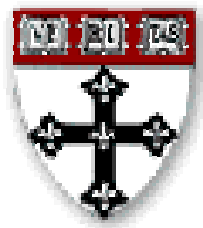


STUDIES OF DECENTRALIZATION OF THE HEALTH SYSTEM IN NICARAGUA:

FINAL REPORT

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Executive Summary

There are no ideal models of decentralization. Each country needs to develop its own approach so that objectives of equity, efficiency, quality and financial soundness can be achieved. This Harvard School of Public Health study of decentralization in Nicaragua shows some important positive achievements and some negative problems that are apparent in the current health system. The studies also show some potential for improving the health system through selected procedures like “needs based formulae” and through expanding some local choice (“decision space”) at the SILAIS and municipal levels.

The studies first defined the “decision space” or range of choice over key functions, that is currently allowed to the SILAIS officials. Then quantitative data on financing, expenditures, utilization of services and coverage, and infant mortality were examined at the municipal and SILAIS levels. A qualitative study of 8 SILAIS and 10 municipalities involved questionnaires for the Directors and Equipos de Direccion of SILAIS, municipal facilities, hospitals and alcaldes.

The study of the current decision space map of the range of choice at the SILAIS level suggests that SILAIS officials have moderate choice over central government funded expenditures, over own source revenues and over fees collected at local facilities. They also have moderate choice over assignment and transfer human resources and over community participation. Other decentralized countries in Latin America have had wider ranges of choice suggesting that the range of choice in Nicaragua could be expanded – especially for financial functions – without much risk of granting too much control.

The quantitative data shows that Nicaragua has a relatively low per capita public sector health expenditure (US\$ 15) for a low income country with a small private sector. There is room for an argument that the national health budget should be increased if health is to be demonstrably a national priority.

There is also continuing inequity in the allocation of ambulatory primary care resources among SILAIS. The range of difference is up to four times, and if we exclude RAAN and RAAS which are special cases of low population density and political priority, the range of difference is still two times. Similar inequity is apparent in hospital allocations and allocations to the SILAIS offices (Sedes).

It is likely that ambulatory care allocations should be closely related to population size since in Nicaragua the differences in demographic, disease incidence, and socio-economic factors among SILAIS populations is not likely to have major impact on the needs for primary care facilities. Nevertheless these inequities could be addressed by a “needs based formula” that would have population size as a major factor and other population factors could be weighted in the formula. Hospital allocations are more complicated since hospitals traditionally serve a different population than the surrounding SILAIS and they offer different levels and types of care. The inequities in hospital

allocations should be addressed by a different type of formula that accounts for these differences. The differences in Sede expenditures should also be assessed on a case by case basis to see if they are justified by different activities or needs.

Of special interest is the low and declining level of own source “fondos propio” collection. This is partly explained by the general policy that prohibits compulsory fee collection so that most facilities collect “voluntary donations” and are not encouraged to expand this means of mobilizing additional resources. It is also the result of the “caja unica” procedure that requires all such funds to be deposited in a central account and only returned to the facility after the planned expenditures are approved by higher administrative levels. It is likely that more funds could be generated if a national policy providing guidance in a range of possible tariffs and if the funds collected could be deposited locally and used without prior approval. Concerns about tariffs as barriers to access might be addressed by a clear national policy with modest and affordable prices for basic services and for a simple means test for higher fees.

Another major concern emerged with the finding that fondos externos which are donor funds that flow through the local health budgets were not only inequitable but were actually exaggerating the existing inequities. This suggests the need for different efforts to assign fondos externos. The assignment of fondos externos should support the needs based formula assignments by either using the same formula or by using fondos externos to increase the funding in SILAIS that have low per capita expenditures.

There is some evidence that allowing local choice at the SILAIS level has at least not exaggerated inequalities and inefficiency and may have contributed to improving equity and efficiency. We found that SILAIS with greater control over their budgets were more likely to have more equitable allocations among municipal facilities within their area, and they were also able to cover more of the target populations with key immunizations programs in relation to per capita funding. This evidence also points to the potential positive impact of increasing local choice by widening the “decision space” over expenditures.

The qualitative survey showed some major areas of concern. There is evidence of significant rotation of personnel, especially among hospital and municipal facility directors. The surprising finding was that the SILAIS Directors and their Equipos de Direccion were relatively stable and the Equipos de Direccion at the municipal facilities were also relatively stable. This finding suggests that the rotation problem, at least for management positions, may be specific to hospital and municipal directors and is not a generalized phenomenon. This suggests that a policy of requiring that directors stay in their posts at least three years could reduce the problem. This policy could be enforced by developing procedures like internal contracts with directors or by a blanket human resources policy enforced by the Minister of Health.

The survey also found remarkably little formal training in key areas of financing and administration in the Equipos de Direccion. The administrators did have training in these areas but the Directors, Sub-Directors, Planners and Head Nurses did not. If additional

responsibilities are assigned to these teams, they must improve their capacity in financial management, human resources management and general administration. It is clear, however, that the training should accompany the process of expanding decision space in these areas and not wait until capacity is developed to expand choice. It is likely that training programs of an executive training model would be most appropriate for Equipos de Direccion.

In our analysis of municipalities (alcaldias) we found that the municipalities had some experience in managing their own resources, that the consejos and juntas provided means of community participation that was more extensive than at SILAIS levels, and that the municipalities were interested in having a greater role in health services and prevention and promotion activities. In our assessment of the resources available to municipalities we found that the mean per capita municipal income was almost a third larger than the mean per capita assignment to health. This rough comparison suggests that some municipalities probably have sufficient resources and experience in managing those resources to take on additional responsibilities in health care. This would mean a “devolution” of responsibilities to the alcaldias with specific “decision space” for different functions. In return for this new responsibility, the municipalities would be expected to allocate their own source funds to health. It is likely that only the wealthier municipalities would be able to fund health activities so a policy for devolution might involve only the 51 municipalities that have per capita incomes of higher than the mean.

Recommendations

There is room for expanding the “decision space” for SILAIS and municipal levels in the health system. Increased control over budget sources, tariffs and expenditures should be considered in future policies of decentralization. We find some evidence that SILAIS with more control of their budgets tend to allocate their resources more equitably among their municipalities, suggesting that increasing **local choice may improve equity**. We also found that higher levels of decentralized budgets were related to higher vaccination rates suggesting that **local control may improve efficiency of priority programs**.

Nicaragua’s low per capita public health expenditure and the fact that areas with higher expenditures have higher utilization suggest that public sector funding in health could increase and utilization of services would likely also increase.

Nicaragua should consider the application of a “needs based formula” for allocating primary care resources to SILAIS in order to improve the equity of resources among SILAIS. A similar formula should be designed for assigning resources to hospitals and to SILAIS offices.

Fondos externos could be reallocated so that they compensate for inequities in current allocations rather than exaggerate these inequities. They could be used to increase funding in low per capita SILAIS so that the process of implementing the

formula would not require reductions in national budgets for high per capita SILAIS.

Fondos propios, the funds collected from local fees and donations should be encouraged by a national policy allowing a range of tariffs and a means test for exceptions. It would also be advisable to replace the “caja unica” system, allowing local funds to be locally deposited and spent without prior approval.

An executive program in financing and administration should be developed for the Equipos de Direccion to improve local capacity to make key financial decisions, to manage human resources and for general administration.

A national policy that would require Directors of hospitals and municipal facilities to remain in their posts for at least three years should be implemented. A procedure of internal contracting might be used to enforce this policy.

Nicaragua should consider devolving some responsibilities for health to the wealthier municipalities – those with more than the mean per capita income.

Acronym List

CIPS-Center for Health Supplies
CURIM-Committee for Rational Use of Medical Supplies
DHS-Demographic Health Survey
HSPH-Harvard School of Public Health
IMR-Infant Mortality Rate
INIFOM-Nicaraguan Institute for Municipal Development
MINSA-Ministry of Health
PMSS-Modernization Project of the Health Sector
POA-Annual Operative Plan
SILAIS-Local Systems of Primary Care

*The following Spanish words appear throughout the text:

Alcalde: Mayor

Alcaldia: Mayor's office

Consejo: Committee

Sede: Headquarters of the MINSA office in each SILAIS

Salud: Health

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Background

The current decentralization process in Nicaragua began with the creation of SILAIS in 1990. The Sistemas Locales de Atención Integral en Salud (SILAIS) are relatively congruent to the department level of the general government administration and similar to districts in other countries. In the public administration definitions of decentralization, Nicaragua has "deconcentrated" some responsibility and authority to the Ministry of Health offices in the 17 current SILAIS. The government is also discussing the possibility of "devolving" powers to the municipal governments in the future but has made no significant steps in that direction yet.

Decentralization can be defined in terms of the "decision space" available to local decision makers. This concept has been developed by Harvard School of Public Health and used in a variety of studies and training programs. It defines decentralization in terms of the range of choice (from narrow to wide) over a series of key functions (financing, service delivery, human resources, targeting and governance).

Using the "decision space" definition of decentralization, the process of decentralization in Nicaragua has involved some increase in local control over budgets, service organization, human resources, and governance. The following table displays the range of choice that appears to be available at the SILAIS level based on comparisons with other countries. This chart represents an assessment by the authors based on review of regulations, reports, discussions with key officials, and exercises in use of "decision space" analysis in a seminar on decentralization held in Leon in May 2001.

Chart 1. "Decision Space" at the SILAIS Level in Nicaragua 1999-2001

Functions	Range of Choice		
	Narrow	Moderate	Wide
Finance			
Sources of Revenue	X		
Expenditures		X	
Income from Fees		X	
Service Organization			
Hospital Autonomy	X		
Insurance Plans	X		
Payment Mechanisms to Institutions	X		
Required Programs & Norms	X		
Contracts with Private Providers		X	
Vertical Programs, Supplies and Logistics	X		
Human Resources			
Salaries	X		
Contract Staff		X	
Civil Service		X	
Access Rules			
Targeting	X		
Governance Rules			
Local Accountability	X		
Facility Boards		X	
Health Offices	X		
Community Participation		X	
Total	10	7	0

Finance

The decision space over sources of revenue at the SILAIS level is narrow, however, there is some choice allowed over the use of income from local sources. These local sources must be sent to the "caja unica" and their use justified to higher authorities, however the funds are supposed to be returned to the collecting source and there are no clear rules restricting their use.

SILAIS choice over expenditures is moderate. They are limited to selected budget headings, which include some budget line items in the headings of "Non-Personnel Services" and "Materials and Supplies". These items include per diem expenses (viaticos), cleaning, maintenance and repair of buildings and transportation, studies and "other professional services", publications and publicity, food and drink, textiles, paper, graphic arts supplies, books and journals, tires, office supplies, maintenance supplies. Significantly, MINSA authorities retain control over telephone, water, electricity and

gasoline as well as medicines. Much of the decentralized funding is further controlled by norms and standards such as the fixed amount per diem allowed for each day in the field. SILAIS directors are allowed to change expenditures within and among the sub-units of the decentralized budget items. In other studies these budget items were estimated to be around 20% of the SILAIS budget, however the HSPH studies have found these items to average no more than 8%. However, they also have some choice over allocation of resources among the municipalities in their jurisdiction.

Choices about fees is limited for the activities that SILAIS headquarters manages – such as inspections which are nationally defined – however, the fees at municipal facilities appear to be determined at the facility level with the blessing of the SILAIS. Therefore we judge the choice to be moderate.

Service Organization

Hospitals are officially under the authority of the SILAIS, however, they are usually more responsive to central MINSA authority. The hospital budgets are determined and monitored by MINSA that decides the level of autonomy to grant hospitals. Therefore, for the SILAIS level there is no choice over whether to grant more autonomy to hospital directors.

SILAIS do not create their own insurance plans, nor do they determine the payment mechanisms for providers within the SILAIS. All MINSA norms and standards are applied to all SILAIS with almost no local choice. The supply and logistic system is highly centralized as are special priority programs such as immunization, HIV/AIDS, TB control with some local participation in priority programs but still very limited local discretion.

SILAIS however do have moderate choice over contracting for private services such as maintenance, laboratories, etc.

Human Resources

SILAIS have almost no choice over salary levels for permanent staff, however, they are allowed to recruit, and can transfer and fire staff for cause. Using their own source revenues they can contract with non-permanent staff. Compared to several other more decentralized countries, Nicaragua has more control over staffing choices.

Targeting

Choice over who has access to services is limited by central policies that require universal access. Local authorities are also required to follow MINSA directives on priority target populations.

Governance

SILAIS are accountable to MINSA and not to local elected authorities as they would be in a “devolved” system. The composition of SILAIS offices is determined by MINSA.

At one period there was great pressure from MINSA for SILAIS to create Juntas de Salud with some authority and local accountability, however now these instances of community participation have been left to the local initiative of the SILAIS directors – giving them a moderate range of choice. It also appears that hospital directors and directors of municipal facilities have some choice over the forms of community participation.

Conclusion on Decision Space: Little Choice at SILAIS level

Overall, Nicaragua has a quite limited range of choice – with only 7 functions in the moderate range, none in the wide range and 10 in the narrow range. Similar studies in Bolivia, Chile and Colombia show a greater range of choice. (See Annex A) Nicaragua is more decentralized than many centralized systems but it could expand the decision space, especially for financing functions and still be within a range that has been experienced in other decentralized countries.

Current Studies

At the request of MINSA and with the support of USAID, HSPH conducted two studies of the current situation of decentralization in Nicaragua. The first is a quantitative study of comparative data on financing, utilization, and health status in SILAIS and municipalities for 1999 and 2000. The data from this analysis shows the current inequities in funding levels, and the differences in the allocations made by central and decentralized decisions. It also relates spending to income, utilization and health status characteristics of the SILAIS and municipalities. The second is a qualitative study based on interviews at the SILAIS and municipalities levels in 8 SILAIS, 12 municipalities, and 10 hospitals. This qualitative study demonstrates some findings on human resources, perception of areas of local choice, and perception of central intervention in local management. The findings of these two studies are presented separately below.

Quantitative Study

The objective of this study is to assess the allocation of resources, impact of local choice on budgets, and the relation of financing decisions to local characteristics of wealth, utilization and health status. The study focuses on the equity and effectiveness of the current system.

Methodology

Ambulatory expenditure data was analyzed at the municipality level. (See Annex D for detailed description of the variables) The four main ambulatory budget line items: Personnel Services, Non-Personnel Services, Materials and Supplies, and Current Transfers were summed to create the variable Total Ambulatory Expenditure. Non-Personnel Services and Materials and Supplies were broken down into centralized and decentralized line items as shown in Annex C, Table 1. The municipal Ambulatory data was summed to create SILAIS Ambulatory data and weighted according to the population figures. These figures do not include fondos propios and external funding and therefore differ from MINSA data at the SILAIS level. We analyzed these figures separately. The data we present on ambulatory care therefore is only the central transfers from the Nicaraguan General Budget.

SILAIS offices (Sede) and Hospital data also provided by MINSA were analyzed separately.

All data was analyzed on a per capita level and as a percent of the total health expenditure. Bivariate analyses were done between the expenditure information and income, population, urbanity, utilization data, and IMR. The bivariate analysis was shown by correlation coefficients and p-values. Any correlation with a p-value of 0.25 or less was considered significant and is **bolded** in the text.

The population, income and urbanity bivariate analyses were also done through quintiles by analyzing the ratio of the 5th to the 1st quintile and comparing the results from years 1999 to 2000.

Weaknesses

We used the most complete data available in Nicaragua, however there are some significant limitations for most of the data. (See Annex D) The population data that we use is based on projections from the 1995 census and should be updated when the next census is completed. The utilization and coverage data is probably quite good since Nicaragua has improved this reporting over the years. The financial data however, was difficult to obtain at the municipal level and may be of varying validity.

The Nicaraguan health care budget is still very centralized; most of the line items are controlled by the center. Data for the municipal level was not available for RAAN. Some municipalities did not report figures for some centralized line items because the center directly covered these costs. For example, the municipalities in Chinandega had quite a few missing values for the centralized line items under Non-personnel Services. However, when investigated further, we discovered that for these municipalities the payments were made directly by MINSA at the central level and the municipalities did not have to report them.

We found a discrepancy between the municipal data that we summed to the SILAIS level and the SILAIS/MINSA Budget data. We discovered that the SILAIS/MINSA budget data included Own and External Funding at the SILAIS level, whereas our municipality data was purely line item expenditures. We analyzed Own and External Funding separately.

Findings

Our data shows a relatively low total per capita public expenditure of US\$15.32 as can be seen in Table 1.

Table 1. Total Health Care Funds per Capita in Córdoba and Dollars

SIL AIS	Córdoba	Dollars**
Ambulatory Care/capita	<i>64.39</i>	5.23
Hospitals Expenditure/capita	<i>82.04</i>	6.66
Sedes Expenditure/capita	<i>20.77</i>	1.69
Hospital and SILAIS Own Source Expenditure/capita	<i>11.55</i>	0.94
Hospitals and SILAIS External Source Expenditure/capita	<i>9.92</i>	0.81
TOTAL	<i>188.67</i>	15.32

** Based on a conversion factor from 1/1/2000 (1USD=12.3155 Córdoba)

The balance between ambulatory and hospital expenditures shows that Nicaragua has effectively provided a greater proportion of funding for ambulatory expenditures than

appears in many other countries. The funds that are mobilized by local fees and contributions are low but in line with international experience in low income countries.

Allocation Patterns

Ambulatory Care

The first question to ask about allocations is: "What is the variation in per capita expenditures among SILAIS?" We analyzed data on ambulatory care, hospitals, and SILAIS offices (sedes). We first look at spending for ambulatory care, using data that sums the municipal per capita expenditures by SILAIS. Per capita expenditures for ambulatory care should not be very different among SILAIS since the services should be generally available to all of the population and there should be a relatively uniform usage throughout Nicaragua. Only RAAN and RAAS with their extremely low and relatively dispersed population might need higher per capita spending in ambulatory care.

We found that there is a significant range of per capita spending for primary care in 2000. For all SILAIS, the range was more than four times -- from 33.10 cordobas per capita (Granada) to 141.73 (RAAN) , with a mean of 63.49 cordobas per capita. (See Table 2 -- The SILAIS in this and following tables are presented in order of income from lowest to highest which will be discussed below. See Annex C, Table 1 for a complete table on ambulatory expenditures by SILAIS). The high per capita expenditures in RAAN and RAAS are partially due to the low population density in these SILAIS. However, excluding these SILAIS there still is a range of 2 times difference between Granada and Leon. Nevertheless, this range is close enough to make it feasible to move toward an equity formula based on per capital expenditures in ambulatory care. In the mid 1990's a per capita formula was applied but later abandoned. It appears that the historical budgeting since that period retained a relatively close range of per capita expenditures. It is also evident, however, that the system has returned to some degree of inequity that could be corrected with a reapplication of a needs based formula with a large component based on population size and density.

Table 2. Ambulatory Expenditures per capita by SILAIS by income 2000

SILAIS	Total Expenditure/capita
Chontales (lowest income per Capita)	57.52
Jinotega	52.17
Boaco	62.46
RAAN	141.73*
Madriz	50.78
Matagalpa	57.53
Masaya	40.35
Río San Juan	55.23
Carazo	47.58
Rivas	56.13
Nueva Segovia	65.90
Chinandega	56.86
Estelí	58.64
León	84.33
RAAS	104.92
Granada	33.10
Managua(highest income per capita)	54.26
Mean	63.49
Correlation Coefficient (Municipal Level)	R= 0.0657 P= 0.4542 N=132**
Coefficient de Correlation (SILAIS level)	R= -0.0639 P= 0.8076 N=17

*RAAN is estimated from data from Budget "Ejecucion" December 2000.

**RAAN is not included

Sources: Nicaraguan General Budget and INIFOM

Hospitals

Hospital spending is likely to be more varied because hospitals may serve a different population depending on the level of services and on the reputation for quality. We found that per capita spending at hospitals in each SILAIS was significantly different with a range of more than three times difference. Table 3 also shows that there is a strong relationship between SILAIS wealth and per capita hospital spending (significant correlations in this report are in **bold** -- see also Annex C Table 3 for more complete table). However, it is probably not useful to use SILAIS population as the denominator for hospitals because the population served by a hospital may not be just the surrounding SILAIS. Historical supply and demand may have created a greater demand for some hospitals and some hospitals may have developed greater capacities to take on that demand.

Table 3. Hospital Expenditures per capita by SILAIS by Income 2000

SILAIS	Total
Chontales (lowest income per Capita)	57.74
Jinotega	45.40
Boaco	49.65
RAAN	53.76
Madriz	69.05
Matagalpa	<i>41.09</i>
Masaya	64.70
Río San Juan	77.74
Carazo	119.21
Rivas	102.56
Nueva Segovia	50.56
Chinandega	79.09
Estelí	118.25
León	107.15
RAAS	112.04
Granada	90.21
Managua(highest income per capita)	<i>156.51</i>
Mean	<i>82.04</i>
Correlation Coefficient (SILAIS level)	R= 0.7737 P= 0.0003*

* **Bold** R and P are significant to below 0.25

Sources: Nicaraguan General Budget and INIFOM

As a preliminary means of controlling for the differences in hospital capacities and utilization, which often includes patients from outside the SILAIS, we assessed hospitals according to their bed days and admissions. (see Table 4) We found that in 1999 there was a significant difference in bed days among the hospitals classed as Secondary Hospitals (2). There was an average of 100,289 bed days per hospital in each SILAIS with a range of 13,870 for hospitals in Río San Juan to 662,475 for hospitals in

Managua, a difference of more than 47 times. When we analyzed hospital expenditures by bed days we found that there was a more limited range – with a range in hospitals spending between 167 and 394 cordobas per bed day, a difference of slightly more than two times. We found the expenditures per admission (ingresos) also had a similarly narrow range – between 1129 and 2350, with an average of 1538. It might be possible to assess hospital spending in relation to the mix of specialties with hospitals with higher ratios of more expensive services – such as surgery – weighted to reflect their need for higher expenditures. This assessment could be done in the future.

Table 4. Hospital Expenditures by Bed Days and Admissions 1999

SILAIIS	Bed Days	Expenditure/ Bed Day	Total Admissions	Expenditure/ Admissions
Chontales (lowest income per Capita)	65335	214	8518	1643
Jinotega	47450	266	8093	1562
Boaco	19884	394	6092	1288
RAAN	*	*	*	*
Madriz	43435	181	5572	1409
Matagalpa	90885	235	18425	1161
Masaya	65335	258	14956	1129
Río San Juan	13870	289	2431	1646
Carazo	*	*	*	*
Rivas	66795	167	9297	1203
Nueva Segovia	40150	206	7238	1141
Chinandega	93440	306	22875	1250
Estelí	26645	282	3203	2350
León	169725	221	18806	1991
RAAS	44530	220	6488	1508
Granada	54385	279	10043	1511
Managua(high est income per capita)	662475	307	89073	2280
Mean	100289	255	15407	1538
Correlation Coefficient (SILAIIS level)	R= 0.8997 P= 0.0000	R= 0.1648 P= 0.5574	R=0.8786 P=0.0001	R=0.5726 P=0.0257

*Missing Data

**Only Utilization data from 1999 was available

Sources: Nicaraguan General Budget, MINSA and INIFOM

SILAIIS Offices

SILAIIS offices (Sedes) also had a wide range of per capita expenditures. In 2000, as shown below in Table 5, the range was from 7.52 cordobas per capita (Masaya) to 48 (Chinandega) with a median of 20.77. Sedes, like hospitals, might also require different

spending levels due to different human resource needs and to special programs, however this range suggests that Sede spending be carefully reviewed.

Table 5. Total Expenditure per capita for SEDE year 2000 by Income per capita of the SILAIS

SIL AIS	Total
Chontales (lowest income per Capita)	*
Jinotega	*
Boaco	18.07
RAAN	*
Madriz	13.01
Matagalpa	9.30
Masaya	7.52
Río San Juan	*
Carazo	27.03
Rivas	12.19
Nueva Segovia	14.36
Chinandega	48.51
Estelí	22.29
León	29.43
RAAS	38.57
Granada	10.13
Managua(high est income per capita)	19.62
Mean	20.77
Correlation Coefficient (SIL AIS level)	R= 0.1336 P=0.6635

*Missing Data

**Medical Products were eliminated because they included both SEDE and Municipalities

Sources: Nicaraguan General Budget and INIFOM

Decentralized Control of Resources

There were specific budget line items that local authorities controlled and others that were controlled by MINSA central. We found that in general the SILAIS were not granted much control over their budgets. On average only 8.40% of total SILAIS budget for ambulatory care in 1999 was controlled by the SILAIS. This average increased to 8.94% in 2000, however it was still less than half earlier estimates of 20%. (see Table 6)

Table 6. Percentage of Decentralized Ambulatory Budget 2000 by SILAIS by Income

SILAIS	Centralized Funds	Decentralized Funds
Chontales (lowest income per Capita)	89.50	10.50
Jinotega	82.56	17.44
Boaco	87.81	12.19
RAAN	*	*
Madriz	85.48	14.52
Matagalpa	93.66	6.34
Masaya	92.60	7.40
Río San Juan	85.69	14.31
Carazo	92.00	8.00
Rivas	93.46	6.54
Nueva Segovia	92.57	7.43
Chinandega	94.73	5.27
Estelí	92.30	7.70
León	96.88	3.12
RAAS	93.60	6.40
Granada	90.23	9.77
Managua(highest income per capita)	93.87	6.13
Mean	91.06	8.94
Correlation Coefficient (SILAIS level)	R= 0.4280 P= 0.0981	R=-0.4280 P=0.0981

*Missing Data

Sources: Nicaraguan General Budget and INIFOM

There were some SILAIS that had more control of their ambulatory budgets, although this varies from year to year. In 2000, the range was from 3.12% (Leon) to 17.44% (Jinotega). However, even the extremely high figures are well below the previous estimates.

In hospitals the budget that hospital directors were allowed to control was also low. The range was between 6.82% (Nueva Segovia) and 13.98% (Madriz) with a mean of 9.89. There was no relationship to SILAIS income.

In Sedes the local discretion was greater than for ambulatory care or hospitals. In 2000, the range of decentralized control was from 9.28% (Rivas) to 28.96% (Chinandega) with a mean of 16.18%. These figures were slightly higher than in 1999 (mean of 14.97%).

We next asked the question: Do SILAIS with greater control of their budgets assign resources to their municipalities in a more equitable manner? Our assumption here is that SILAIS directors have considerable control over the assignment of both budget and human resources within the SILAIS. Our survey suggests that this assumption is appropriate. We also assumed that the percentage of the budget that a SILAIS controls is an indication that the center has granted that SILAIS greater discretion than those SILAIS that have smaller percentages of decentralized budgets. This assumption is less firmly supported by our surveys but may suggest what could happen if larger budgetary control was granted to SILAIS.

We found a negative significant correlation between the percent of total decentralized funding at the SILAIS level and the difference between the largest and smallest municipal health care spending per capita within each SILAIS. ($R=-0.3521$, $P=0.1811$ $N=16$) This means that the higher the percent of funding that was under the control of the SILAIS (percent of total decentralized funds at the SILAIS level), the smaller the difference in total health care spending per capita of the municipalities within each SILAIS. We defined “the most equity” as the smallest difference in total municipal health care spending per capita within the municipalities of each SILAIS. This being the case, the higher the percent of decentralized funding at the SILAIS level, the more equity there is in terms of the total municipal health care spending per capita.

Own-source funds and donor support (Fondos Propios y Externos)

SILAIS were able to generate own source funds with varying degrees of success. Own source revenues are reported revenues from fees collected by the SILAIS and the municipal facilities within its district. The mean was only 4.78 cordobas per capita for 1999 (range of 1.10 to 11.44) and 3.14 cordobas per capita for 2000 (range 0.51 to 5.64). (See Annex C Tables 11-16) Both the level and the gap between high and low per capita own source funding declined from 1999 to 2000. There was no relationship with income of the SILAIS.

External funds are donor funds directly expended in the SILAIS through the regular budgetary process and do not include donor funds paid directly to project implementers such as PROSALUD. These funds were more important and more inequitably distributed than the own source revenues but varied considerably from year to year and among SILAIS. The means were 13.60 cordobas per capita in 1999 (range from 1.98 to 60.35) and 9.21 in 2000 (range 0.28 to 27.33). Again the level and gap declined from 1999 to 2000. The inequity of the allocations of fondos externos was found to exaggerate the inequities of the ambulatory expenditures from national government revenues. The relationship between per capita ambulatory expenditures and per capita fondos externos was significant ($R=0.60$ $P=0.0159$).

As percent of total ambulatory expenditures we found that in 2000 the mean of both sources (proprios and external) for SILAIS was 15.56% with a range of 6.09 to 28.01. However, the external sources are a greater percentage than the fondos propios and likely to be less stable source of funding. Fondos propios only contributed a mean of 4.52 percent in 2000. This figure declined from 7.01 % in 1999.

Hospitals also collected own source revenue and were able to generate higher revenues than the ambulatory and preventive services. The mean total hospital fondos propios expenditures per capita in 2000 was 8.72 cordobas per capita with a range of 0.46 to 41.68 (Managua). However the range is distorted by Managua where most major hospitals serve much larger populations than the population of the city.

Allocation Related to Local Characteristics

We attempted to analyze the spending patterns in relation to several local characteristics to see what explained the spending patterns and what impact spending might have on performance.

Population Size

Although, we did not find any significant relationship between SILAIS ambulatory expenditures per capita and the population size of the SILAIS, we did find that at the municipal level, municipalities with smaller populations had higher per capita ambulatory expenditures than did municipalities with larger populations. (see Annex C Tables 4-7) Again this relationship was similar for budgets under both central and decentralized control.

This expenditure pattern may be rational if smaller populations are dispersed and have higher costs for delivering services.

Income of SILAIS and Municipalities

In some situations, decentralization has meant that wealthier communities can put more resources into health, increasing inequalities. However, historically based centralized budgets have, in other countries, favored the wealthier communities over the poorer communities. In Harvard studies of Chile and Colombia we found that decentralization improved the equity of per capita expenditures over time. See Annex B.

In Nicaragua we used an index of municipal income provided by INIFOM. We summed the municipalities in a SILAIS to generate an average SILAIS income.

The income data suggest wide variation among municipalities. There was a range of more than 10 times between the highest per capita municipal income and the lowest with a mean of 73.27 and standard deviation of 84.69.(see Table 7). We found that 51 municipalities had per capita income higher than the mean. These could be considered the “wealthier” municipalities in Nicaragua.

Table 7 . Municipal Income per Capita

SILAIS	Lowest	Highest
Range	6.38	675.44
SILAIS	RAAS	Managua
Municipality	El Tortuguero	El Crucero
	Mean	73.27
	Standard Deviation	84.69

Sources: Nicaraguan General Budget and INIFOM

We found that overall per capita spending was not related to the income of SILAIS.(Table 2 above and Annex C Table 1). However, the percentage of decentralized funding assigned to different SILAIS was related to income with the SILAIS with poorer municipalities allowed to make decisions over larger percentages of the budget. (see Table 6 above) This finding is unusual and surprising.

For hospital spending, not surprisingly we found that the SILAIS with higher income had more bed days than those with lower income, however when we analyzed expenditures by bed days by SILAIS income there was no relationship. (Table 4 above). There was no relationship of SILAIS income to spending at the Sede level.

We analyzed the expenditure patterns of municipalities by income quintile and again found no significant relationships. (Annex C Tables 8-10)

Utilization

Are spending levels related to utilization? We found that funding was related to utilization in many respects. More total funding per capita, more centralized and more decentralized funding were all related to more consultations per capita for under one and under five year olds and for fertility control. (See Table 8)

Table 8. Correlation Coefficients for Utilization

SILAIS	Centralized Funds	Decentralized Funds	Total Spending/Capita
Consults under one year/capita	R= 0.2687 P= 0.0018 N=133	R= 0.3513 P= 0.0001 N=133	R= 0.2920 P= 0.0007 N=133
Consults under 5 years/capita	R= 0.3439 P= 0.0001 N=133	R= 0.3942 P= 0.0000 N=133	R= 0.3674 P= 0.0001 N=133
Prenatal Visits /capita	R= -0.0197 P= 0.8220 N=133	R= 0.2617 P= 0.0023 N=133	R= 0.0109 P= 0.9006 N=133
Fertility Visits/capita	R= 0.1043 P= 0.2323 N=133	R= 0.3187 P= 0.0002 N=133	R= 0.1338 P= 0.1247 N=133
Children under one yr at risk for Malnutrition/cap.	R= -0.1069 P= 0.2208 N=133	R= -0.0616 P= 0.4809 N=133	R= -0.1073 P= 0.2187 N=133
Malnutrition under 1 yr./capita	R= -0.1508 P= 0.0832 N=133	R= -0.0927 P= 0.2888 N=133	R= -0.1521 P= 0.0805 N=133

Sources: Nicaraguan General Budget, MINSA and INIFOM

We also looked at the relationship between immunization coverage and spending and found that for DPT3 and Polio 3 there was a significant relationship between the levels of decentralized funding and immunization coverage and that for most other immunizations there was a negative relationship between centralized spending and coverage. This finding suggests that those municipalities in SILAIS with higher levels of decentralized budgets had better coverage rates. It also suggests that higher centralized budgets were not contributing to improved vaccination levels.

Table 9. Coverage: Correlation Coefficients for Immunization by Spending (municipal level)

SILAIS	Centralized Funds	Decentralized Funds	Total Spending/Capita
DPT3 per capita under 1 year	R= -0.0336 P= 0.7021 N=132	R= 0.2529 P= 0.0034 N=132	R= -0.0032 P= 0.9711 N=132
DPT3 per capita 1-4 years	R= -0.1800 P= 0.0420 N=128	R= -0.0394 P= 0.6586 N=133	R= -0.1734 P= 0.0503 N=133
Measles per capita 1-4 years	R= -0.0811 P= 0.5638 N=53	R= -0.0391 P= 0.7812 N=53	R= -0.0812 P= 0.5635 N=53
Polio3 per capita under 1 year	R= -0.0302 P= 0.7316 N=131	R= 0.2290 P= 0.0085 N=131	R= -0.0027 P= 0.9760 N=131
Polio3 per capita 1-4 years	R= -0.1836 P= 0.0388 N=127	R= -0.0681 P= 0.4468 N=127	R= -0.1802 P= 0.0427 N=127
BCG1 per capita under 1 year	R= -0.1791 P= 0.0406 N=131	R= 0.0560 P= 0.5254 N=131	R= -0.1620 P= 0.0644 N=131
BCG1 per capita 1-4 years	R= -0.1688 P= 0.0807 N=108	R= 0.0493 P= 0.6126 N=108	R= -0.1525 P= 0.1151 N=108

Sources: Nicaraguan General Budget, MINSA and INIFOM

Health Status

Do higher spending levels influence health outcomes? We found no relationship between total per capita spending on ambulatory care and Infant Mortality Rates (IMR). We did find a weak but significant positive relationship between IMR and decentralized expenditures in 2000. (higher IMR related to higher decentralized ambulatory spending per capita). This finding however is not stable since the 1999 data was also weak and in the opposite direction (higher IMR related to lower spending). (see Annex C Table 17)

Analysis and Policy Implications

The findings on quantitative data reinforce the conclusion that there is relatively little decision space allowed at local levels in the Nicaraguan health system. The average portion of the budget controlled by SILAIS officials is less than half of the earlier estimates. Similarly, hospital directors have very limited control over their budgets. SILAIS directors have more discretion over the "sede" budgets but that control is still limited. There are many options for increasing the local control of the health system.

The findings also suggest there is a moderate degree of inequity in the current funding of health services among SILAIS. There are two to three times differences in per capita allocations among SILAIS. In Colombia the centralized allocations before

decentralization showed a much greater gap between wealthier and poorer localities, however, after decentralization imposed a per capita based formula, Colombia's allocations from the central budget were almost equal among localities. This suggests that Nicaragua could adopt a "needs-based" formula that could reduce inequities among SILAIS. Since the range of per capita spending among SILAIS is not great, the transition from the current inequities will not impose severe funding changes. This would allow a short period of adjustment. This needs based formula could be based on population size primarily for ambulatory care and based on admissions or bed days for hospitals.

The finding that increased funding was related to utilization suggests that the impact of larger budgets may improve the output of services and strengthen arguments for greater levels of health spending.

The finding that SILAIS with municipalities with greater control of their decentralized budgets are related to higher levels of vaccination coverage is interesting and suggests that wider local control may not undermine central priorities in immunizations. Indeed SILAIS with higher centralized spending tend to have lower immunization coverage. We did find that SILAIS with poorer municipalities tended to have a greater control over their ambulatory budgets, which is unusual given the low capacity in human resources in these SILAIS.

The data also suggest that there are few obvious biases in the funding allocations. Income of SILAIS, based on the sum of the municipal incomes, was not related to allocation decisions, utilization and other measures. There is a bias toward smaller populations, which is probably a good policy.

We found some evidence that SILAIS with greater control over their budgets assigned resources among their municipalities in a more equitable manner. This suggestive finding lends weight to an argument that greater decentralization of the budget may lead to more equity within the SILAIS.

The own source revenues are heavily dependent on external donor funding and only a small percentage of total funding comes from fondos propios collected by the ambulatory and preventive services. Both sources showed declines between 1999 and 2000. A new policy on local tariffs, allowing a limited range of choice over setting of fees, and the replacement of the "caja unica" with a system that clearly allows local facilities to retain their fees would probably improve this situation.

The significant range of difference in per capita SILAIS office expenditures suggests that a separate analysis of SILAIS needs and expenses should be done to see if the current allocation is justified.

For the option of increasing the decentralization by devolving control to the municipalities there is some room to expect that local municipal budgets could be tapped for greater contribution to health care. The mean municipal budget was 73 cordobas per capita, which is more than the mean SILAIS budget of 63.49 cordobas per capita.

Although there are many municipalities with very low budgets -- the lowest is only 6 cordobas per capita -- there are a group of relatively wealthy municipalities that might be encouraged to provide additional funds. In our Harvard studies in Colombia and Chile, we found that municipalities increased their own source funding for health after gaining more central funds and more responsibility in the process of decentralization. (see Annex B)

Qualitative Study

Objective

This part of the Harvard Nicaragua Project studies examined the observations and attitudes of key officials at the SILAIS and municipal levels about the current status of decentralization in Nicaragua and attitudes about future options. The objective of this survey was to get information on human resources, processes, quality and recommendations that were not available in the quantitative study.

Methodology

This study was an interview survey of officials in 8 selected SILAIS. This is almost half the total SILAIS. Interviews were held at the SILAIS offices, the Department Hospital, and for each SILAIS two selected municipal facilities and the Alcaldia of those municipalities. It included interview questionnaires with a combination of closed and open-ended questions. The interviews were carried out by Leonor Corea and a team of 4 trained interviewers of ALVA, S.A. The interview team was involved in the design of the questionnaire and was able to probe to obtain clear responses to each question. Nine instruments were prepared -- one for each of the key officials at the SILAIS level (Director, Sub-director/Planner, Administrator, Medical Supply Officer), the District Hospital Director, and in the municipal facilities (Director, Sub-Director or Head Nurse, Administrator) and one for the Alcalde. Interviews lasted 1-3 hours. (See Annex E for an example of one of the survey instruments).

The SILAIS were purposefully selected to reflect different regions of the country and areas with current decentralized projects. The municipalities within these SILAIS were selected based on national level data to include municipalities with both higher and lower per capita spending. The SILAIS selected were: Boaco, Chontales, Carazo, Granada, Jinotega, Masaya, Matagalpa, Rivas.

We interviewed 7 of the 8 SILAIS Directors. The Director of Matagalpa was not available when the interviewers visited. All 8 SILAIS Administrators were interviewed. In the category of Sub-Director/Organizers of Services/ Planner fifteen (almost two in each SILAIS) were interviewed. All eight Medical Supplies Officer were interviewed. At the municipal level 14 Directors of Municipal Facilities, 19 Sub-Directors or Head Nurses, and municipal Administrators of Municipal Facilities were interviewed. Eight Hospital Directors, one in each SILAIS and 12 Alcaldes were interviewed.

Since this was not a random sample, and the numbers are relatively small, the findings and conclusions must be taken with some caution. For some of the findings -- such as rotation, professional preparation and training, and other relatively objective issues -- it might be useful to send a questionnaire to the rest of the SILAIS and municipal officials to get a more complete picture.

Findings

Personnel Rotation and experience

We found that there was relative stability among the SILAIS directors although there was some turnover of their Equipos de Direccion (defined as the number of persons directly under them). (see Table 10) Three of the seven SILAIS directors had been in their position for more than three years, three between one and three years and only one was in office less than six months. Five directors had had at least 3 years of similar positions prior to this one. However there was turnover of staff in the last three years in 5 SILAIS. Two of these changes were made by the local authorities, one by MINSA and the rest were probably at the initiative of the individual staff involved. According to the Directors, the Equipos de Direccion included 5-7 people with 3 SILAIS with 7.

Table 10. SILAIS: Personnel Rotation and Experience of SILAIS Equipo de Direccion (N) %

	Directors	Planners	Med. Supp.	Admin.	Total
Years in Current Position					
< 6 months	(1) 14.29	0	0	(1) 12.50	(2) 5.26
6 months-1year	0	0	(1) 12.50	(1) 12.50	(2) 5.26
1-3 years	(3) 42.86	(3) 20.00	(4) 50.00	(2) 25.00	(12) 31.58
> 3 years	(3) 42.86	(12) 80.00	(3) 37.50	(4) 50.00	(22) 57.89
N	7	15	8	8	38
Turnover in Equipos in the last three years					
Yes	(5) 71.43	(6) 42.86*	(4) 50.00	(4) 50.00	(19) 51.35
No	(2) 28.57	(8) 57.14*	(4) 50.00	(4) 50.00	(18) 48.65
N	7	14	8	8	37
Changes made by whom					
Local Authorities	(2) 33.33	(6) 100.00	(4) 100.00	(2) 50.00	(14) 70.00
MINSA	(1) 16.67	0	0	0	(1) 5.00
Other	(3) 50.00	0	0	(2) 50.00	(5) 25.00
N	6	6	4	4	20
Number of persons directly under interviewee					
Less than 5 people	0	(7) 50.00	(6) 75.00	(3) 37.50	(16) 44.44
5-7 people	(7) 100.00	(3) 21.43	(1) 12.50	(2) 25.00	(13) 36.11
8 people or more	0	(4) 28.57	(1) 12.50	(3) 37.50	(7) 19.44
N	7	14	8	8	37
Average Reported Number of persons directly under interviewee	6.14	4.29	3.5	7	5.05

* Missing Data

Sources: Case Study Interviews from Qualitative Study

The SILAIS Administrators who were interviewed were also quite experienced and stable. Four of the eight had been in their position for more than three years and only one less than 6 months. Six had had at least two years in similar posts and four had been in similar posts for at least 6 years. When asked about the persons directly dependent upon them (sometimes referred to as Equipos de Direccion), the administrators reported that there were between 3 and 18 members (Directors said 5-7). Half reported that there had been a change in the number of persons directly under them in the last year. However only two reported that they participated in that decision.

Like the Directors and Administrators, the Sub-Directors/ Organizers of Service/Planners as a group were well experienced. Twelve of the fifteen had been in their position for more than three years and the other three were in their post for at least a year. All had been in similar positions for at least two years and they ranged up to 29 years, with nine having 10 years or more. The Medical Supply Officers were also stable and experienced. Three of the eight had been in their posts for three years or more and only one for less than one year. Three had five or more years in similar posts but three had accumulated less than 3 years in similar posts.

It was at the Municipal Facility level that rotation and lack of experience appeared to be a significant issue (see Annex C Table 19). Of the 14 Municipal Directors only six had been in their position for more than three years, however, four had been Directors for less than six months. Eight of these Directors had less than two years of experience in similar positions. Only three of 14 had 6 or more years in similar positions.

The number of persons directly under head personnel at the Municipal Facility level was however relatively stable and experienced. Although again there were different reports of the number of persons directly dependent upon head personnel among the informants from the same municipalities, in general numbers appear to range from 3 to 8 with most either 4 or 7 and most had had changes in personnel the last three years. We surveyed 19 officials who were sub directors or head nurses at the municipal facilities. Ten had been in their posts for three years or more and only two for less than six months. Ten had accumulated three years or more (up to 21) in similar posts and six had less than one year. Similarly for Municipal Administrators, seven of the eleven had been in their posts for more than three years and only one less than six months. Seven had two years or less in similar positions (it appears that in this group, unlike the others, some did not count their current position).

The Hospital Directors also had high rotation and somewhat less experience in similar posts. Three of the eight were in their posts for less than six months, four for one to three years and only one for three years or more. Half had four or more years experience in similar posts. They reported Equipos de Direccion of between 3 and 7 members and all but one had had changes in the Equipo during the last three years. Three of the changes were made by the SILAIS, two by the local Director, and one by MINSA central. Three of the Directors participated in the decisions to change the staff.

In conclusion, contrary to the general assumption that rotation of personnel is a major problem in Nicaragua, this survey suggests that there is considerable stability of the Directors and the number of persons directly under them and that the staff has fairly long experience in their positions. This finding suggests that there does not need to be major changes in human resources to reduce rotation at the SILAIS level. The number of persons directly under head personnel at the municipal level also appeared to be relatively stable, however, there was more turnover of Directors of Municipal Facilities and of Hospital Directors and it would be important to develop policies to reduce rotation of these directors.

Capacity: Profession and Training

Not surprisingly, all SILAIS Directors were physicians, some of whom had a masters in public health. (see Annex C Table 22) Although most had received additional medical training of more than two weeks, only one of the seven had had training of more than two weeks in administration and finance. Similarly, of those in the category of Sub-Director/Organizer of Services/Planner half were doctors or dentists, some with masters in public health, and half were nurses (one was identified as "other"). Only one had administrative or financial training of more than two weeks, in project management. Seven of the eight Medical Supply Officers interviewed were pharmacists. Only two had training of more than two weeks in administration and finance. Seven of the eight Medical Supply Officers interviewed were pharmacists. Only two had training of more than two weeks in administration and finance. Three had been in their posts for three years or more and only one for less than one year. Three had five or more years in similar posts but three had accumulated less than 3 years in similar posts.

At the SILAIS Sede it was only the SILAIS Administrators who had both professional preparation and some additional training in finance and administration. All 8 SILAIS Administrators were in the profession and four had had additional training of more than two weeks in finance and administration.

While five of the seven SILAIS Directors reported that they had sufficient human resources for making budgetary decisions, only two of the eight SILAIS Administrators felt that there was sufficient local human resource capacity to take on budgetary decisions. (Human resources refers to the personnel directly dependent upon the Director and Administrators). Five claimed that they were able to do financial analysis in relation to their health planning. The Administrators generally felt that they did not have enough trained people and even those who did felt that they needed more computers and materials for financial analysis:

No se tienen los recursos humanos necesarios, afecta que en los municipios faltan cuatro administradores y el Contador a nivel de SILAIS tiene que cubrir esa carencia. En equipamiento, es necesaria una red para agilizar las acciones, el personal está capacitado adecuadamente.

Hace falta capacitación de los recursos, falta equipamiento (computadoras) El Area Financiera tiene cinco computadoras con poca capacidad, del año 1993-1994

Si en los recursos humanos tenemos la capacidad En equipo si hace falta, igual en materiales como papel continuo, cinta de máquinas Esto debido a una limitante presupuestaria Se necesita profundizar en capacidad de análisis, la gente produce datos pero no analiza a fondo

At the municipal level and hospitals there was also a lack of professional training in administration and finance. All 14 of the Municipal Directors were doctors and only one had training in administration and finance of more than two weeks. Of the 19 officials who were sub directors or head nurses at the municipal facilities, twelve respondents were nurses and seven were doctors or dentists. Only one had training of two weeks or more in administration or finance. Again only the Administrators had training in finance and administration. Of the 11 municipal administrators, nine were professional administrators and eight had additional training in administration and/or finance of more than two weeks. All Hospital Directors were physicians and none had administrative or financial training for two weeks or more.

Municipal Directors also felt that they did not have sufficient human resources to take on additional financial responsibility, only two of the fourteen felt they did. However, several felt that their Equipo de Direccion was better trained now than it had been before. For example one reported:

Actualmente el equipo de dirección tiene más capacidad de decisión, porque han sido capacitados en el aspecto gerencial. Todos los miembros del equipo tienen algún tipo de capacitación gerencial. El SILAIS ha dado mayor capacidad de decisión y a su vez, el Director Municipal le ha dado mayor capacidad de decisión, tanto al equipo de dirección como jefe de programas.

Nevertheless, the current staffing and training was judged to be insufficient:

Se necesita tener capacitaciones en formulación de proyecto para los recursos humanos, Se necesitan capacitaciones en el área de administración. También son necesarios más recursos humanos para los Puestos de Salud. La administración trata de dar respuesta a muchas necesidades que se demandan y falta equipo y materiales

Another Municipal Director noted:

Todavía no [tiene los recursos humanos y materiales necesarios para tomar todas las decisiones presupuestarias] porque existen debilidades las personas no están capacitadas, existen administradores empíricos. Es necesario un personal capacitado, profesional y capacitar permanentemente sobre todo en el aspecto de gerencia financiera.

What is apparent is that there is insufficient administrative and financial training of the staff. The authority and responsibilities that would come with increased decentralization will require significant capacity in these two major fields. Only administrators had sufficient professional education in these areas. Very few had courses of at least two weeks duration in administration and finance. None of the hospital directors had any training in this area. This suggests a policy of major executive type training programs for SILAIS, hospital and municipal staff, especially if additional responsibilities are to be assigned to these levels.

Most of the respondents at the SILAIS and municipal levels felt that they did not have sufficiently trained staff to take on budgetary decisions. This suggests that there should be a priority for recruitment of appropriately trained staff for financial control and budgetary analysis if there is to be increased decentralization of budgets. It would be important to develop this capacity along with the decentralization process. It may not be necessary to have the capacity in place *before* decentralization.

Perceptions of Local Choice and "Decision Space"

When asked directly about areas in which they felt they had choices, three of the seven SILAIS Directors said that they did not participate in budgetary decisions. (see Annex C Table 27) Only three thought they participated in human resources decisions. Almost all thought they participated in decisions over priority programs. Given their responses to other questions, it is clear that they had more choice than they reported. The sub-directors/organizers of services/planners and the administrators reported more local choice. Unlike the Directors, most Administrators (6 of 8) felt that the SILAIS participated in both budget and human resource decisions. However only half felt that they participated along with the Director.

In open-ended questions some Directors said that there had been no real change in their capacity to make decisions but most felt that there had been an increase in decision making capacity in recent years due to improved technical capacity. However in summarizing their opinions about decentralization, many concluded that there was no real decentralization and that they needed more control over budgets, especially over fondos propios, and needed more stability of personnel and more collegial decisions.

One of the Head Nurses in the SILAIS found that there was more decentralization from SILAIS to municipal facilities than from MINSA central to the SILAIS:

El proceso está más avanzado del SILAIS a los Municipios que del Nivel Central al SILAIS Por ejemplo el SILAIS ha descentralizado los insumos médicos, cada municipio hace su programación y luego lo gestiona con insumos médicos del SILAIS, la excepción de este procedimiento son los insumos de Planificación Familiar Del Nivel Central al SILAIS se mantiene igual la contratación de los recursos humanos de la nómina fiscal Pero sí se puede decidir a quien se va a contratar por contrato con fondos no fiscales

At the Municipal Facility level, seven of the 14 Directors reported participating in budgetary decisions, nine reported participating in human resource decisions and eleven reported participating in decisions about priority programs. Their Administrators however felt they had more choice in budgeting. All but one reported participating in budgetary decisions, nine in human resources decisions and five in priority programming, which may reflect the fact that the Directors have more a role in priority programming than do the administrators. Only one administrator reported being able to change budgetary items after the budget was approved.

Of the eight Hospital Directors, three reported making decisions about budgets, five about human resources and all reported making decisions about priority programs.

Financial and Priority Program Decisions

In budget programming four of the seven SILAIS directors reported involving the Equipo de Direccion while in three, budget programming was done by the Director and the Administrator only. However, in open-ended responses there was a general feeling that the budget had been decided mainly by MINSA:

"El presupuesto ya viene definido del Nivel Central, no hay nada que hacer "

Most SILAIS Directors said they used historical budget, service production and epidemiological data for programming. Only two said that socio-economic vulnerability was a criteria for local choice.

One SILAIS distributed the responsibility for programs among members of the Equipo de Direccion and using donor projects to assist in analysis:

Cada uno de los miembros de la Dirección evalúa 1 ó mas proyectos para revisarlo y darle seguimiento. PROSALUD está apoyando para un análisis de costos.

When asked about different budget lines all Directors said that they had no control over water, light, telephone and medicines. Three said they decided about materials and supplies, only two said they controlled viaticos and only one said he decided about gasoline. The Administrators tended to agree with their Directors. However, among the eight Administrators who handle most of the budgetary routine, five thought that they could reassign budget line items after the budget had been approved.

When administrators were asked how often they had reassigned budget items in the last year the responses varied considerably from three who said they could not reassign budget items to one that did it once a year, one six times and two monthly. They also varied in the amounts they thought they could transfer, from none up to hundreds of thousands of cordobas. One suggested there is a limit of 15% of the budget that can be

transferred. This variation may indicate a lack of clear and well understood rules for shifting budget items.

At the municipal facility, most Municipal Directors and Administrators reported being able to make budgetary decisions over viaticos, gasoline, and materials and supplies. Of the eight Hospital Directors, four reported making decisions about viaticos, three about paper and one about gasoline.

In terms of criteria for making choices, most SILAIS Directors reported that they used historical budget, service production and epidemiological data for programming. Only two said that socio-economic vulnerability was a criterion for local choice. When faced with budget cuts, three of the seven cut all budget lines by the same percentage. The others used other criteria for budget cuts. There were similar responses on these criteria of choice from other members of the Equipos de Direccion and from Municipal Directors. More hospital directors tended to make decisions based on historical practice. Seven of the eight reported making decisions based on historical practice.

All seven SILAIS directors received circulars and directions from MINSA "frequently". Four felt that these circulars had "strong" impact on planned activities and three felt it was "moderate." Only two felt that the directions and circulars were not "reasonable." However, they never came with additional resources. Five directors thought that the MINSA line items for budgeting were adequate.

In open-ended comments SILAIS Directors and Sub-Directors expanded on the circulars and directions from MINSA:

Si en general [los circulares y direcciones] son razonables pero no son oportunas y no permiten consolidar estrategias, no concluyen procesos.

La mayoría no son razonables y no están acompañadas de explicaciones hay capacidad de decidir el cumplimiento o no cumplimiento, esto depende del tipo de actividad (se cumple si son indelegables), si no tienen esta etiqueta delegan o justifican su no asistencia.

No hay coordinación en el Nivel Central, ya que cada dirección frecuentemente les altera la planificación en el SILAIS. No tiene orden y afectan a muchas personas. Existe una afectación de aproximadamente el 40%, se reprograma cuando se puede, pero hay otras actividades que no se pueden reprogramar.

Like the Directors, the Administrators felt the circulars from MINSA had an important effect on local programs but that they were reasonable and that budgetary guides were adequate for local decisions on budgets. The Sub-directors/organizers/planners tended to see the circulars as having less effect on local programs, with almost half saying that the effect was limited or none.

When faced with budget cuts, SILAIS Directors reported that they sought support from the NGOs in their areas or from cooperacion externa. They also cut the portions of the budget that were decentralized:

Lo primero es darle a conocer a los Directores Municipales, impulsa planes de ahorro como disminuir viáticos, de no comprar papelería y prioriza reparaciones de infraestructura o equipos como los de odontología También se reducen actividades no programadas o que no repercuten en la salud de la población

At the municipal level, officials tended to see the MINSA circulars and guidelines as reasonable and not particularly intrusive. Few said that they had to change plans more than a few times due to these directives. Almost all Sub-Directors/Head Nurses reported having changed their plans, seven reported that it was due to budget cuts, six due to decisions by the local Equipo de Direccion, five due to decisions by the SILAIS director, three due to donor decisions. None reported changes due to local Consejo participation.

Municipal directors tended to see the need for better training to accompany the circulars:

No, las circulares no son suficientes, se necesita que nos capaciten en un tipo de gerencia financiera.

Hospital directors found MINSA directives less effective. Six of the eight hospital directors reported that the circulars from MINSA were not sufficient for financial decision making.

Medicines and Medical Supplies

Four of the eight Medical Supply Officers said that they decided drug distribution according to a "techo de Unidad" rather than programming processes. The criteria for programming were based on a combination of epidemiological data and/or historical use and/or other criteria. Four reported that the ordering was decided with MINSA, two reported that it was the Director of SILAIS who did the ordering, and one said it was the Equipo de Direccion with major participation from the Consejo Consultivo. Six reported that the distribution of medicines was done according to the municipal programming.

One described the process this way:

El CURIM Municipal se reúne con la Responsable de Insumos Médicos del SILAIS donde se negocia la programación. Muchas veces el SILAIS cubre las necesidades de los municipios si no tiene en existencia El Responsable de Insumos Médicos del SILAIS se reúne con cada CURIM y luego se elabora un solo documento para la Dirección de Normalización de Insumos Médicos del Nivel Central, con los cuales se negocia la aprobación de la solicitud en dependencia a las prioridades de los fármacos necesitados por el SILAIS. Las entregas son bimensuales. El SILAIS retira el medicamento en el CIPS y se recibe junto con

Contabilidad, donde se procede hacer los procesos de verificación de facturación y físico.

Another found little decentralization:

El 80% de los insumos están descentralizados, en lo que se refiere a la adquisición directa al CIPS, pero en la compra para suplir necesidades continua centralizado. No es flexible el Nivel Central, mantiene el mismo techo. Los municipios lo hacen de acuerdo a su producción de servicios y criterios epidemiológicos, luego reducen. Con relación a la adquisición directa de insumos médicos cada municipio reclama sobre los insumos recibidos conforme su programación. Ellos verifican las cantidades conforme a su programación. La compra de insumos médicos está centralizada, se ajustan al presupuesto independientemente de sus necesidades. Si no hay el producto solicitado, no tienen autorización para comprarlo en otro lado. Los cambios de medicamentos solamente pueden hacerlo una vez por semana. Si tienen problemas con algún medicamento, lo solicitan dos municipios involucrados y luego se intercambian

Fondos Propios y Externos and Quality of Services

Five of the SILAIS directors said that the Sede had fondos propios and all had external funds from donors. Only one of the Directors felt that MINSA participated (along with the Director) in the negotiations with external donors for these funds, the rest either negotiated directly or with their Equipo. Five directors felt that their fondos propios had allowed them to improve the quality of service, however most felt that more quality improvement came from funds from the central budget and donors.

While the Administrators agreed with the SILAIS directors on fondos propios, the sub directors/organizers/planners tended to say that the external funds were more responsible than other sources of funding for quality improvements.

At the municipal level, all but one Municipal Director reported that they had fondos propios and twelve reported that they had fees for their services and that the Municipal Director set those fees and who must pay. Four reported estimating how much people can pay as the criteria, only one reported using a cost analysis and only one reported using examples from other SILAIS. In four cases only the Director decided how to use these funds, in five other cases it was the Director and the Administrator and in four it was a collective decision of the Equipo de Direccion. Ten had external donor funds and most had participated in the negotiations. Only two reported that it was the SILAIS Director who negotiated for external funds.

One representative Municipal Director described the process of defining the fees for fondos propios:

Las tarifas fueron establecidas por el Centro de Salud y se lleva la contabilidad de estos fondos a través de recibos que se le entregan a los pacientes. Todos estos fondos se depositan en la cuenta única del SILAIS y posteriormente son devueltos en dependencia a lo que el municipio necesita. Hace 2-1/2 años existían tarifas establecidas de cobro para todos los servicios y el personal adquiría un 30% de las ganancias. Por eso se eliminó y luego se llegó a un acuerdo con el Sindicato a una tarifa de C\$5.00.

Comments by SILAIS Directors and Sub Directors on negotiating for fondos externos suggest that there is not much negotiation:

No toda la cooperación externa fue negociada (en donde participa el equipo de dirección), debido a que no todos los proyectos son iguales. Algunos definieron las líneas estratégicas en conjunto con el Equipo de Dirección y tomando como base el plan de salud. Otros solo presentan las líneas de trabajo.

Los proyectos ya tienen definidos sus inversiones, no hay injerencia, tienen definidos sus presupuestos, son verticales, pero generalmente dan salida a las necesidades del SILAIS

Almost all Municipal Sub-directors thought that quality had improved in their facilities and that external funds contributed most to this improvement. Among the Municipal Administrators, all but one reported having local tariffs. In all but two cases it was reported to be a local decision and five reported determining tariffs based on an estimate of ability to pay.

Human Resource Decisions

In six of the seven SILAIS there had been changes in municipal facility directors in the last year and in all cases the SILAIS Director had participated in making the changes.

At the municipal level, nine of the fourteen Municipal Directors reported participating in human resource decisions. Five of the eleven Municipal Administrators reported having proposed human resource changes and all but two said the decisions were made locally.

At the hospital level, most decisions about personnel were made locally by the Director alone or with the Administrator. Only two reported that SILAIS or MINSA was involved.

A suggestive comment by a SILAIS Director suggests that MINSA did not always respect the Director's right to participate in human resources decisions:

"no en todo los cambios [de recursos humanos] participó el Director del SILAIS debido a que en dos ocasiones la decisión fue tomada a Nivel Central, sin consultar con el SILAIS En el resto de los casos las razones fueron por solicitud de los recursos (estudio o traslado) o por mal desempeño en el cargo."

Others said they had their personnel decisions approved or changed by MINSA.

"Fueron seleccionados por el equipo de dirección del SILAIS y se envió propuesta a Managua, donde se ratificó"

"el Director del SILAIS envió candidatos a Managua para su aprobación, pero las cambiaron."

Conclusion on Local Choices

In conclusion, the perception of local choice generally confirms the limited choice that we have found in the "decision space" analysis.

The respondents generally felt that they had very little choice over budgets although some felt they had control over some items that are not part of the formal decision space (such as gasoline). It appears that some decentralized choice is being passed by SILAIS to the Municipal Directors -- especially on control of decentralized budget items, fondos propios, and external donor funds.

SIL AIS, hospital and municipal directors report some local control over human resources although in some cases higher authorities have made these decisions. Almost all report some participation in decisions about priority programs.

As above this suggests that there is significant room for expanding local choice, especially if local capacity is upgraded.

Community Participation

In five of the seven SILAIS the Directors reported that there had been a Consejo Consultivo. Only two were still functioning but had not met in the last six months and the rest had never really functioned. The Consejos were not involved in major decisions on budgets, contracting, personnel or services, although one did approve the POA. The Sub-Directors/Organizers/Planners tended to agree. Most felt that there was no participation of the community Consejo Consultivo in the plans and human resource decisions of the SILAIS, although most felt that the Consejo approved the local budget. Similarly, at the hospital level there was not much community participation. Six of the eight Hospital Directors reported having a Consejo Consultivo but only two reported that it was currently functioning. Two reported that the Consejo had ceased functioning within the last six months. The two functioning Consejos were reported to participate in decisions about POAs, contracting and human resources.

In open-ended questions Directors said that people did not know the role of Consejos, that members of Consejo needed some training, that the selection of members was inadequate and that it was difficult to call meetings of the members.

At the municipal level, the situation was somewhat more participatory. Almost all (12) Municipal Directors reported a functioning Consejo Consultivo. In nine cases the Consejo participated in POA or emergency plans, but in only one did the Consejo participate in budgetary decisions.

Directors tended to see good relations with alcaldias and between SILAIS and hospitals although meetings rarely were routine. Three of the seven SILAIS Directors felt that relations with the alcaldes were "excellent" or "very good" and the rest thought they were "good." Four felt that their relationship with the hospitals was excellent or good and three felt they were "regular." Four held regular meetings with the hospital directors.

Seven of the eight Hospital Directors reported that relations with SILAIS were good to excellent. Only two reported having regular meetings with SILAIS Directors. Five reported good to very good relations with alcaldias however few had meetings with them.

Alcaldias

We interviewed 12 alcaldes, almost two in each of our eight SILAIS. In almost all alcaldias in the sample the alcaldes said they had some form of junta, Consejo or Municipal Committee for health care activities. These juntas made decisions about contracting and budgets in 11 municipalities. In nine, they made decisions about operational plans for health. The selection process for these juntas and their organization into committees with health responsibilities varied among the sample with some selected by a formal procedure of representatives of local institutions and ONG and others by elections. Other municipalities were less formal with meetings called by the Alcalde and participation based on volunteers who showed up. Some had formal Committees of Health while others were less structured and created ad hoc committees as needed.

While all municipalities had Municipal Plans, all but two included health in those plans and only in 5 did the local facility directors participate in municipal planning exercises. In a similar fashion only 5 had participation of the Municipal Committee in the health planning process and only 6 had local community leaders involved. However, in all municipalities, the hospital director did participate and in almost all (10) the SILAIS director participated.

We found that all alcaldias expressed a desire to have greater municipal control over health services. In half the alcaldias they were already using local funds in addition to national level funds for health. While a few mentioned that their relations with the Centro de Salud was good and that the SILAIS was doing its job within scarce resources, most alcaldes said that they would do more to provide improved services, especially to reach outlying areas. They would do more in their traditional areas of prevention and sanitation, but also improve physical facilities and provide medicines.

All municipalities suggested that it would be difficult to reassign funds to health because they are already committed or restricted by external allocation rules. For example one alcalde said:

Actualmente la Alcaldía le transfiere el 3% del presupuesto al sector salud con la finalidad de ayudarles en el traslado de pacientes, compra de medicamentos y combustible. Existe la posibilidad de ayudar con un 2% adicional que se obtendría de los impuestos tributarios, siempre y cuando esto sea aprobado por el Consejo Municipal. Es difícil reasignar recursos de otras fuentes al sector salud, como por ejemplo INIFOM, Proyectos de la Alcaldía por cooperación externa, educación, ya que todos esos fondos vienen destinados a actividades específicas y no se pueden reasignar.

Only one alcalde suggested that there were additional sources that could be tapped for health:

No es difícil, aunque depende de las condiciones económicas que se tengan. Actualmente la captación de impuesto es baja, se están organizando en la Alcaldía para mejorar la captación de los impuestos. En el futuro, cuando se incrementen las recaudaciones podría considerarse. A la Alcaldía le gustaría apoyar más al sector salud, siempre y cuando pudiera controlar. Actualmente los apoyan en combustible para actividades específicas.

While nine of the alcaldes said they had no budget or human resources to assign now to health, four were more positive and suggested that with additional responsibility and with approval of the Consejo Municipal they could find the funding.

Conclusions on Community Participation

There is little evidence that there is much community participation in any formal and routine way at any level. Consejos that were formed seem to be abandoned and only a few of the respondents said that they were actively involved beyond an initial planning stage.

Alcaldes suggest that there is a general process of local participation in health sector planning and that some municipal governments are already providing limited financial support to health activities. While all desired a greater role in the health sector, they had a hard time thinking about raising additional funding for taking on new responsibilities. It is likely that Municipalities will need to receive larger total budgets before they are willing to increase their assignment of local government budgets to health care. With a median of 73 cordobas per capita in municipal budgets there does seem to be room for tapping some of the municipal budgets for health.

Discussion

There are no ideal models of decentralization. Each country needs to develop its own approach so that objectives of equity, efficiency, quality and financial soundness can be achieved. This study of decentralization in Nicaragua shows some important positive achievements and some negative problems that are apparent in the current health system. The studies also show some potential for improving the health system through selected procedures like “needs based formulae” and through expanding some local choice (“decision space”) at the SILAIS and municipal levels.

The current decision space map of the range of choice at the SILAIS level suggests that SILAIS officials have moderate choice over central government funded expenditures, over own source revenues and over fees collected at local facilities. They also have moderate choice over assignment and transfer human resources and over community participation. Other decentralized countries in Latin America have had wider ranges of choice suggesting that the range of choice in Nicaragua could be expanded – especially for financial functions – without much risk of granting too much control.

The quantitative data shows that Nicaragua has a relatively low per capita public sector health expenditure for a low income country with a small private sector. There is room for an argument that the national health budget should be increased if health is to be demonstrably a national priority.

There is also continuing inequity in the allocation of ambulatory primary care resources among SILAIS. The range of difference is up to four times, and if we exclude RAAN and RAAS which are special cases of low population density and political priority, the range of difference is still two times. Similar inequity is apparent in hospital allocations and allocations to the SILAIS offices (Sedes).

It is likely that ambulatory care allocations should be closely related to population size since in Nicaragua the differences in demographic, disease incidence, and socio-economic factors among SILAIS populations is not likely to have major impact on the needs for primary care facilities. Nevertheless these inequities could be addressed by a needs based formula that would have population size as a major factor and other population factors could be weighted in the formula. Hospital allocations are more complicated since hospitals traditionally serve a different population than the surrounding SILAIS and they offer different levels and types of care. The inequities in hospital allocations should be addressed by a different type of formula that accounts for these differences. The differences in Sede expenditures should also be assessed on a case by case basis to see if they are justified by different activities or needs.

Of special interest is the low and declining level of fondos propio collection. This is partly explained by the general policy that prohibits compulsory fee collection so that most facilities collect “voluntary donations” and are not encouraged to expand this means of mobilizing additional resources. It is also the result of the “caja unica” procedure that requires all such funds to be deposited in a central account and only returned to the facility after the planned expenditures are approved by higher administrative levels. It is

likely that more funds could be generated if a national policy providing guidance in a range of possible tariffs and if the funds collected could be deposited locally and used without prior approval. Concerns about tariffs as barriers to access might be addressed by a clear national policy with modest and affordable prices for basic services and for a simple means test for higher fees.

Another major concern emerged with the finding that fondos externos were not only inequitable but were actually exaggerating the existing inequities. This suggests the need for different efforts to assign fondos externos. The assignment of fondos externos should support the needs based formula assignments by either using the same formula or by using fondos externos to increase the funding in SILAIS that have low per capita expenditures. One problem here is convincing donors to follow this method of priority setting for their funds. However, if this is achieved, reassigning fondos externos would allow the government to avoid reducing current national budgets to SILAIS that currently have more than they would get in a needs based formula. Fondos externos could simply be used to assign to the SILAIS that should gain from the formula.

There is some evidence that allowing local choice at the SILAIS level has at least not exaggerated inequalities and inefficiency. We found that SILAIS with greater control over their budgets were more likely to have more equitable allocations among municipal facilities within their area, and they were also able to cover more of the target populations with key immunizations in relation to per capita funding. These data do not show that decentralization caused more equity or efficiency since we do not know what the situation was like before decentralization, but at least, it is likely that increased control of budgets did not reduce equity or efficiency and may have been the factor that did achieve these objectives. This evidence also points to the potential positive impact of increasing local choice by widening the “decision space” over expenditures.

The qualitative survey showed some major areas of concern. There is evidence of significant rotation of personnel, especially among hospital and municipal facility directors. The surprising finding was that the SILAIS Directors and their Equipos de Direccion were relatively stable and the Equipos de Direccion at the municipal facilities were also relatively stable. This finding suggests that the rotation problem, at least for management positions, may be specific to hospital and municipal directors and is not a generalized phenomenon. This suggests that a policy of requiring that directors stay in their posts at least three years could reduce the problem. This policy could be enforced by developing procedures like internal contracts with directors or by a blanket human resources policy enforced by the Minister of Health.

The survey also found remarkably little formal training in key areas of financing and administration in the Equipos de Direccion. The administrators did have training in these areas but the Directors, Sub-Directors, Planners and Head Nurses did not. If additional responsibilities are assigned to these teams, they must improve their capacity in financial management, human resources management and general administration. It is clear, however, that the training should accompany the process of expanding decision space in these areas and not wait until capacity is developed to expand choice. The training may

be wasted if the trainees are not given new responsibilities at the same time that they are being trained. Since SILAIS already have significant human resources responsibilities, it would be important to develop programs to improve human resources management right away.

It is likely that training programs of an executive training model would be most appropriate for Equipos de Direccion. These programs might be designed so that all members of an Equipos de Direccion would enter a training program together. The program might have a one or two week period of intensive training followed by a field project that the Equipo would be responsible for completing over a 3 to 6 month period with perhaps some exchange of reports and comments by training faculty during that time. Then there would be another intensive training period of a week or two to review and refresh the training material and to review and critique the field projects. Perhaps groups of two or three SILAIS Equipos could be trained together. This is one of many executive training options that could be considered.

In our analysis of municipalities (alcaldias) we found that the municipalities had some experience in managing their own resources, that the consejos and juntas provided means of community participation that was more extensive than at SILAIS levels, and that the municipalities were interested in having a greater role in health services and prevention and promotion activities. In our assessment of the resources available to municipalities we found that the mean per capita municipal income was almost a third larger than the mean per capita assignment to health. This rough comparison suggests that some municipalities probably have sufficient resources and experience in managing those resources to take on additional responsibilities in health care. This would mean a “devolution” of responsibilities to the alcaldias with specific “decision space” for different functions. In return for this new responsibility, the municipalities would be expected to allocate their own source funds to health. It is likely that only the wealthier municipalities would be able to fund health activities so a policy for devolution might involve only the 51 municipalities that have per capita incomes of higher than the mean.

Recommendations

There is room for expanding the “decision space” for SILAIS and municipal levels in the health system. Increased control over budget sources, tariffs and expenditures should be considered in future policies of decentralization. We find some evidence that SILAIS with more control of their budgets tend to allocate their resources more equitably among their municipalities, suggesting that increasing **local choice may improve equity**. We also found that higher levels of decentralized budgets were related to higher vaccination rates suggesting that **local control may improve efficiency of priority programs**.

Nicaragua’s low per capita public health expenditure and the fact that areas with higher expenditures have higher utilization suggest that public sector funding in health could increase and utilization of services would likely also increase.

Nicaragua should consider the application of a “needs based formula” for allocating primary care resources to SILAIS in order to improve the equity of resources among SILAIS. A similar formula should be designed for assigning resources to hospitals and to SILAIS offices.

Fondos externos could be reallocated so that they compensate for inequities in current allocations rather than exaggerate these inequities. They could be used to increase funding in low per capita SILAIS so that the process of implementing the formula would not require reductions in national budgets for high per capita SILAIS.

Fondos propios, the funds collected from local fees and donations should be encouraged by a national policy allowing a range of tariffs and a means test for exceptions. It would also be advisable to replace the “caja unica” system, allowing local funds to be locally deposited and spent without prior approval.

An executive program in financing and administration should be developed for the Equipos de Direccion to improve local capacity to make key financial decisions, to manage human resources and for general administration.

A national policy that would require Directors of hospitals and municipal facilities to remain in their posts for at least three years should be implemented. A procedure of internal contracting might be used to enforce this policy.

Nicaragua should consider devolving some responsibilities for health to the wealthier municipalities – those with more than the mean per capita income.

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Annex A

Comparative Decision Space: Current Ranges of Choice for Chile, Colombia, Bolivia

Functions	Range of Choice		
	Narrow	Moderate	Wide
Financing			
Sources of Revenue		Colombia Chile Bolivia	
Expenditures		Colombia Chile Bolivia	
Income from Fees	Chile Bolivia	Colombia	
Service Organization			
Hospital Autonomy	Colombia Chile	Bolivia	
Insurance Plans	Colombia Chile Bolivia		
Payment Mechanisms		Colombia Chile Bolivia	
Required Programs & Norms	Colombia Chile Bolivia		
Vertical Programs, Supplies and Logistics		Colombia Chile Bolivia	
Human Resources:			
Salaries	Colombia Chile Bolivia		
Contracts		Colombia Bolivia	Chile
Civil Service	Colombia Chile Bolivia		
Access Rules	Colombia Chile Bolivia		
Governance			
Local Accountability			Colombia Chile Bolivia
Facility Boards	Colombia Bolivia	Chile	
Health Offices	Colombia Bolivia	Chile	
Community Participation	Bolivia		Colombia Chile
Total Decision Space:			
Colombia	8	5	2
Chile	7	5	3
Bolivia	9	5	1

Annex B

Table 1. Chile: Expenditures on Primary Health Care per Beneficiary (1996) by Municipal Income Decile*

DECILES	TOTAL EXPENDITURE	CENTRAL GOVERNMENT CONTRIBUTION	LOCAL CONTRIBUTION
1 (POOREST)	14,479.5	10,570.9	3,681.6
2	12,160.8	9,219.7	2,748.1
3	12,205.0	8,701.8	3,543.9
4	12,678.5	9,241.7	3,325.9
5	11,608.2	8,303.1	3,221.5
6	12,286.3	8,178.3	3,754.6
7	13,826.3	9,598.2	3,889.8
8	11,677.5	8,367.7	3,158.2
9	12,231.0	8,638.7	3,121.4
10 (RICHEST)	23,496.0	9,479.2	12,808.8

Source: Prepared based on Subdere information

*Note: Averages by deciles of municipal income

Table 2. Colombia: Average External and Own-Source Revenues per Capita by Municipal Income Decile

DECILES	1994		1995		1996		1997	
	EXTERNAL	OWN	EXTERNAL	OWN	EXTERNAL	OWN	EXTERNAL	OWN
	L		AL		AL		L	
1 POOR	7.1	0.2	10.9	0.2	22.4	0.9	54.6	2.1
2	10.7	0.5	12.0	0.8	22.8	1.2	56.2	2.9
3	10.5	1.2	15.3	1.4	25.4	3.2	59.1	7.1
4	14.8	2.2	19.4	2.4	26.6	4.7	54.4	9.6
5	16.9	2.6	24.3	4.3	28.8	7.6	62.4	13.9
6	28.1	4.1	27.1	6.0	38.0	12.8	60.0	18.1
7	24.5	4.1	36.0	7.9	47.2	14.7	67.3	20.3
8	25.7	4.1	41.6	8.0	45.8	13.4	67.3	21.2
9	37.8	6.7	52.4	10.0	56.0	18.1	64.7	23.4
10 RICH	43.4	8.3	58.7	14.0	52.7	21.2	64.6	25.0
AVERAGE	21.9	3.4	29.7	5.4	36.6	9.8	61.1	14.4
10 TH /1 ST	6.11	41.5	5.38	70.0	2.35	23.55	1.18	11.9

SOURCE: MOH

Annex C

Additional Nicaragua Tables

Table 1. Ambulatory Expenditures per capita by SILAIS by income 2000

SILAIS	Centralized			Decentralized		Total	
	Personnel	Current Transfers	Services not related to Personnel	Materials and Supplies	Services not related to Personnel		Materials and Supplies
Chontales (lowest income per Capita)	30.80	3.25	2.23	15.19	1.78	4.26	57.52
Jinotega	31.63	2.46	0.85	8.12	1.10	8.00	52.17
Boaco	42.78	1.71	1.99	8.37	5.16	2.45	62.46
RAAN	*	*	*	*	*	*	*
Madriz	27.43	3.08	1.27	11.62	2.71	4.67	50.78
Matagalpa	33.65	2.79	0.98	16.47	1.64	2.01	57.53
Masaya	25.84	*	1.88	9.65	1.11	1.87	40.35
Río San Juan	45.64	*	1.08	0.60	4.46	3.44	55.23
Carazo	37.35	*	1.40	5.02	1.76	2.04	47.58
Rivas	51.35	*	0.24	0.87	2.18	1.49	56.13
Nueva Segovia	55.70	2.07	2.09	1.14	1.45	3.45	65.90
Chinandega	53.66	*	0.01	0.20	1.26	1.73	56.86
Estelí	40.64	*	2.31	11.17	1.90	2.62	58.64
León	66.84	*	2.58	12.28	1.06	1.57	84.33
RAAS	63.01	7.14	1.10	26.96	3.08	3.64	104.92
Granada	22.27	0.98	1.11	5.50	1.66	1.58	33.10
Managua(highest income per capita)	40.32	*	3.34	7.27	2.23	1.10	54.26
Mean	41.81	2.94	1.53	8.78	2.16	2.87	58.61
Correlation Coefficient (Municipal Level)	R=0.0898 P=0.3097 N=130	R= 0.1815 P=0.1690 N=59	R= 0.0895 P= 0.3479 N=112	R= -0.1365 P= 0.1229 N=129	R= 0.1205 P= 0.1686 N=132	R= 0.0096 P= 0.9127 N=132	R= 0.0657 P= 0.4542 N=132
Correlation Coefficient (SILAIS Level)	R=0.1722 P=0.5237 N=16	R=0.2665 P=0.5235 N=8	R= 0.4882 P= 0.0550 N=16	R= -0.0033 P= 0.9903 N=16	R=-0.0796 P= 0.7694 N=16	R= -0.4391 P= 0.0888 N=16	R= 0.0921 P= 0.7344 N=16

*Missing Data

Sources: Nicaraguan General Budget and INIFOM

Table 2. Ambulatory Expenditures per capita by SILAIS by income 2000

SILAIS	Centralized Spending/capita	Decentralized Spending/capita	Total Spending/capita
Chontales (lowest income per Capita)	51.48	6.04	57.52
Jinotega	43.07	9.10	52.17
Boaco	54.85	7.61	62.46
RAAN	*	*	*
Madriz	43.40	7.37	50.78
Matagalpa	53.88	3.65	57.53
Masaya	37.37	2.99	40.35
Río San Juan	47.32	7.90	55.23
Carazo	43.77	3.81	47.58
Rivas	52.46	3.67	56.13
Nueva Segovia	61.01	4.90	65.90
Chinandega	53.86	3.00	56.86
Estelí	54.12	4.52	58.64
León	81.70	2.63	84.33
RAAS	98.21	6.71	104.92
Granada	29.87	3.24	33.10
Managua(highest income per capita)	50.94	3.32	54.26
Mean	53.58	5.03	58.61
Correlation Coefficient (Municipal Level)	R= 0.0598 P= 0.4961 N=132	R= 0.0797 P= 0.3638 N=132	R= 0.0657 P= 0.4542 N=132
Correlation Coefficient (SILAIS Level)	R= 0.1455 P= 0.5909 N=16	R= -0.4063 P= 0.1184 N=16	R= 0.0921 P= 0.7344 N=16

*Missing Data

Sources: Nicaraguan General Budget and INIFOM

Table 3. Hospital Expenditures per capita by SILAIS by Income 2000

SILAIS	Centralized			Decentralized		Total**
	Personnel	Non- Personnel Services	Materials and Supplies	Non- Personnel Services	Materials and Supplies	
Chontales (lowest income per Capita)	35.22	8.42	8.92	0.35	4.84	57.74
Jinotega	30.63	2.43	8.09	0.06	3.40	45.40
Boaco	30.76	4.73	10.08	0.27	3.82	49.65
RAAN	34.63	3.51	8.69	0.43	5.13	53.76
Madriz	45.77	4.09	9.53	1.90	7.75	69.05
Matagalpa	25.10	3.99	7.07	0.29	4.24	41.09
Masaya	39.10	10.24	8.76	0.52	5.12	64.70
Río San Juan	51.77	7.38	9.60	2.89	6.09	77.74
Carazo	79.94	5.91	19.03	0.67	12.44	119.21
Rivas	61.19	12.12	19.00	0.33	7.99	102.56
Nueva Segovia	35.47	2.12	9.16	0.19	3.26	50.56
Chinandega	52.23	8.15	10.85	0.30	7.56	79.09
Estelí	78.25	8.00	14.32	0.75	14.68	118.25
León	61.46	12.09	20.15	0.21	10.36	107.15
RAAS	71.10	9.48	18.93	1.95	10.57	112.04
Granada	61.62	4.80	14.91	0.00	6.95	90.21
Managua(high est income per capita)	85.66	23.21	26.99	1.86	16.15	156.51
Mean	51.75	7.69	13.18	0.76	7.66	82.04
Correlation Coefficient (Municipal Level)	R= 0.6831 P= 0.0025	R= 0.7963 P= 0.0001	R= 0.7987 P=0.0001	R= 0.3032 P= 0.2367	R= 0.7088 P= 0.0014	R= 0.7737 P= 0.0003

**Total Includes Current Transfers

Sources: Nicaraguan General Budget and INIFOM

Table on SILAIS Population Size

Table 4. Ambulatory Spending per capita Municipalities (Averaged over the SILAIS) Year 2000 by Population of the SILAIS

SILAIS	Centralized			Decentralized		Total
	Personnel	Non-Personnel Services	Materials and Supplies	Non-Personnel Services	Materials and Supplies	
Río San Juan (smallest population)	45.64	1.08	0.60	4.46	3.44	55.23
RAAS	63.01	1.10	26.96	3.08	3.64	104.92
Madriz	27.43	1.27	11.62	2.71	4.67	50.78
Boaco	42.78	1.99	8.37	5.16	2.45	62.46
Rivas	51.35	0.24	0.87	2.18	1.49	56.13
Carazo	37.35	1.40	5.02	1.76	2.04	47.58
Nueva Segovia	55.70	2.09	1.14	1.45	3.45	65.90
RAAN	*	*	*	*	*	*
Granada	22.27	1.11	5.50	1.66	1.58	33.10
Estelí	40.64	2.31	11.17	1.90	2.62	58.64
Chontales	30.80	2.23	15.19	1.78	4.26	57.52
Masaya	25.84	1.88	9.65	1.11	1.87	40.35
Jinotega	31.63	0.85	8.12	1.10	8.00	52.17
Leon	66.84	2.58	12.28	1.06	1.57	84.33
Chinandega	53.66	0.00	0.20	1.26	1.73	56.86
Matagalpa	33.65	0.98	16.47	1.64	2.01	57.53
Managua (largest population)	40.32	3.34	7.27	2.23	1.10	54.26
Mean	41.81	1.53	8.78	2.16	2.87	58.61
Correlation Coefficient (Municipal Level)	R= -0.1487 P= 0.0901 N=131	R= 0.0782 P= 0.4102 N=113	R= -0.0706 P= 0.4250 N=130	R= -0.1368 P= 0.1164 N=133	R= -0.1636 P= 0.0599 N=133	R= -0.1702 P= 0.0502 N=133
Correlation Coefficient (SILAIS Level)	R= -0.0410 P= 0.8801 N=16	R= 0.4717 P= 0.0651 N=16	R= 0.0115 P= 0.9663 N=16	R= -0.2482 P= 0.3539 N=16	R= -0.3128 P= 0.2382 N=16	R= -0.0812 P= 0.7651 N=16

*Missing Data

Sources: Nicaraguan General Budget, Census 1995, and INIFOM

Tables on Municipal Population Size Quintiles by Per Capita Ambulatory Care Expenditures (Source: Nicaraguan General Budget, Census 1995, and INIFOM)

Table 5. **Total** Ambulatory Care per capita by Population Quintiles

Population Quintiles	1999	2000
1 st (smallest)	92.85	84.46
2 nd	80.35	85.01
3 rd	73.14	70.45
4 th	63.98	62.33
5 th (largest)	52.93	52.43
5 th /1 st	0.57	0.62
Correlation Coefficient	-0.1871	-0.1702
P-value	0.0310	0.0502
Mean	72.80	71.08
N	133	133

Table 6. **Decentralized** Spending per Capita by Population Quintiles

Population Quintiles	1999	2000
1 st (smallest)	9.47	8.51
2 nd	7.19	7.16
3 rd	5.68	5.24
4 th	4.88	4.24
5 th (largest)	3.99	4.55
5 th /1 st	0.42	0.53
Correlation Coefficient	-0.2049	-0.1991
P-value	0.0180	0.0216
Mean	6.27	5.95
N	133	133

Table 7. **Centralized** Spending per capita by Population Quintiles

Population Quintiles	1999	2000
1 st (smallest)	83.37	75.95
2 nd	73.16	77.86
3 rd	67.46	65.22
4 th	59.10	58.09
5 th (largest)	48.95	47.88
5 th /1 st	0.59	0.63
Correlation Coefficient	-0.1746	-0.1556
P-value	0.0444	0.0737
Mean	66.53	65.13
N	133	133

Tables on Municipal Income by Per Capita Ambulatory Care (Source: Nicaraguan General Budget and INIFOM)

Table 8. **Total** Ambulatory Care per capita by Income Quintiles

Quintiles of Income per Capita	1999	2000
1 st (lowest)	77.81	76.57
2 nd	59.61	57.11
3 rd	74.53	76.33
4 th	76.25	71.64
5 th (highest)	75.17	72.78
5 th /1 st	0.97	0.95
Correlation Coefficient	0.0491	0.0657
P-value	0.5765	0.4542
Mean	72.80	71.08
N	133	132

Table 9. **Decentralized** Spending per Capita by Income Quintiles

Quintiles of Income per Capita	1999	2000
1 st (lowest)	7.83	6.64
2 nd	4.73	5.11
3 rd	5.79	5.48
4 th	6.73	7.13
5 th (highest)	6.10	5.36
5 th /1 st	0.78	0.81
Correlation Coefficient	0.1003	0.0797
P-value	0.2524	0.3638
Mean	6.27	5.95
N	132	132

Table 10. **Centralized** Spending per capita by Income Quintiles

Quintiles of Income per Capita	1999	2000
1 st (lowest)	69.98	69.94
2 nd	54.87	51.99
3 rd	68.74	70.85
4 th	69.51	64.51
5 th (highest)	69.07	67.41
5 th /1 st	0.99	0.96
Correlation Coefficient	0.0402	0.0598
P-value	0.6471	0.4961
Mean	66.53	65.13
N	132	131

Tables on Own Sources and External Sources (Source: Nicaraguan General Budget and INIFOM)

Table 11. Own Source Spending per Capita for the SILAIS for 1999 by Income per Capita of the SILAIS

SILAIS	Propios/capita	Externos/capita	Total/capita
Chontales (lowest income per Capita)	2.78	27.32	30.11
Jinotega	3.26	8.07	11.32
Boaco	4.06	6.77	10.83
RAAN	3.00	15.64	18.64
Madriz	1.15	60.35	61.50
Matagalpa	7.36	5.03	12.39
Masaya	9.96	1.98	11.93
Río San Juan	1.10	11.51	12.61
Carazo	11.40	*	11.40
Rivas	4.10	3.42	7.51
Nueva Segovia	2.96	21.00	23.96
Chinandega	11.44	6.18	17.62
Estelí	3.14	10.81	13.95
León	7.16	3.56	10.71
RAAS	3.99	25.71	29.71
Granada	3.13	4.43	7.56
Managua(highest income per capita)	1.22	5.85	7.07
Mean	4.78	13.60	17.58
Correlation Coefficient (SILAIS Level)	R= -0.1907 P= 0.4634	R= -0.1961 P= 0.4668	R= -0.2450 P= 0.3432

Table 12. Own Source Spending per Capita for the SILAIS for 2000 by Income per Capita of the SILAIS

SILAIS	Propios/capita	Externos/capita	Total/capita
Chontales (lowest income per Capita)	3.40	4.15	7.54
Jinotega	0.51	2.87	3.38
Boaco	3.04	12.65	15.69
RAAN	3.76	19.63	23.39
Madriz	1.11	9.96	11.07
Matagalpa	5.00	3.89	8.89
Masaya	4.59	2.02	6.60
Río San Juan	1.18	15.63	16.80
Carazo	3.44	0.28	3.73
Rivas	4.36	5.17	9.53
Nueva Segovia	3.40	22.25	25.65
Chinandega	3.04	4.25	7.29
Estelí	1.20	6.19	7.38
León	2.80	3.91	6.71
RAAS	5.64	27.33	32.96
Granada	3.75	7.13	10.88
Managua(highest income per capita)	*	*	*
Mean	3.14	9.21	12.34
Correlation Coefficient (SILAIS Level)	R= 0.2858 P=0.2833	R= 0.2205 P= 0.4119	R= 0.2599 P= 0.3311

Table 13. Own Source Spending (as a % of Total Ambulatory Care and Own and External Spending) per Capita for the SILAIS for 1999 by Income per Capita of the SILAIS

SIL AIS	% Own	% External	% Total
Chontales (lowest income per Capita)	3.98	39.03	43.01
Jinotega	5.36	13.27	18.63
Boaco	6.08	10.15	16.23
RAAN	*	*	*
Madriz	0.97	51.09	52.07
Matagalpa	10.63	7.26	17.88
Masaya	20.34	4.04	24.38
Río San Juan	2.11	22.05	24.15
Carazo	19.07	*	19.07
Rivas	6.82	5.69	12.51
Nueva Segovia	2.99	21.19	24.18
Chinandega	11.08	5.98	17.06
Estelí	4.57	15.72	20.29
León	8.25	4.10	12.35
RAAS	3.23	20.79	24.02
Granada	4.39	6.22	10.60
Managua(highest income per capita)	2.35	11.25	13.60
Mean	7.01	15.85	21.87
Correlation Coefficient (SIL AIS Level)	R= -0.2402 P= 0.3701	R= -0.2255 P= 0.4191	R= -0.3665 P= 0.1627

Table 14. Own Source Spending (as a % of Total Ambulatory Care and Own and External Spending) per Capita for the SILAIS for 2000 by Income per Capita of the SILAIS

SIL AIS	% Propios	% Externos	% Total
Chontales (lowest income per Capita)	5.22	6.37	11.59
Jinotega	0.92	5.17	6.09
Boaco	3.89	16.19	20.08
RAAN	2.28	11.89	14.17
Madriz	1.80	16.10	17.90
Matagalpa	7.53	5.85	13.38
Masaya	9.77	4.29	14.06
Río San Juan	1.63	21.70	23.33
Carazo	6.71	0.55	7.26
Rivas	6.64	7.88	14.51
Nueva Segovia	3.71	24.30	28.01
Chinandega	4.74	6.62	11.36
Estelí	1.81	9.37	11.18
León	3.07	4.29	7.37
RAAS	4.09	19.82	23.91
Granada	8.54	16.21	24.75
Managua(highest income per capita)	*	*	*
Mean	4.52	11.04	15.56
Correlation Coefficient (SIL AIS Level)	R= 0.1794 P=0.5061	R= 0.2257 P= 0.4006	R= 0.3094 P= 0.2436

* The numbers for RAAN are only estimates

Table 15. Own Source Hospital Spending per Capita for the SILAIS for 1999 by Income per Capita of the SILAIS

SIL AIS	Own/capita	External/capita	Total/capita
Chontales (lowest income per Capita)	3.23	*	3.23
Jinotega	*	*	*
Boaco	*	*	*
RAAN	*	*	*
Madriz	1.89	13.90	15.79
Matagalpa	3.20	0.07	3.27
Masaya	5.20	*	5.20
Río San Juan	1.36	0.20	1.57
Carazo	9.51	*	9.51
Rivas	11.20	*	11.20
Nueva Segovia	2.11	6.69	8.80
Chinandega	*	*	*
Estelí	5.57	*	5.57
León	4.56	2.42	6.98
RAAS	10.57	0.34	10.91
Granada	13.01	0.73	13.74
Managua(highest income per capita)	39.27	35.23	74.51
Mean	8.52	7.45	13.10
Correlation Coefficient (SIL AIS Level)	R= 0.9420 P= 0.0001	R= 0.8048 P= 0.0160	R= 0.9322 P= 0.0001

Table 16. Own Source Hospital Spending per Capita for the SILAIS for 2000 by Income per Capita of the SILAIS

SIL AIS	Own/capita	External/capita	Total/capita
Chontales (lowest income per Capita)	3.67	*	3.67
Jinotega	0.19	0.27	0.46
Boaco	4.77	0.08	4.85
RAAN	*	*	*
Madriz	2.09	2.19	4.28
Matagalpa	3.72	*	3.72
Masaya	5.32	*	5.32
Río San Juan	1.38	0.79	2.17
Carazo	9.01	*	9.01
Rivas	10.87	1.34	12.21
Nueva Segovia	2.49	*	2.49
Chinandega	8.09	*	8.09
Estelí	10.50	*	10.50
León	5.46	0.05	5.52
RAAS	9.53	*	9.53
Granada	16.06	*	16.06
Managua(highest income per capita)	41.43	0.25	41.68
Mean	8.41	.7104	8.72
Correlation Coefficient (SIL AIS Level)	R= 0.9493 P=0.2833	R= -0.2704 P= 0.5575	R= 0.9457 P= 0.0001

Table on Infant Mortality Rate

Table 17. Ambulatory Care Spending/capita for Municipalities (summed over each SILAIS) for 1999 by IMR of the SILAIS

SILAIS	IMR	Personnel Services	Centralized	Decentralized	Total
Madriz (lowest IMR)	27.06	38.14	11.36	5.95	56.62
Granada	31.94	43.67	11.79	6.85	63.75
León	33.45	61.14	9.79	5.11	76.04
Estelí	33.49	39.26	10.61	4.94	54.80
Río San Juan	34.37	44.88	1.89	5.52	59.56
Carazo	35.43	34.69	10.32	4.65	49.67
Managua	40.04	36.22	5.24	3.46	44.91
Masaya	40.63	25.29	8.66	2.75	37.01
RAAS	40.97	57.27	13.81	13.75	93.98
Rivas	42.67	47.34	1.13	4.08	52.55
Nueva Segovia	44.15	49.04	17.06	5.33	75.15
Chinandega	47.19	56.88	29.66	3.02	89.57
Matagalpa	49.22	28.59	16.66	4.28	52.78
Boaco	50.06	39.70	11.84	4.35	55.89
Jinotega	66.82	30.71	12.35	3.93	49.46
Chontales(highest IMR)	72.07	29.52	13.33	3.43	49.68
Mean	43.10	41.39	11.59	5.09	60.08
Correlation Coefficient (SILAIS Level)		R= -0.3631 P= 0.1669 N=16	R= 0.2742 P=0.3041 N=16	R= -0.2861 P= 0.2828 N=16	R= -0.1588 P= 0.5569 N=16

Sources: Nicaraguan General Budget, MINSAs, and INIFOM

Tables on Qualitative Survey Responses (Source: Case Study Interviews from Qualitative Study)

Table 18. Personnel Rotation and Experience of SILAIS Equipo de Direccion (N) %

	Directors	Planners	Med. Supp.	Admin.	Total
Years in Current Position					
< 6 months	(1) 14.29	0	0	(1) 12.50	(2) 5.26
6 months-1year	0	0	(1) 12.50	(1) 12.50	(2) 5.26
1-3 years	(3) 42.86	(3) 20.00	(4) 50.00	(2) 25.00	(12) 31.58
> 3 years	(3) 42.86	(12) 80.00	(3) 37.50	(4) 50.00	(22) 57.89
N	7	15	8	8	38
Turnover in Equipos in the last three years					
Yes	(5) 71.43	(6) 42.86*	(4) 50.00	(4) 50.00	(19) 51.35
No	(2) 28.57	(8) 57.14*	(4) 50.00	(4) 50.00	(18) 48.65
N	7	14	8	8	37
Changes made by whom					
Local Authorities	(2) 33.33	(6) 100.00	(4) 100.00	(2) 50.00	(14) 70.00
MINSA	(1) 16.67	0	0	0	(1) 5.00
Other	(3) 50.00	0	0	(2) 50.00	(5) 25.00
N	6	6	4	4	20
Size of Persons under Interviewee					
Less than 5 people	0	(7) 50.00	(6) 75.00	(3) 37.50	(16) 44.44
5-7 people	(7) 100.00	(3) 21.43	(1) 12.50	(2) 25.00	(13) 36.11
8 people or more	0	(4) 28.57	(1) 12.50	(3) 37.50	(7) 19.44
N	7	14	8	8	37
Average Reported Size of Persons under Interviewee	6.14	4.29	3.5	7	5.05

* Missing Data

Table 19. Personnel Rotation and Experience of Municipality Equipos de Direccion

	Directors	Admin	SubAdmin	% of Total Interviewed
Years in Current Position				
< 6 months	(4) 28.57	(1) 9.09	(2) 10.53	(7) 15.91
6 months-1year	(1) 7.14	(3) 27.27	(1) 5.26	(5) 11.36
1-3 years	(3) 21.43	0	(6) 31.58	(9) 20.45
> 3 years	(6) 42.86	(7) 63.64	(10) 52.63	(23) 52.27
N	14	11	19	44
Turnover in Equipos in the last three years				
Yes	(11) 78.57	(6) 54.55	0	(17) 68.00
No	(3) 21.43	(5) 45.45	0	(8) 32.00
N	14	11	0	25
Changes made by whom				
Local Authorities	(5) 45.45	(5) 83.33	0	(10) 58.82
MINSA	(4) 36.36	(1) 16.67	0	(5) 29.41
SILAIS	0	0	0	0
Other	(2) 18.18	0	0	(2) 11.76
N	11	6	0	17
Size of Persons under Interviewee				
Less than 5 people	(6) 42.86	(7) 63.64	0	(13) 52.00
5-7 people	(7) 50.00	(4) 36.36	0	(11) 44.00
8 people or more	(1) 7.14	0	0	(1) 4.00
N	14	11	0	25
Average Reported Size of Persons under Interviewee	5.07	3.36	0	4.32

Table 20. Hospital- Rotation and Experience

	Directors
Years in Current Position	
< 6 months	(3) 37.50
6 months-1year	0
1-3 years	(4) 50.00
> 3 years	(1) 12.50
N	8
Turnover in Equipos in the last three years	
Yes	(7) 87.50
No	(1) 12.50
N	8
Changes made by whom	
Local Authorities	(2) 28.57
MINSA	0
SILAIS	(3) 14.29
Other	(1) 14.29
N	7
Size of Persons under Interviewee	
Less than 5 people	(1) 14.29
5-7 people	(6) 85.71
8 people or more	0
N	7*
Average Reported Size of Persons under Interviewee	5.57

Table 21. Overall Summary- Rotation and Experience

	Total
Years in Current Position	
< 6 months	(11) 12.36
6 months-1year	(10) 11.24
1-3 years	(22) 24.72
> 3 years	(46) 51.69
N	89
Turnover in Equipos in the last three years	
Yes	(37) 53.62
No	(32) 46.38
N	69
Changes made by whom	
Local Authorities	(26) 59.09
MINSA	(8) 18.18
SILAIS	(2) 4.55
Other	(8) 18.18
N	44
Size of Persons under Interviewee	
Less than 5 people	(30) 43.48
5-7 people	(30) 43.48
8 people or more	(9) 13.04
N	69
Average Reported Size of Persons under Interviewee	4.84

Table 22. SILAIS Capacity

	(N) % Directors	(N) % Planners	(N) % Med. Supp.	(N) % Admin.	(N) % of Total Interviewed
Profession					
Medico/Dentist	(7) 100.00	(7) 46.67	(1) 12.50	0	(15) 39.47
Finance/Adm	0	0	0	(8) 100.00	(8) 21.05
Teacher	0	0	0	0	0
Nurse	0	(7) 46.67	0	0	(7) 18.42
Lawyer	0	0	0	0	0
Pharmacist	0	0	(7) 87.50	0	(7) 18.42
other	0	(1) 6.67	0	0	(1) 2.63
N	7	15	8	8	38
Other Training					
Medical	(6) 85.71	(14) 93.33	(5) 62.50	(1) 12.50	(26) 68.42
Administration/Finan ce	(1) 14.29	(1) 6.67	(2) 25.00	(4) 50.00	(8) 21.05
Nursing/Other	0	0	0	(1) 12.50	(1) 2.63
None	0	0	(1) 12.50	(2) 25.00	(3) 7.89
N	7	14	8	8	38
Years in Similar Position					
0-3	(3) 42.86	(2) 13.33	(4) 50.00	(2) 33.33	(11) 30.56
4 to 10	(3) 42.86	(5) 33.33	(1) 12.50	(3) 50.00	(12) 33.33
>10	(1) 14.29	(8) 53.33	(3) 37.50	(1) 16.67	(13) 36.11
Mean # years	5.71	10.60	5.88	7.50	
Sufficient Human Resources to make Budget Decisions					
Yes	(5) 71.43	0	0	(2) 25.00	(7) 46.67
No	(2) 28.57	0	0	(6) 75.00	(8) 53.33
N	7	0	0	8	15

Table 23. Municipality - Capacity

	Directors	Admin	SubAdmin	% of Total Interviewed
Profession				
Medico/Dentist	(14) 100.00	0	(7) 36.84	(21) 47.73
Finance/Adm	0	(9) 81.82	0	(9) 20.45
Teacher	0	(1) 9.09	0	(1) 2.27
Nurse	0	0	(12) 63.16	(12) 27.27
Lawyer	0	(1) 9.09	0	(1) 2.27
Pharmacist	0	0	0	0
other	0	0	0	0
N	14	11	19	44
Other Training				
Medical	(9) 64.29	0	(14) 73.68	(23) 53.49
Administration/Finance	(1) 7.14	(8) 80.00	(1) 5.26	(10) 23.26
Nursing/Other	(2) 14.29	(2) 20.00	(3) 15.79	(7) 16.28
None	(2) 14.29	0	(1) 5.26	(3) 6.98
N	14	10	19	43
Years in Similar Position				
0-3	(9) 69.23	(9) 81.82	(10) 58.82	(28) 68.29
4 to 10	(4) 30.77	(1) 9.09	(3) 17.65	(8) 19.51
>10	0.00	(1) 9.09	(4) 23.53	(5) 12.20
Mean # years	2.31	3.09	5.53	
Sufficient Human Resources to make Budget Decisions				
Yes	(2) 14.29	0	0	(2) 14.29
No	(12) 85.71	0	0	(12) 85.71
N	14	0	0	14

Table 24. Hospital- Capacity

	Directors
Profession	
Medico/Dentist	(8) 100.00
Finance/Adm	0
Teacher	0
Nurse	0
Lawyer	0
Pharmacist	0
Other	0
N	8
Other Training	
Medical	(8) 100.00
Administration/Finance	0
Nursing/Other	0
None	0
N	8
Years in Similar Position	
0-3	(4) 50.00
4 to 10	(3) 37.50
>10	(1) 12.50
Mean # years	3.50

Table 25. Alcaldes- Capacity

	Directors
Profession	
Medico/Dentist	(1) 7.14
Finance/Adm	(1) 7.14
Teacher	(5) 35.71
Nurse	0
Lawyer	(3) 21.43
Pharmacist	0
Other	(4) 28.57
N	14
Other Training	
Medical	(1) 7.14
Administration/Finance	(3) 21.43
Nursing/Other	(6) 42.86
None	(4) 28.57
N	14

Table 26. Overall Summary

	Total
Profession	
Medico/Ontological	(45) 43.27
Finance/Adm	(18) 17.31
Teacher	(6) 5.77
Nurse	(19) 18.27
Lawyer	(4) 3.85
Pharmacist	(7) 6.73
other	(5) 4.81
N	104
Other Training	
Medical	(58) 56.31
Administration/Finance	(21) 20.39
Nursing/Other	(14) 13.59
None	(10) 9.71
N	103
Years in Similar Position	
0-3	50.59
4 to 10	27.06
>10	22.35
Mean # years	5.61
Sufficient Human Resources to make Budget Decisions	
Yes	(9) 31.03448
No	(20) 68.96552
N	29

Table 27. SILAIS Local Choice and Decision Space

	Directors	Planners	Med. Supp.	Admin.	Total Interviewed
Budgetary Choice					
Yes	(2) 28.57	-	-	(6) 75.00	(8) 53.33
No	(5) 71.43	-	-	(2) 25.00	(7) 46.67
Human Resource Choice					
Yes	(3) 42.86	-	-	(6) 75.00	(9) 60.00
No	(4) 57.14	-	-	(2) 25.00	(6) 40.00
Priority Programs					
Yes	(6) 85.71	-	-	-	(6) 85.71
No	(1) 14.29	-	-	-	(1) 14.29

Table 28. Municipality Local Choice and Decision Space

	Directors	Admin	SubAdmin	% of Total Interviewed
Budgetary Choice				
Yes	(7) 50.00	(10) 90.91	-	(17) 68.00
No	(7) 50.00	(1) 9.09	-	(8) 32.00
Human Resource Choice				
Yes	(9) 64.29	(9) 81.82	-	(18) 72.00
No	(5) 35.71	(2) 18.18	-	(7) 28.00
Priority Programs Choice				
Yes	(11) 78.57	(5) 45.45	-	(16) 64.00
No	(3) 21.43	(6) 54.55	-	(9) 36.00

Table 29. Hospital Local Choice and Decision Space

	Directors
Budgetary Choice	
Yes	(3) 37.50
No	(5) 62.50
Human Resource Choice	
Yes	(5) 62.50
No	(3) 37.50
Priority Programs Choice	
Yes	(8) 100.00
No	0

Table 30. Overall Summary Local Choice and Decision Space

	Total
Budgetary Choice	
Yes	(28) 58.33
No	(20) 41.67
Human Resource Choice	
Yes	(32) 66.67
No	(16) 33.33
Priority Programs	
Yes	(30) 75.00
No	(10) 25.00

Table 31. SILAIS Financial and Priority Program Decisions

	Directors	Planners	Med. Supp.	Admin.	Total
Who participates in Budget Programming?					
SILAIS Director	0	-	-	0	0
Equipo de Direccion	(4) 57.14	-	-	(4) 50.00	(8) 53.33
SILAIS Director and Admin.	(3) 42.86	-	-	(4) 50.00	(7) 46.67
Equipo some Consejo	0	-	-	0	0
Equipo large influence Consejo	0	-	-	0	0
SILAIS has no decision power	0	-	-	0	0
	7	0	0	8	15
What is used for Programming primary care (% that answered yes)?					
Epidemiological Data	(5) 71.43	(7) 58.53		(3) 37.50	(15) 55.56
Service Production	(5) 71.43	(4) 33.33		(4) 50.00	(13) 48.15
Historical Budget	(6) 85.71	(4) 33.33		(5) 62.50	(13) 55.56
Socio-EconomicVulnerability	(2) 28.57	0		(1) 12.50	(13) 11.11
	Out of 7	Out of 12		Out of 8	Out of 27
Line Item Control (% with control)					
Water	No Control	-	-	No Control	0
Light	No Control	-	-	No Control	0
Telephone	No Control	-	-	No Control	0
Viaticos	(2) 28.57	-	-	(4) 50.00	(6) 40.00
Materials	(3) 42.86	-	-	(6) 75.00	(9) 60.00
Gas	(1) 14.29	-	-	(3) 37.50	(4) 26.67
Medicines	No Control	-	-	No Control	0
	Out of 7	0	0	Out of 8	Out of 15
Can you reassign Budget Line Items?					
Yes	(3) 42.86	-	-	(5) 62.50	(8) 53.33
No	(4) 57.14	-	-	(3) 37.50	(7) 46.67
	7			8	15
What is used for reassigning budget (% that answered yes)?					
Epidemiological Data	(6) 85.71	-	-	(4) 50.00	(10) 66.67
Service Production	(4) 57.14	-	-	(3) 37.50	(7) 46.67
Historical Budget	(3) 42.86	-	-	(3) 37.50	(6) 40.00
Socio-EconomicVulnerability	(3) 42.86	-	-	0.00	(3) 42.86
	Out of 7	0	0	Out of 8	Out of 15
Cut all line items the same?					
Yes	(3) 42.86	-	-	(3) 37.50	(6) 40.00
Use other Criteria	(4) 57.14	-	-	(5) 62.50	(9) 60.00
	7			8	15
Frequency of Circular					
Frequently	(7) 100.00	(10) 66.67	-	-	(17) 89.47
Moderate	0	(2) 13.33	-	-	(2) 10.53
Sometimes	0	(2) 13.33	-	-	0
Never	0	(1) 6.67	-	-	0
	7	15			19
Effect of Circular					
Strong	(4) 57.14	(6) 40.00	-	-	(10) 66.67

Moderate	(3) 42.86	(2) 13.33	-	-	(5) 33.33
Limited	0.00	(5) 33.33	-	-	(5) 22.73
Never	0.00	(2) 13.33	-	-	(2) 9.09
	7	15			19
Are Circulars Reasonable?					
Yes	(5) 71.43	(11) 73.33	-	-	(16) 72.73
No	(2) 28.57	(4) 26.67	-	-	(6) 27.27
	7	15	-	-	22
Are MINSA line items for Budgeting Adequate?					
Yes	(5) 71.43	-	-	(8) 100.00	(14) 87.50
No	(2) 28.57	-	-	0	(2) 12.50
	7			8	

Table 32. Municipality Financial and Priority Program Decisions

Who participates in Budget Programming?	Director	Administrator	SubAdm.	Total
Municipal Director	0	0	-	0
Equipo de Direccion	(5) 35.71	(5) 45.45	-	(10) 40.00
Municipal Director + Admin.	(6) 42.86	(5) 45.45	-	(11) 44.00
Municipal Director + SILAIS Dir.	0	0	-	0
Municipal Director + SILAIS Adm.	0	0	-	0
Equipo some Consejo	0	0	-	0
Equipo + lg. Consejo influence	0	0	-	0
Equipo + Alcaldia	0	(1) 9.09	-	(1) 4.00
Municipality has no power	(3) 21.43	0	-	(3) 12.00
	14	11	0	25
What is used for Programming (% that answered yes)?				
Epidemiological Data	(10) 71.43	(6) 54.55	-	(16) 64.00
Service Production	(10) 71.43	(7) 63.64	-	(17) 68.00
Historical Budget	(6) 42.86	(4) 36.36	-	(10) 40.00
Socio-Economic Vulnerability	(2) 28.57	(1) 12.50	-	(3) 20.00
	Out of 14	Out of 11	0	Out of 25
Line Item Control (% with control)				
Water	(1) 7.14	0	-	(1) 4.00
Light	(1) 7.14	0	-	(1) 4.00
Telephone	(1) 7.14	0	-	(1) 4.00
Viaticos	(13) 92.86	(10) 90.91	-	(23) 92.00
Materials	(13) 92.86	(11) 100.0	-	(24) 96.00
Gas	(6) 42.15	(6) 54.55	-	(12) 50.00
Medicines	0	0	-	0
	Out of 14	Out of 11		Out of 25
Can you reassign Budget Line Items?				
Yes	(4) 28.57	(8) 72.73	-	(12) 48.00
No	(10) 71.43	(3) 27.27	-	(13) 52.00
	14	11	0	25
What is used for Reassigning (% that answered yes)?				
Epidemiological Data	(8) 57.14	(6) 60.00		(14) 58.33
Service Production	(5) 35.71	(6) 60.00		(11) 45.83
Historical Budget	(1) 7.14	(1) 10.00		(2) 8.33
Socio-Economic Vulnerability	(1) 7.14			(1) 7.14
	Out of 14	Out of 11		Out of 25
Are MINSA (SILAIS) line items for Budgeting Adequate?				
Yes	(9) 64.29	(9) 81.82		(18) 72.00
No	(5) 35.71	(2) 18.18		(7) 28.00

Table 33. Hospital Financial and Priority Program Decisions

Who participates in Budget Programming?	Director
Director Hosp	0
Equipo de Direccion	(7) 87.5
Dir Hosp + Administrator	(1) 12.5
Equipo some Consejo	0
Equipo + Lg. Consejo influence	0
Hosp no decision	0
	8
What is used for Programming (% that answered yes)?	
Epidemiological Data	(2) 25.00
Service Production	(2) 25.00
Historical Budget	(7) 87.50
Socio-Economic Vulnerability	(1) 12.50
	Out of 8
Line Item Control (% with control)	
Water	0
Light	0
Telephone	0
Viaticos	(4) 50.00
Materials	(3) 42.86
Gas	(1) 12.50
Medicines	0
	Out of 8
Can you reassign Budget Line Items?	
Yes	(2) 25.00
No	(6) 75.00
	8
What is used for Reassigning (% that answered yes)?	
Epidemiological Data	(4) 57.14
Service Production	(2) 28.57
Historical Budget	(1) 14.29
Socio-Economic Vulnerability	0
	Out of 8
Are MINSA line items for Budgeting Adequate?	
Yes	(2) 25.00
No	(6) 75.00
	8
Frequency of Circular	
Frequently	(3) 42.86
Moderate	(4) 57.14
Sometimes	0
Never	0
	7
Effect of Circular	
Strong	(3) 42.86
Moderate	(3) 42.86
Limited	(1) 14.29

Annex D

Explanation of the Variables and Sources of Information

Expenditure Data

Health care ambulatory expenditures were gathered in a special effort by the Harvard Project with the collaboration of MINSA at the municipality level, the SILAIS level, for the Sedes, and the hospitals for the following main line items: Personnel Services, Non-Personnel Services, Materials and Supplies, and Current Transfers. Data was gathered for several centralized and decentralized line items under Non-Personnel Services and Materials and Supplies according to Table 1. Data for the municipal level was not available from RAAN. When RAAN is included in the analysis of ambulatory expenditures we have used SILAIS data reported to MINSA and subtracted the fondos propios and externos to make the figure comparable to the data collected at the municipal level.

Table 1. Sub-Line Items under Non-Personnel Services and Materials and Supplies

Main Line Item	Sub-line Item	Centralized or Decentralized
Non-Personnel Services	Telephone, Telex, and National Fax	Centralized
	Water	Centralized
	Electricity	Centralized
	Per Diems	Decentralized
Material and Supplies	Gasoline for Physician Visits	Centralized
	Medicines	Centralized
	All other line items including certain food and beverage items, textiles, tires and other car accessories, other materials and supplies for the office	Decentralized

Population Data:

The population data for 1995-1999 was compiled by MINSA, according to the 1995 census and based upon an annual growth rate of 1.030839. The population data included overall population, the number of women in fertile age, the number of special pregnancies, the population under 1 year of age, and the population under 5 years of age. All per capita figures shown in the results were calculated using these population figures. All expenditure figures were weighted according to population.

Income Data:

We extracted municipal income data from the “Clasificación de Municipalidades de Nicaragua” from INIFOM. Income from this data source was defined as the amount of financial resources available to each municipality during 1995. The size of the resources varied from C\$ 29,356 for the municipality with the least resources to C\$ 26,855,900 for the municipality with the largest resources. The income data was used to create the income quintiles. Three municipalities, Ciudad Sandino, Managua, and El Crucero, did not have income data. For this reason, Ciudad Sandino was collapsed into the Municipality of Managua. The income of Managua was then calculated as 10% more than Leon based on figures in the report. The income of El Crucero was calculated as the mean income of all municipalities in the highest income quintile (before adding Managua). The only municipality without income data was San Lorenzo from Boaco. This municipality was not included in any income analysis.

This income variable was used to calculate income per capita for each municipality.

Urbanity Data:

Data from the Poverty Map for Nicaragua 1998 was used to classify municipalities by Urban-poverty. The percent of poor persons living in urban areas was calculated from the variable “percent of poor persons living in rural areas.”

Utilization Data:

Health care services and emergency care provided at the primary level was taken from the data base, “Servicios Ambulatorios de Primer Nivel 1995-1999” provided by MINSA. From this database, we extracted the variables “percent of ambulatory services provided to children under one year”, “percent of ambulatory services provided to children under five years”, “number of first time fertility visits”, “number of total prenatal visits”, and childhood malnutrition data. This data was recalculated based upon per capita and analyzed in the bivariate analysis.

External and Own Funding (Fondos Propios):

Data for external and own funding was provided for the SEDE and the hospitals at the SILAIS level. Own funding was defined as those funds collected at the SILAIS level for providing services such as laboratory exams and check-ups to children over 5 years of age and men. External funding was defined as donations received by the SILAIS through different projects such as WHO/PAHO, UNICEF, ProSilais, Prosalud, etc.

Demographic Health Survey (DHS):

The latest DHS was conducted in 1995. The only figure taken from the DHS was infant mortality rate (IMR) for children under one years of age and children under 5 years of age.

Quality of the Data

The most complete set of data from all the above sources was for the years 1999 and 2000.

At the municipality level, we had information from 133 municipalities. The following municipalities were not included: Waspan (RAAN) and San Francisco de Cuapa from SILAIS Chontales, Santo Tomás from SILAIS Chinandega, Yali from SILAIS Jinotega, Francisco Matamoros from SILAIS Managua, La Conquista from SILAIS Carazo, Santo Tomas from SILAIS Chontales, and all municipalities from RAAN.

RAAN, Madriz, and Nueva Segovia were missing from SEDE data for 1999 while Chontales, Jinotega, RAAN, and Río San Juan were missing from SEDE data for 2000.

RAAN and Carazo did not report hospital data for 1999, but did report in 2000.

The data provided for Own and External Funding was quite complete at the SILAIS level, although not fully complete for the hospitals.

As mentioned above, the only municipality that did not report income data (or whose income data could not be estimated) was San Lorenzo in Boaco.

Annex E

INVESTIGACION SOBRE EL PROCESO DE DESCENTRALIZACION DE LOS SISTEMAS DE SALUD EN NICARAGUA

CUESTIONARIO DIRIGIDO A DIRECTORES DE SILAIS

Fecha: _____
SILAIS: _____

Nombre y
Apellidos: _____

I. CARACTERÍSTICAS PERSONALES

- 1 Profesión:.....
.....
- 2 Otros estudios de 2 semanas o más:
.....
.....
.....
.....
3. Tiempo (años) en el cargo actual:
 - a. Menos de 6 meses
 - b. De 6 meses a 1 año
 - c. De 1 a 3 años
 - d. Más de 3 años
4. Experiencia (acumulada) en cargos similares:.....años.....

II. ROTACION DEL EQUIPO DE DIRECCION

5. Cuantos recursos humanos forman parte del Equipo de Dirección:
.....
6. Ha habido cambios en el Equipo de Dirección en los últimos tres años: a.....Si b.....No. **Si es "No"pase a la pregunta No.8.**
7. Mencione los últimos tres cambios de cargo en el Equipo de Dirección (fecha en que se realizó) :
 - a.Fecha:.....
.....

b.Fecha:.....
.....

c.Fecha:.....
.....

8. El cambio fue orientado por:
a. autoridades locales
b. MINSA Central
c. Otros
Especifique:.....

8. Cambios en los Directores Municipales en el último año:
a. Si b. No Si es "Si",
Cuántos?.....

9. Participó usted en la decisión de los cambios?
a. Si b. No.

10. Si es "si", Explique:

--

11. Si es "no", quien decide: a. SILAIS b. Nivel Central c. Otros.
Detalle:.....

III. HISTORIA DE LA DESCENTRALIZACIÓN

12. Existe el Consejo Consultivo en el SILAIS: a.... Si b....No. **Si es "No", pase a la pregunta No.20.**

13. Si existe el Consejo Cultivo, está funcionando actualmente en el SILAIS: a.Si b. No. **Si la respuesta es "No", pasar a la pregunta No.18).**

14. Si es "si", desde cuando inició el funcionamiento (fecha):/...../.....

15. Quienes seleccionaron a los miembros de la Junta:

--

16. Base legal para su conformación:

--

17. Mencione los miembros del Consejo Consultivo (cargos y profesiones):

Cargo	Profesión

18. Qué decisiones son tomadas por el Consejo Consultivo?

Actividad	Si	No
Aprobación de POA o planes de emergencia		
Aprobación de contrataciones/despidos		
Aprobación de presupuesto		
Aprobación de reducciones/cambios presupuestarios		
Otras (Indique)		
Ninguna		

19. Si no está funcionando, Hace cuanto tiempo dejó de funcionar?

- a. Nunca ha funcionado
- b. Menos de 6 meses
- b. De 6 meses a 1 año
- c. De 1 a 3 años
- d. Más de 3 años

20. Porqué dejó de funcionar?

21. Qué otros Comités están funcionando en el SILAIS. Mencione e indique quienes lo conforman y cómo fueron seleccionados sus miembros?

Nombre del Comité	Número de Miembros	Quien y cómo seleccionaron

22. Cree usted que los miembros del Equipo de Dirección tiene más capacidad de decisión en los años anteriores o ahora? Explique porque

--

IV. ESPACIO ACTUAL DE DECISIÓN

23. En que áreas toma decisiones:

Areas	Si	No	Observaciones
Presupuesto			
Recursos Humanos			
Programas prioritarios			
Otras (Explique)			

24. Quien participa en la programación presupuestaria?

- a. El Director del SILAIS
- b. El Equipo de Dirección
- c. El Director y el Administrador del SILAIS
- d. **Equipo de Dirección con alguna participación del Consejo Consultivo u otro Comité de la comunidad.**
- e. **El Equipo de Dirección con mucha participación del Consejo Consultivo u otro Comité de la comunidad.**
- f. El SILAIS no toma decisiones sobre la programación presupuestaria.

25. Explique como se decide la programación presupuestaria.

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26. Quien decide la asignación presupuestaria?

- a. El Director del SILAIS
- b. El Equipo de Dirección
- c. El Director y Administrador del SILAIS.
- d. **Equipo de Dirección con alguna participación del Consejo Consultivo u otro Comité de la comunidad.**
- e. **El Equipo de Dirección con mucha participación del Consejo Consultivo u otro Comité de la comunidad.**
- f. El SILAIS no toma decisiones sobre la asignación presupuestaria.

g. Otras.

Indique:.....

27. Explique como se decide la asignación?

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28. Criterios que utiliza para las decisiones?

Criterios	Si	No
Epidemiológicos		
Producción de servicios		
Comportamiento histórico		
Vulnerabilidad socio-económica		
Otros (Explique)		

29. Después de recibir el presupuesto aprobado, usted puede reasignar fondos de una línea presupuestaria a otra durante el año: a. Si b. No. **Si la respuesta es "No", pasar a la pregunta No.35.**

30. Si es "Si", en que elementos de gastos del presupuesto toma decisiones actualmente:

Renglón presupuestario	Si	No
02. Servicios No Personales		
Agua		
Luz		
Teléfono		
Viático		
03. Materiales y Suministros		
Papelería		
Combustible		
Medicamentos		
Otros:		

31. Criterios que utiliza para la reasignación del presupuesto.

Criterios	Si	No
Epidemiológicos		
Producción de servicios		
Comportamiento histórico		
Vulnerabilidad socioeconómica		
Otros (Explique)		

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32. Le da el MINSA lineamientos suficientes sobre las decisiones financieras que se deben tomar? Circulares, Resoluciones, etc. Si la respuesta es "Si", como los considera?

33. Cree usted que el Equipo del SILAIS tiene los recursos humanos y materiales necesarios para tomar todas las decisiones presupuestarias. Si la respuesta es "si" porqué? Si la respuesta es "no", qué capacidades cree usted que necesita?

34. Qué criterios utiliza para la asignación de fondos a programas de atención primaria?

35. Qué opciones tiene cuando los presupuestos son recortados durante el año?

36. Cómo establece prioridades sobre lo que se puede recortar y que debe mantenerse a niveles anteriores?

Criterios	Si	No
Epidemiológicos		
Producción de servicios		
Comportamiento histórico		
Vulnerabilidad socioeconómica		
Otros (Explique)		

37. Ha recortado más a los Centros de Salud o la Sede SILAIS?

38. En caso de reducción presupuestaria como asigna los fondos a los Centros de Salud?
 a.... El mismo porcentaje para todos.
 b.... Otros criterios Indique:

39. Tiene fondos propios en la Sede del SILAIS? .a. ...Si b. ...No
40. Tienen tarifas o cobros para servicios? a.....Si b. ...No
41. Si es “Si” qué servicios?.....
42. Se establecen las tarifas o cobros por el SILAIS....., o por el MINSA Central? Indique el procedimiento.

43. Quien decide el que debe pagar la tarifa y el exento? (puede seleccionar más de una alternativa)
 a. El Director del SILAIS
 b. El Equipo de Dirección
 c. El Director y Administrador del SILAIS
 d. El Equipo de Dirección con alguna participación del Consejo Consultivo u otro Comité de la comunidad.
 e. El Equipo de Dirección con mucha participación del Consejo Consultivo u otro Comité de la comunidad.
44. Cómo se definen estos precios
 a. Usando ejemplos de tarifas de otros SILAIS
 b. Por casualidad.
 c. Estimando la capacidad de los usuarios no pobres de pagar.
 d. El MINSA Central
 e. Un estudio de costos de los servicios.
 f. Otros(Explique).....
45. Quien decide la utilización de los fondos propios? (Puede seleccionar más de una alternativa)
 a. El Director del SILAIS

- b. El Equipo de Dirección
- c. El Director y Administrador del SILAIS
- d. El Equipo de Dirección con alguna participación del Consejo Consultivo u otro Comité de la comunidad.
- e.El Equipo de Dirección con mucha participación del Consejo Consultivo u otro Comité de la comunidad.

46. Tienen financiamiento directo de donantes externos? a....Si b.... No. **Si es "No", pasar a la pregunta No...51.**

47. Qué actividades fueron apoyadas por estos donantes? Muestre una lista de cada donante con una descripción de sus actividades.

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48. Tomaron la decisión ustedes o las actividades ya llegaron planificadas al SILAIS? O eran una negociación entre el SILAIS y donante en que las prioridades del SILAIS puede definir las actividades? (Si hay más de un donante hacer estas preguntas y las siguientes para cada uno)

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49. Quien era responsable de negociar con los donantes? (puede seleccionar más de una alternativa).

- a. Solo el Director del SILAIS
- b. Director del SILAIS con el MINSA Central
- c. Solo el Equipo de Dirección
- d. Equipo de Dirección con MINSA Central
- e. El Equipo de Dirección con alguna participación del Consejo Consultivo u otro Comité de la comunidad.
- f. El Equipo de Dirección con mucha participación del Consejo Consultivo u otro Comité de la comunidad.

50. Cómo efectuaron la planificación de estas actividades?

51. Frecuencia con que se reciben las directrices y circulares que vienen del MINSA sobre programas prioritarios (tales como vacunación, malaria, TB, VIH/SIDA, Planificación Familiar, control prenatal)
- a.Frecuentemente
 - a.Moderadamente
 - b.Pocas veces
 - c.Nunca

52. Que tipo de efecto tiene en las actividades planificadas las directrices y circulares del MINSA.
- a. Fuerte
 - b. Moderado
 - c. Limitado
 - d. Ningún efecto

53. Se han modificado en los últimos 6 meses y cómo? De ejemplos

54. Las directrices del MINSA vienen con más recursos? a.... Si b....No. Si es "Si", explique los recursos recibidos

55. En su experiencia ¿ son razonables o no son razonables? Las directrices del MINSA sobre programas prioritarios. Cualquiera que sea su respuesta explique.

56. En su experiencia ¿ son razonables o no son razonables? Las actividades programadas del MINSA sobre programas prioritarios. Cualquiera que sea su respuesta explique.

57. Han podido mejorar la calidad de los servicios en sus Centros de Salud? a...Si b....No.
Si la respuesta es "Si". Qué acciones han tomado para mejorar la calidad?

58. De donde vienen los fondos para las actividades orientadas a mejorar la calidad? (puede elegir más de una alternativa)

- a. Fondos propios
- b. Presupuesto controlado por el SILAIS
- c. Presupuesto a Nivel Central
- d. Donantes

V. RELACIONES ENTRE HOSPITAL Y SILAIS

59. **Cómo es la relación entre el Equipo de Dirección del SILAIS y el Hospital?**

- a. **Excelente**
- b. **Muy Buena**
- c. **Buena**
- d. **Regular**
- e. **Algo conflictiva**
- f. **Muy conflictiva**

Explique dando ejemplos:

60. Actividades que se realizan entre el Equipo de Dirección del SILAIS y el Hospital

- a. Reuniones sistemáticas
- b. Despachos
- c. Consejos Técnicos
- d. Otras actividades.

Explique:.....

61. Cómo es la relación entre el Equipo de Dirección del SILAIS y los Alcaldes del territorio?

- a. Excelente
- b. Muy Buena
- c. Buena
- d. Regular
- e. Algo conflictiva
- f. Muy conflictiva

Explique dando ejemplos:

62. Actividades que se realizan entre el Equipo de Dirección del SILAIS y los Alcaldes del territorio

- a. Reuniones sistemáticas
- b. Despachos
- c. Consejos Técnicos
- d. Consejos Municipales
- e. Otras actividades.

Explique:.....

CONCLUSIONES EXPRESADAS POR DIRECTOR DE SILAIS

a. Su valoración sobre el proceso de descentralización en el SILAIS:

1.
2.
3.
4.

b. Mi trabajo como gerente en salud ha sido cambiado en las siguientes maneras por el proceso de “descentralización” (complete la idea en las líneas de abajo)

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c. Hasta que las siguientes condiciones se den, la “descentralización” no tendrá mucho impacto sobre la gerencia de servicios de salud y programas: complete la idea.

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