers	7.3	8.60	5.70	5.5	7.5	
Total:	100.0	100.00	100.00	100.0	100.0	
Index of real expend. (1986/87 = 100)		91.6	100.00	95.30	39.1	40.2

<sup>a</sup> budgeted in 1991

Sources: Developed based on R. Suarez (1984) p. 77, González, J. et.al. (1990), Table No. 6 MINSA (1991a) and MINSA (1991b).

c) Financing Sources: The Role of Foreign Assistance

The main sources of financing for public sector health programs have been the government's central budget and foreign assistance. Table I.5 summarizes the sources of financing of MINSA's programs during the early 1980s.

During the 1980-84 period, MINSA's common funds, which came entirely from central government funds, represented 89.6% of the health sector's financing. External resources from loans and donations supplied the remaining 10.4%. Among the Central American countries, Nicaragua received the highest levels of foreign assistance during this period. (See R. Suarez, 1984.) Data on the changes experienced in the structure of MINSA's financing during the second half of the 1980s are scarce. Nevertheless, the information available suggests a substantial reduction in the contribution of foreign assistance to overall MINSA financing. The contribution of external resources to MINSA's budget during the 1985-87 period seems to have been around 1% (see Table A.2 in the Annexes).

Table I.5  
Nicaragua, MINSA: Sources of Financing of Public Expenditures on Health  
1980-1984 (Figures in Millions of Cordobas)

	1980	%	1981	%	1982	%	1983	%	1984	%	Ave. % for. Per.
I. TOTAL INCOME	<u>790.3</u>	<u>100.0</u>	<u>1114.2</u>	<u>100.0</u>	<u>1190.1</u>	<u>100.0</u>	<u>1494.1</u>	<u>100.0</u>	<u>2001.4</u>	<u>100.0</u>	<u>100.0</u>
1. Common Resources	702.0	88.2	967.9	86.7	1,045.5	87.9	1,340.1	89.7	1,902.3	95.0	89.6
2. External Resources	88.3	11.2	146.3	13.1	144.6	12.1	154.0	10.3	99.1	5.0	10.3
2.1 IBD and Other Loans	24.6	3.1	50.5	4.5	78.4	6.6	96.1	6.4	0.7	0.1	4.1
2.2 Donations	63.7	8.1	95.8	8.6	66.2	5.5	58.3	3.9	98.9	4.9	6.2

Source: División de Planificación (DIPLAN)/MINSA, taken from Orellano, O. (1985) p. 14; see Suarez (1985) p. 65.

Comparing the levels of public expenditures during this period with the amounts of foreign assistance suggests that during the 1979-85 period, the contribution of foreign assistance fluctuated between 5 and 10% of the overall budget of MINSA. Table I.6 shows the amounts of foreign assistance in health during 1979-1985, distinguishing between resources coming from international organizations and those coming from other countries and from non-governmental organizations (NGOs). On average, foreign assistance during that period represented around US\$11 million annually. Table I.6 shows that, despite important fluctuations, the contributions of international organizations and bilateral assistance were equally important. Among international agencies, the contributions of UNICEF and the World Food Program (WFP) were the most important. In 1983 and 1984, contributions from UNICEF, WFP, and UNFPA averaged US\$6.6 million.

Foreign assistance amounts reported in the previous table do not include the value of in-kind assistance received from Socialist countries: physical facilities, medical equipment, drugs and medical inputs, and personal services. The value of the Socialist countries' foreign assistance in 1986 (during the period January-September), was estimated at approximately US\$2.3 million.

Table I.6

Nicaragua: Amounts of Foreign Assistance for the Financing of Health Programs 1979-1985, By Source of Financing<sup>a</sup> (thousands of US dollars)

Year	International Organizations		Other Countries & Non-govt. Organization		TOTAL	
	US \$	(%)	US \$	(%)	US\$	(%)
1979	947	9.3	9,242	90.7	10,189	100.0
1980	5,723	49.7	5,784	50.3	11,507	100.0
1981 <sup>b</sup>	5,406	40.6	8,833	59.4	14,239	100.0
1982	3,586	54.6	2,981	45.4	6,567	100.0
1983	9,093	42.7	12,207	57.3	21,300	100.0
1984	9,932	83.1	2,021	16.9	11,953	100.0
1985	4,938	53.4	4,386	46.6	9,324	100.0
1979-85	39,625	47.1	45,454	54.1	85,079	100.0

<sup>a</sup> The value of foreign assistance from Socialist countries is not recorded.

<sup>b</sup> The source reports a total of US\$ 13,238,000, which appears to be an arithmetic error.

Source: Developed from MINSA (1987) p. 105

d) Private and Public Expenditures on Health: Hypothesis

After the process of consolidation in 1989, there was a rapid upsurge in the number of private practices, clinics, laboratory services, etc. which began to appear. This process seems to have been accentuated in recent months. The increase in the supply of private medical services that is likely to result from the nearly 3000 public sector health workers that have opted for the employment conversion program, together with the deterioration of public health services as a result of labor conflicts and budget cuts, suggest that there will be a rapid and explosive growth in the private health care sector in Nicaragua. Our estimates suggest that in 1990-91, the national expenditures on health in Nicaragua will represent between 5 and 6% of GDP. Private health expenditures may reach a figure between 50% to 60% of this total.

Little information is available about the coverage and characteristics of private health care providers. It is common that MINSA medical and nursing personnel search for supplements to their public sector salaries through private practice in offices and home visits. Apart from these services, there are a great many private pharmacies and laboratories which provide complementary medical services. Towards the end of 1990 it was estimated that there were a total of 7 small, private hospitals and that the Armed Forces Hospital was one of the principal providers of medical services through "group insurance" provided to workers of private sector businesses. In practice, the operation of these private practices and clinics, pharmaceutical laboratories, etc., is occurring outside the control of the MINSA, whose activities as regulator of the health sector have been limited, in some cases, to authorizing the operation of clinics and the services of non-governmental organizations (see MINSA, 1991).

Estimates of private expenditures on health were obtained from results of a household expenditure survey in 1984 and from the patterns of the national expenditures on health in neighboring countries. The findings of the 1984 household expenditure survey showed that expenditures for health-related goods and services represented 2.38% of total family

expenditures.<sup>3</sup> Most (about 70%) of these expenses were for personal medical services, which represented 1.58% of total household expenditures. Expenditures on medicines and eyeglasses represented 0.8% of the family budget, or approximately 30% of household health-related expenditures. In 1984, the participation of private consumption as a percentage of Gross National Product was approximately 55% (see IMF, 1990, page 545). Health expenditures as a percentage of GDP was approximately 1.3%.

Given that public expenditures on health were 4.8% of GDP during that year, and that household expenditures on health amounted to 1.58% of GDP, the data suggest that public expenditures on health were equivalent to 6.4% of GDP. Individual out-of-pocket expenses for health-related goods and services represented in 1984 something in excess of 20% of national expenditures. In other words, in spite of the rapid expansion of the National Health System during those years, family out-of-pocket expenses for health-related goods and services still represented a substantial part of the national expenditures on health.

These estimates of national health expenditures as a percentage of GDP are not different from those of other countries in the region. In most countries, this percentage fluctuates between 5% to 6% in the case of Peru and 4.8% in the Dominican Republic, to 8.2% in the case of Argentina (see Suarez, R., 1986, 1991; World Bank, 1988).

For our estimates of the levels and composition of expected health expenditures for 1990 and 1991, we assumed an income elasticity of 1.0 for national spending on health. While most studies have found an income elasticity for health expenditures of greater than one, based on the

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<sup>3</sup> The data on the structure of family expenditures from the 1984 household survey were prepared based on handwritten tables provided by INISER staff. There is no official publication on the results of this survey. Preparations are underway for a new survey that can provide more updated information on the structure of household expenditures in Nicaragua.

assumption of a possible 'ratchet effect'<sup>4</sup> in the behavior of national health expenditures, we estimate that national expenditures on health in Nicaragua have probably stayed at 5% to 6% of GDP.

By 1990, public expenditures on health decreased to about 3% of GDP, down from the levels of 5-6% of GDP observed at the beginning of the 1980s. For 1991 it is possible that government health expenditures will only represent about 2% of GDP. Considering the overall stability of national expenditures on health, family expenditures for health-related goods and services can be expected to play a compensatory role. Even though it is likely that, considering the fall in income levels, this compensatory effect will be less than one, we estimate that in 1990 and during 1991 families will incur expenditures in health-related goods and services representing 3-4% of GDP, or between 40 to 60 percent of overall national expenditures on health. The lower the share of public expenditures on health become as a percentage of GDP, the higher will be the share of expenditures borne by families on health-related goods and services. Furthermore, if the budget cuts enforced after the adjustment policies were implemented in March-April of this year continue in force, the real value of the health sector budget will be even less than that budgeted in February. By the end of 1991, private household expenditures on health-related good and services could reach 60-70% of total national health expenditures.

e) Addendum: Notes on the Budgetary Implications of the Adjustment Program and the Employment Conversion Plan

The employment conversion policy which is considered part of the stabilization plan introduced by the Central Bank has resulted in an unfavorable selection of the staff retiring from public service. The employment conversion program is intended to reduce the size of the public sector through the voluntary retirement of public employees. Retirement bonuses based on

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<sup>4</sup> 'Ratchet effect' refers to the asymmetric behavior of income elasticity for consumer goods as a result of increases or decreases in income. This occurs when income levels fall and the consumer tries to maintain, in the short run, the same levels of consumption associated with higher levels of income.

salary and length of service are offered to employees who retire from government service. These workers cannot be rehired as permanent staff for a period of five years. Among various alternatives available under the conversion program, one of the more popular is compensation of one year's salary plus a percentage based on length of service. The positions held by retiring employees are frozen but can be filled by personnel from other divisions, regions or ministries.

MINSA attempted to implement a discretionary conversion policy, and there were no restrictions placed on the type of staff that would be eligible to apply for the conversion plan. The first stage was open, with several options for retirement, and has resulted in an adverse selection of personnel. By the end of May 1991 some 2,900 health sector employees had taken advantage of the conversion program, or about 13% of MINSA's personnel. Preliminary estimates show that some 500 physicians (24% of the total number of physicians) and 500 nurses and auxiliary nurses (6.8% of the total) have retired. The rest of the employees who have accepted early retirement (approximately 1,900) are technicians and administrative personnel from the service delivery and central levels. The latter group of employees represents 15% of the labor force in those categories. Within this group of workers it is estimated that 600 correspond to the more advanced technical levels of the central and regional offices.

Assuming an average salary of US\$150 to US\$200 per month, the employment conversion program implies an average cost of indemnities per MINSA employee of approximately US\$1,500 to US\$2,000. In budget terms, this implies a savings in personnel costs of approximately US\$7 to US\$12 million per year (between 9% and 15% of MINSA programmed 1991 budget).

However, in spite of the conversion program, the level of MINSA's actual budget--after the adjustment program--will not be enough to allow for salary levels that will make MINSA's operations feasible. An option to be considered if employment levels at MINSA remain stable after the adjustment program is to seek alternative financing sources to maintain adequate salary levels to allow continuous operation of services.

Following the implementation of adjustment policies, prices and public utility rate adjustments, devaluation, etc., the Central Bank made agreements with the different sectors as to the levels of monthly budgetary adjustments that would be given to compensate for the decline in real terms that resulted from the adjustment program. For the health and education sectors this meant a 3.5% monthly increase vis-a-vis 2.5% for all other sectors (March). This correction factor was defined to compensate for the effects of the devaluation of the Cordoba Oro from C\$1.00 to C\$5.00 per US\$1.00 and the readjustments of internal prices. Table A.3 in the annex summarizes preliminary estimates of the impact of these measures on MINSA's actual budget, under different scenarios of impact on public expenditures of devaluation and domestic inflation. Under any of the proposed scenarios, even if the 3.5% monthly adjustment plan is maintained and assuming zero inflation, there will be a decline in MINSA's budget in real terms of about 6%. In constant 1988 US dollars, this implies that MINSA's 1991 budget will be about 5% less than the 1990 budget, or approximately US\$67.5 million (1988 constant dollars). Even this is one of the more optimistic scenarios. A more probable scenario would be a realignment of internal prices to levels consistent with the most recent rate of devaluation. If such a readjustment in internal prices were to occur, this would result in a considerably larger loss in the real value of MINSA's budget. In the worst of cases, this loss could reach 50% of the real budget programmed for 1991 (see Table A.3).

The financial situation of the MINSA was critical in 1990, but it may grow far worse in 1991. The employment conversion plan has resulted in an adverse selection of personnel that is diminishing the operational capacity of the MINSA. The problem of the financial crisis and the institutional crisis associated with it and with the conversion program creates the urgent need for a redefinition of the role of the MINSA in the provision of health services and the search for alternative sources of financing of the primary health care programs that should remain the institutional responsibility of the MINSA.

## **II. Financing and Cost Control Policies: Improving Efficiency, Effectiveness, and the Distributing Impact of National Health Expenditures**

### **a) Financing of Ministry of Health Programs: Resource Mobilization**

If an active resource mobilization policy to finance public sector health programs is not adopted, there is a risk of institutional collapse of the MINSA. Continuous interruptions in services due to strikes by workers demanding better salaries, declines in the quality of care due to the lack of equipment and medical inputs, and deterioration in working conditions because of excess workloads aggravated by the adverse selection of personnel resulting from the employment conversion program are, among others, some of the most immediate financial and institutional problems facing MINSA.

In view of the budgetary restrictions of the adjustment program, it is unlikely that the levels of financing obtained from the central government in years past can be obtained now. If MINSA's operations are to be maintained at current levels, there must be a redefinition of its financing policies.

The introduction of user charges in tertiary care facilities in areas of greater relative economic development, and local participation in the financing of health care through municipalization or regionalization of the management and financing of tertiary level services are some of the financing mechanisms that should be incorporated into MINSA's decentralization strategy. The scarce resources available to MINSA should be oriented to financing primary health care programs for low-income groups and to financing primary and secondary level services. Considering the levels of national expenditures on health and the increasing contribution of private expenditures as a proportion of total expenditures, there is ample room for part of these private resources to be harnessed for financing programs and services of the public sector.

b) Sectoral Efficiency: Redefining Who Produces What--the Mix between the Public and Private Sectors

The decline in the operative capacity of MINSA that has resulted from the budgetary restrictions and reductions in personnel creates the urgent need for a redefinition of the type of health services that the Ministry can offer, given the current restrictions on its resources. With now only roughly a third of the resources that were available to MINSA three years ago, with a severely deteriorated health services infrastructure, and the changes in the mix of personnel resulting from the employment conversion program, it is not possible to keep on producing the same amount and quality of all health services.

Even though it is possible to achieve substantial improvements in the efficiency with which health services and programs are managed, there are no regulatory mechanisms or economic incentives with which to insert efficiency criteria into the style of management rule found in public sector health institutions.

The rapid expansion of private health expenditures discussed in the previous section suggests that, if no steps are taken to redefine roles and health service responsibilities between the public and private sectors, it is likely that the rapid growth of the private sector will lead to an inefficient duplication in the productive capacity for one type of services (private goods) and a deterioration in the production of primary health care services (public goods).

At the institutional level, it is necessary to redefine the operational capacity of the MINSA in line with its expected budgets and the possible development of an institutional capability to mobilize resources for financing operational costs of the delivery of health services. MINSA also needs to develop an active policy for the selection of personnel in accordance with the qualifications and salary levels needed to retain health personnel at a technical-professional level most appropriate to the priority health problems of the public sector.

c) Improving the Effectiveness, Efficiency, and Distributive Impact of Public Expenditures: Redefining What, for Whom, and Where to Produce

First, reassigning scarce budgetary resources to preventive and basic health care programs and using alternative financing sources for tertiary levels of health care in the most socially and economically developed regions; and second, implementing a true decentralization process, with the participation of local governments in financial management and resource generation, are two mechanisms that would permit better discretionary use of public funds as a compensatory mechanism to finance health programs for lower-income social groups in priority regions. Greater institutional autonomy in the financial management of health services at the tertiary level is one alternative that should be considered as part of the decentralization process in order to avert the collapse of hospital services.

### **III. Recommendations for USAID/Nicaragua**

There are two major areas in which financing policies and measures may be developed. One is improving MINSAs capabilities for resource allocation and resource mobilization. The second area is the strengthening of MINSAs capabilities to develop broad-scope health sector financing policies aimed at improving the effectiveness of national expenditures on health services.

a) Improve Institutional Capabilities for Resource Allocation and Mobilization

Support should be given to the search for financing alternatives that will help to avoid the financial collapse of public sector health services and programs and, in particular, that will ensure the sustainability of primary health care programs.

- Seminars and workshops on the financing of health systems in different countries of the world may be useful to expose public officials to experiences in the use of alternative health sector financing mechanisms for programs and national health systems.

- Studies on the recurrent costs of the main preventive and primary health care programs would provide a useful tool for resource allocation decisions among public sector programs. Studies on the recurrent costs and financial feasibility of using the existing physical infrastructure will be useful for decisionmaking about the investment program and for analyzing the financial feasibility of the decentralization process.

b) Improve MINSA Capabilities to Develop Broad-scope Sectoral and Regulatory Policies

Changes in the roles of the public and private sectors in the financing and provision of health services urgently require that the Ministry develop a comprehensive regulatory framework with adequate economic incentives and penalties to ensure efficiency in the operations of public and private institutions providing health services.

- Workshops on the experiences of more developed countries in regulating the operation and financing of health services could be a first step toward motivating a discussion of these issues among the country's health policymakers. Technical assistance from international experts could lend added weight to these activities.

c) Strengthen the Decentralization Process

MINSA's decentralization policy, based on the development of local integrated health systems (SILAIS), is an excellent mechanism for the provision of external cooperation through technical assistance and the financing of projects. A more comprehensive understanding of the role of decentralization as a mechanism to ensure sustainability and efficiency should be promoted. Workshops and seminars on the decentralization experiences of countries of the LAC region may be a useful means for generating consensus on the meaning of this process for Nicaragua.

The decentralization process can also be reinforced through channeling external assistance and developing investment projects and/or institutional strengthening activities in the areas with the worst social and economic conditions: Regions I, II and III. Concentrating foreign technical and financial assistance on geographic areas and specific programs is one way to maximize the impact of these resources and monitor their benefits.

d) Lines of Cooperation that may be Explored between USAID and MINSA

A feasible and immediate type of assistance that USAID/Nicaragua could provide is technical assistance in the economic and financial areas, through a more continuous and permanent technical assistance arrangement. The inter-institutional cooperation between MINSA, PAHO, USAID and other international organizations that occurred for the development of the Master Plan could provide the basis on which to develop permanent cooperation on economic and financial aspects of the health sector.

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## **ANNEXES**

**Table A.1: Structure of Expenditures of the Ministry of Health of Nicaragua, 1980-84**

**Table A.2: Sources of Financing of the Ministry of Health of Nicaragua, 1980-87**

**Table A.3: Budgetary Implications of the Adjustment Program of March-April 1991**

**Table A.1**

**Structure of Expenditures of the Ministry of Health of Nicaragua  
1980-84**

(Millions of Cordobas)

CATEGORY OF EXPENDITURE	1980	1981	1982	1983	Composition	
					1984	% 1984
Personal Services	409.8	491.5	509.9	649.8	931.8	45.8
Non-personal Services	19.4	41.4	86.4	106.7	143.4	7.0
Materials and Supplies	339.7	386.2	409.0	491.6	599.4	29.4
Machinery and Equipment	83.3	31.0	126.0	139.1	45.3	2.2
Construction, Additions and Improvements	1.0	0.0	23.1	42.2	155.9	7.6
Acquisition of Facilities and Existing Equipment	-	-	-	-	11.3	0.6
Transfers <sup>a</sup>	52.7	59.7	75.3	106.3	149.3	7.3
Financial Outlays <sup>b</sup>	155.0	223.7	228.3	138.7	0.0	-
Investments <sup>c</sup>						
Global Allocations <sup>d</sup>	-	-	-	-	-	-
<b>TOTAL</b>	<b>1061.0</b>	<b>1233.5</b>	<b>1458.5</b>	<b>1674.4</b>	<b>2036.4</b>	<b>100.0</b>

**Notes:**

<sup>a</sup> Includes current and capital transfers to the public and private sectors.

<sup>b</sup> Includes debt servicing and other financial costs.

<sup>c</sup> Investment expenditures not included in previous line items.

<sup>d</sup> Includes contract obligations not classified as part of previous line items and other costs.

Source: Adapted from R. Suarez (1985) p. 77.

**Table A.2**

**Sources of Financing of the Ministry of Health of Nicaragua  
1980-87**

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Current Expenditures

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Year	Common Resources	Extrabudgetary Resources	Investments Total	(%)*
1980	100.0	0.0	100.0	0.7
1981	80.0	20.0	100.0	18.0
1982	83.5	16.5	100.0	17.1
1983 <sup>b</sup>	87.4	12.6	100.0	10.5
1984	93.7	6.3	100.0	11.9
1985	99.1	0.9	100.0	5.6
1986	100.0	0.0	100.0	1.8
1987	97.9	2.1	100.0	3.3

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Notes: \*/ Investments as a percentage of total expenditures (revise definitions)

<sup>b</sup>/ Data originally reported 6.3 for extrabudgetary resources; this seems to have been a typographical error.

Source: Developed from MINSA (1988), p. 161.

**TABLE A.3**  
**Master Plan, 1991-1996**  
**Budgetary Implications of the Adjustment Program of March-April, 1991**

Year:	(1) Budget Agreement In Millions C\$ Gold (C\$ 1/U.S.\$)	(2) Millions of U.S.\$	(3) In C\$ Gold (C\$ 5/U.S.\$)	(4) Millions of U.S.\$	(5) Received with Monthly Readjustment 3.5% in C\$ Gold	(6) Exchange Rate C\$ Gold/ U.S.\$	(7) Total Budget in U.S.\$	(8) Difference: Budget Agreement After Adjustment	(9) Readjustment with 40 % of Spendin on Imports, 0% Inflation
1991									
Approved Budget:	83.70	83.70	83.70	16.60	105.62		37.86	45.84	78.51
Adjusted Budget:									
January	6.98	6.98	6.98	1.38	6.98	1.00	6.98	0.00	6.98
February	6.98	6.98	6.98	1.38	6.98	1.00	6.98	0.00	6.98
March	6.98	6.98	6.98	1.38	6.98	1.00	6.98	0.00	6.98
April	6.98	6.98	6.98	1.38	7.22	5.00	1.44	5.53	4.91
May	6.98	6.98	6.98	1.38	7.47	5.00	1.49	5.48	5.08
June	6.98	6.98	6.98	1.38	7.73	5.00	1.55	5.43	5.26
July	6.98	6.98	6.98	1.38	8.00	5.00	1.60	5.37	5.44
August	6.98	6.98	6.98	1.38	8.28	5.00	1.66	5.32	5.63
August	6.98	6.98	6.98	1.38	8.57	5.00	1.71	5.26	5.83
September	6.98	6.98	6.98	1.38	8.87	5.00	1.77	5.20	6.03
October	6.98	6.98	6.98	1.38	9.18	5.00	1.84	5.14	6.25
November	6.98	6.98	6.98	1.38	9.51	5.00	1.90	5.07	6.46
December	6.98	6.98	6.98	1.38	9.84	5.00	1.97	5.01	6.69