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Nicaragua

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Health financing challenges
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by

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Abstract:

The Nicaraguan government is committed to moving to universal coverage in order to provide adequate quality health care for all. Yet, there are considerable challenges to achieving this within the existing health financing system design.

This paper provides an analysis of the Nicaraguan health financing system and assesses its performance on the basis of selected health financing performance indicators. The analytical framework applied to explain the level of performance focuses on the institutional design and organizational practice of the health financing system.

The analysis is based on qualitative data from interviews and discussions with health financing stakeholders and on a contents analysis of legal provisions and regulations relating to health financing. Quantitative data from government and social health insurance sources and household surveys were used, and secondary analysis carried out.

The analysis reveals that the health financing system suffers from many institutional and organizational deficits, such as gaps in resource mobilization, non-conducive cross-subsidies from the government to the social health insurance scheme, and inefficient purchasing mechanisms. This explains poor health financing performance.

Yet the institutional design and organizational practice of a health financing system can be actively shaped and improved. This paper proposes a number of institutional and organizational changes to move towards universal coverage in Nicaragua.

1. Introduction

Nicaragua is a low-income country with a gross domestic product of US\$1,023 per capita in 2007 (CBN 2007), making it the second poorest in Latin America. The total population is 5.6 million, with 45.8% living under the poverty line in 2001 (INEC/INIDE 2001). Over the last two decades Nicaragua's health system has, like many other countries in the region, (Homedes/Ugalde 2005, Cavagnero 2008), shifted from the socialist model during the 1980s (Garfield/Taboada 1984) to a more market-focused one during the 1990s (Arredondo/Parada 2001; Arredondo *et al.* 2005).

Nicaragua is characterized by poor health indicators and limited financial accessibility to health care (PAHO 2006). The health financing system suffers from segmentation, high out-of-pocket expenditures (OOPs) and inefficient use of resources. Further, the stewardship function of the Ministry of Health (MOH) is weakly developed (MOH 2007c). Access to adequate health care is still very unequal, but the government, the *Frente Sandinista de Liberación Nacional*, which came again into power in January 2007, is committed to moving to universal coverage in order to provide adequate quality health care to all Nicaraguans. The MOH recognizes that reforming the health financing system constitutes an important task to this aim.

To implement appropriate health financing reforms and changes, it is important to properly understand the key causes of the current health financing deficits. This paper provides a detailed analysis of the problems of the Nicaraguan health financing system. It does so by assessing its institutional design and organizational practice relating to the key health financing functions of resource collection, pooling and purchasing, and how this affects the performance of the health financing system. On this basis, appropriate changes in institutional design and organizational practice can be derived that contribute to moving towards universal coverage.

In the next section we present the analytical framework and the methodology applied. Section 3 undertakes a detailed institutional-organizational analysis of the Nicaraguan health financing system and assesses its performance. The concluding section proposes policy options and changes in institutional design and organizational practice to improve the performance of the health financing system.

The remainder of this section outlines the health financing system issues. The existing health financing system is a mixed one. It consists of two main pillars. First, through tax-based health financing, the MOH provides health care services in 17 deconcentrated health districts, known as SILAIS (District System for Integrated Healthcare Delivery). Each SILAIS manages and supervises the MOH facilities in its district. MOH health services are characterized by staff and drug shortages, and process quality is perceived as low (PAHO 2006). The second pillar is the INSS (Nicaraguan Institute of Social Security), which operates a social health insurance (SHI) scheme for parts of the population. SHI health care benefits are provided through a defined network of mostly private providers. While the clinical quality of care in INSS contracted facilities may not necessarily be superior to that in MOH facilities, the overall quality of care is perceived as better due to well-equipped and clean facilities, shorter waiting times and motivated staff (Rathe/Lora Bastidas 2003).

In principle, the two health financing schemes function separately. One reason for this is that the MOH is not the direct steward of the INSS. As a social security scheme, the INSS is attached to the Ministry of Labour (INSS 2000). Apart from the MOH and SHI, there are two or three private health insurance companies with an estimated 10,000 principal members and their families. At the same time, several community-based mutual health insurance schemes target informal sector and low-income workers in rural and under-served areas, covering about 2,000 principal members and their families in 2007.

2. Analytical framework and methodology

Health financing consists of the three key functions to achieve the following objectives which can be considered as overall guiding norms of a health financing system:

- 1) *resource mobilization* in an equitable way to ensure sufficient and sustainable revenues;
- 2) *pooling of funds* to ensure that costs of accessing health care are shared thus ensuring financial accessibility;
- 3) *purchasing* to ensure that funds to buy and provide health care services are used in the most efficient and equitable way (Kutzin 2001, Savedoff/Carrin 2003, Carrin/James 2005).

Achieving these health financing objectives ultimately serves to realize the policy norm of universal coverage, which is itself defined as access to key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access (WHO 2000, 2005).

The health financing objectives can be further operationalized into generic health financing performance indicators. The following table proposes indicative targets of these indicators for a low-income country like Nicaragua. The operationalization provided here also takes account of the often limited data availability prevailing in low-income countries. These indicative targets are based on core values of equity and social justice as well as the rationale of using resources as efficiently as possible (WHO 2000, WHO 2005, WHO 2008a).

Table 1: Health financing performance indicators

Health financing performance indicator:
<i>Indicative performance indicator target(s)</i>
1. Level of funding:
<i>The existing resource mobilization potential is exhausted. Total health expenditure per capita is at least US\$34 (in 2000 prices) (cf. WHO 2001) and within the range of the regional average.</i>
2. Level of population coverage:
<i>The total population is covered by a social health protection mechanism, i.e. having access to key health interventions at an affordable cost.</i>
3. Extent of financial risk protection:
<i>At least 85% of total health expenditure is based on prepaid funds (e.g., taxes, health insurance contributions), and less than 1% of households experience catastrophic expenditure. (Catastrophic expenditure occurs when households spend more than 40% of their disposable income on health (Xu et al. 2003)).</i>
4. Level of equity in health financing:
<i>Health financing payments (e.g., SHI contributions, taxes, out-of-pocket payments) as a share of household capacity-to-pay (non-subsistence expenditure) are equal across income quintiles.</i>
5. Level of pooling:
<i>Health spending per person is equal across pools (i.e., health financing schemes), adjusted for health risk units.</i>
6. Level of cost-effectiveness and equity in benefit package composition:
<i>The benefit package composition is based on equity and efficiency criteria.</i>
7. Level of efficiency in benefit package delivery:
<i>Remuneration mechanisms minimize incentives for over- /under-provision or cost-shifting. Resource allocation reflects health care needs and health care costs.</i>

Source: based on Carrin/James (2005) and Mathauer (2009)

The achievement of these health financing objectives and performance indicators is contingent upon two important aspects. The first of these is the underlying institutional design of health financing functions, i.e. the set of institutions that operate in relation to the three health financing functions. Institutions can be understood as “formal and informal rules, enforcement characteristics of rules [...] that structure repeated human interaction” through incentives and constraints (North 1989: 1321). In other words, rules create incentives that induce or restrain people and organizations to behave in a certain way. The second important aspect is the organizational practice within health financing functions - namely the way that rules are put in practice and implemented by health financing actors. The organizations in charge of health financing tasks are guided by rules and incentives as well as other organizational and individual motivations such as profit and utility maximization (Carrin *et al.* 2008, Mathauer 2009).

Here, we are particularly interested in the formal rules, laid down in written legal provisions, regulations or policy documents that determine and relate to the health financing functions. Specifically, we look at the resource mobilization rules including SHI membership and collection rules, pooling and risk equalization rules, as well as purchasing rules - including benefit package rules, resource allocation rules and provider payment mechanisms. In sum, it will be assessed how these rules and the way they are put in practice affect health financing performance indicators (cf. Mathauer 2009).

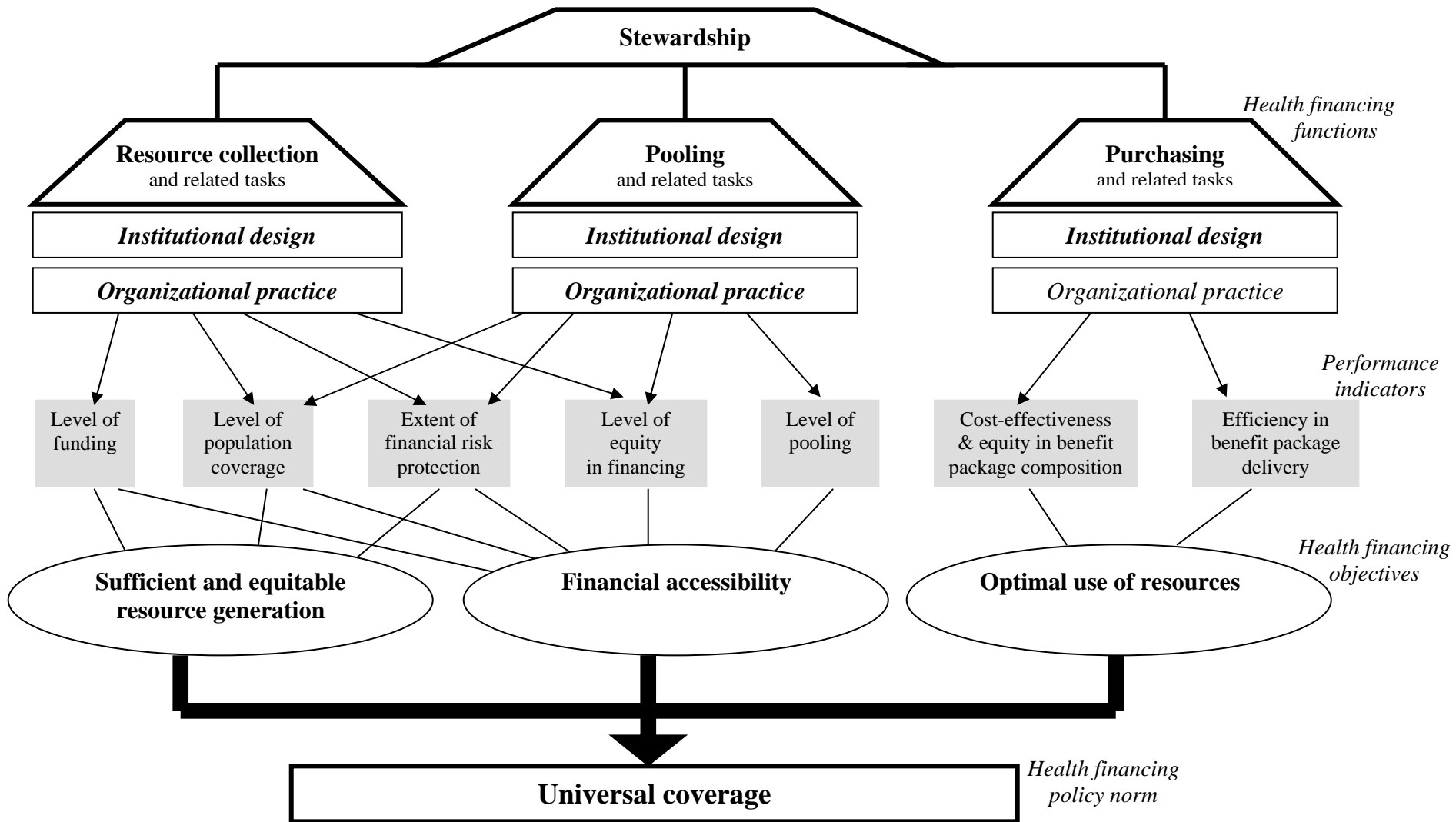
Figure 1 provides an overview of this analytical framework that underlies the analysis of the Nicaraguan health financing system.

For the purpose of this analysis, qualitative data was collected through interviews and focus group discussions using key questionnaires with the MOH, INSS, public and private health providers, civil society actors, and community and private health insurers. The legal provisions and regulations relating to health financing, as well as published and unpublished literature were reviewed. Quantitative data were obtained from government and INSS sources, household surveys, and national health accounts, with secondary analysis being carried out.

3. Assessing institutional design, organizational practice and health financing performance in Nicaragua

This section analyses in detail the institutional design and organizational practice of the three health financing functions, with a focus on tax-based financing and SHI. Health financing performance is assessed with respect to the indicators outlined in Table 1, with a summary table being provided at the end of the section.

Figure 1: Summary of the analytical framework



Based on Carrin *et al.* (2008) and Mathauer (2009)

3.1. Resource mobilization

Total health care expenditure (THE) in Nicaragua amounted to US\$420 million in 2006, i.e. around US\$76 per capita (WHO 2007), which is low in comparison with other countries in the region (WHO 2008b). THE represents 7.8% of the gross domestic product (GDP). Total government expenditures on health (including SHI funds) makes up 54.7% of THE, whereas private expenditure amounts to 45.3% (WHO 2007). Table 2 provides a more detailed account and reveals that only 59% of THE comes from various prepaid contributions such as tax revenues, SHI and private health insurance contributions and NGO funds. OOP expenditure as a share of total health expenditure increased from 21% in 1995 to 41% in 2006, reaching its top level (48%) in 2002 (WHO 2007).

Table 2: Structure of health expenditure

	Ministry of health	Other govt. agencies	Social health insurance	Private health insurance	Out-of-pocket spending	NGOs	Other	Total
% of THE	35.6%	3.2%	16.5%	0.9%	41.1%	2.0%	0.7%	100%

Source: MOH 2006

Deficits in tax-based financing of government health services

Health expenditure trends have been mixed over the past decade. Nicaragua's GDP nearly doubled in real terms between 1995 and 2006, and total health expenditure multiplied by about 2.5. General government expenditure as a share of the gross domestic product increased from 17% to 27% over the same period, but government health expenditure as a share of general government expenditure actually *decreased* from 27% to 16%. In 1999, the health share dropped to a low of 11%. This negative trend is even more obvious when social health insurance funds are excluded from general government expenditure on health (from 24% to 12%) (calculations based on data of WHO 2007).

In principle, general government expenditure on health is not low as a percentage, but it needs to be kept in mind that in absolute terms Nicaragua's gross domestic product and total government expenditure is very low. The government is highly dependent on external resources, with 47% of the health budget coming from grants, loans and internal debt relief (cf. MOH 2006).

The two main sources for general government revenue are taxes on consumption and income. By institutional design, these taxes are regressive and progressive respectively (Gasparini/Artana 2003). Overall tax collection turns out to be slightly regressive. In 2001, the top quintile bore 54.6% of the tax burden, against owning 58.5% of total income, while the poorest quintile, with just 4% of the income shouldered 6% of total tax burden (authors' calculations, based on Gasparini/Artana 2003). It is noteworthy, however, that the current organizational practice of income tax collection is characterized by a high tax evasion rate of 38% (authors' calculations, based on Artana 2005). There is thus scope to create more fiscal space for health.

In January 2007, the government introduced the so-called "Free Health Care Policy" (*política de gratuidad*). This brought an important change in user charge/copayment rules at MOH facilities (MOH 2007b), in that patients no longer pay user charges for services and medical supplies, when these are available. MOH facilities may no longer collect user charges nor offer services in private hospital wings for those willing and able to pay. Prior to 2007, patients had to pay for certain services and medicines - partly because of insufficient resource availability at MOH facilities. These user charges used to provide MOH with some 4% of its budget. Thus, even with a free health care policy, the overall burden of out-of-pocket expenditure will only be reduced by about 4.5% (authors' calculations based on MOH 2006 data). The indicative target of prepayment of 70% would still not be reached.

Incomplete enrolment and contribution collection by the social health insurance scheme

According to Nicaragua's Social Security Law, SHI membership is mandatory for all employed workers, i.e. those "who have an employer". This membership definition also includes informal sector employees like domestic workers or small shop employees. Eligibility for mandatory membership and enrolment is hence relatively comprehensive, amounting to an estimated 1.51 million Nicaraguans at least.¹ However, in 2006, only 363,000 employed workers were affiliated to the SHI scheme (INSS 2007) - just 24% of all "employed workers". If one only considers the estimated 530,000 employees working in the formal sector, that is 36% of the total economically active population (CBN 2007), the rate goes up to 68%.² Employees who have not signed up to the SHI scheme usually seek free health care at MOH facilities.

Table 3 shows that SHI coverage in 2001 is very unequally distributed among income groups. Even though enrolment has substantially increased since then, distribution is unlikely to have altered significantly.

Table 3: Health insurance coverage rate per expenditure quintiles

Expenditure quintiles	Persons with SHI coverage in 2001
Total population	8.5%
5 th quintile	20.5
4 th quintile	11.6
3 rd quintile	7.1
2 nd quintile	2.8
1 st quintile	0.5

Source: Rathe/Lora Bastidas (2003)

This relatively low enrolment results both from inadequate implementation of membership rules and from deficits in their institutional design and enforcement. One problem is that INSS only

¹ This estimation assumes that at least 70% of the active economic population of 2.1 million Nicaraguans are able to contribute, thus excluding the unemployed, those below the poverty line and those not considered as an "employed worker" as per the legal definition

² This estimation assumes that 90% of the active economic population in the formal sector fall under the INSS definition of "employed worker" and are able to pay contributions. The unemployed (8% of the labour force) are also not included in this estimation (WDI 2008).

enrols employees who earn at least the official minimum monthly salary of approximately US\$80. This leaves out many employees on lower wages. Rules relating to membership and to minimum contribution amounts are thus out of line with the Nicaraguan context.

Another issue is that current enrolment practices are not geared towards capturing all employed workers, particularly not towards enrolling workers of the informal sector. INSS considers this as administratively very costly and moreover the inclusion of more low-income members would lower the average contribution amount, which would affect the current benefit package expenditure structure. INSS therefore has no strong incentive to extend coverage to lower-income groups.

Third, both employers and employees have an incentive to not enroll in order to avoid paying contributions. This is heightened by weak rule enforcement characteristics, namely very low penalties of 3% of the amount due in case of an "enrolment mistake" by employers. Evasion is also enhanced by poor monitoring and enforcement practices.

Finally, the SHI membership rule only allows enrolment of family dependants below 12 years of age and pregnant spouses, limiting membership and population coverage. Dependants are not specifically registered, with the result that there are no precise figures available on the total number of beneficiaries covered. INSS officials estimate that each principal affiliate covers 2.7 family members on average. On this basis, the total population covered by SHI can be estimated at 18%. However, if all eligible employees and their eligible dependents were effectively enrolled under the current membership rule, coverage could reach at least 45% of the total population.

The SHI contribution rule prescribes a contribution rate of 8.5% of gross salary, with 6% paid by the employer, 2.25% by the employee, and 0.25% by the Government (INSS 2000). Contributions are thus designed to be proportional to ability to pay. The only exception to this is the regressive element of the contribution cap of monthly salaries at approximately US\$1,900. This only applies to a few employees, however.

A key challenge relating to effective SHI revenue collection is that existing SHI contribution rules are not properly put in practice. The Government has not paid its contributions to INSS over the past years (communication from key informants, cf. MOH 2006). This reduces SHI contribution revenues by 3% (authors' calculations, based on MOH 2006 data). Furthermore, some public employers are in arrears with their contribution payments. Lastly, employers have an incentive to understate employees' salaries and to evade paying contributions. Countering this requires monitoring by INSS and alignment with the Ministry of Finance database.

In early 2005, INSS amended the its membership rule, to enable the self-employed to join on a voluntary basis. According to the contribution rule, the self-employed have to pay the full rate of 8.25%, i.e. both the employer's and employee's share (INSS 2005). This contribution rate is unaffordable for many, and consequently, until 2007, only 28,000 self-employed have enrolled (communication from key informants).

In sum, SHI revenue is therefore well below what it could be. This is due to deficits in the organizational practices for SHI resource collection, and flaws in design and implementation of SHI membership rules that reduce enrolment.

Gaps in SHI resource collection, together with high tax evasions amount to a total estimated 29% of THE foregone in 2006 (authors' estimations based on MOH 2006 data). General government expenditure on health per capita could thus be considerably higher.

3.2. Pooling of funds

Fragmentation and segmentation in the health financing system

Nicaragua's SHI membership rules are in line with the principles of risk solidarity and income solidarity. They include specific elements of mandatory membership/enrolment and the no-opt-out option for high-income earners, as well as the SHI contribution rule of wage-related contributions. Such a rule design should, in theory, produce a balanced risk pool of members, i.e. a pool with both high and low incomes and with both high and low health risks. However, since the SHI membership rule excludes children above 12 years and spouses, unless pregnant, risk solidarity is reduced. Moreover, given the existing organizational practice in enrolment, as outlined above, the SHI pool comprises rather better-off groups, as revealed in Table 3, reducing income solidarity. This form of pool fragmentation leads to higher average SHI contribution amount and hence higher average health spending per SHI member. As a result, the MOH budget has to cater for financing and providing health care of the remaining majority of the usually poorer population as well as those who are eligible for SHI mandatory membership, but who have not enrolled - most of whom are likely to be lower-income employees.

The MOH and SHI health financing schemes operate separately, and since there are no specific fund pooling or risk equalization rules in place, the health financing system turns out to be highly segmented. This is reflected in very unequal average health care spending per capita across schemes (see Table 4). It is important to note that the members of any type of health insurance scheme also have access to the MOH facilities.

Table 4: Average health spending per capita by different health financing schemes in 2007

	Public Sector/- MOH	SHI	Private health insurance	Mutual health insurance
Average spending per capita	US\$38 * US\$45 **	US\$94 ***	US\$288 *****	US\$6 *****

* Denominator: total population, based on data of MOH (2007a).

** Denominator: 60% of population, based on data of MOH, excluding the insured and those not covered or without access to MOH facilities (MOH 2007c).

*** Calculations based on average annual salary per principal affiliate (INSS 2007); with 2.7 persons covered per principal affiliate.

***** Estimations for the per capita health spending in 2007 are calculated based on contribution payments.

Lower income groups have often higher health risks and more health care needs, as indicated by health status data and illness reporting rates (Rathe/Lora Bastidas 2003). Yet the lowest income quintile's rate of seeking care is 30% lower than that of the top quintile (ibid.). Thus, the imbalance of per capita health care spending between the tax-based financing of MOH health

care provision against the SHI and private health insurance schemes is assumed to be even greater when the different health risk profile and health care needs are taken into account.

The deficits in institutional design and organizational practice relating to the collection of prepaid resources, outlined in the previous section, combined with the lack of pooling and risk equalization rules, result in OOP expenditure being very high in Nicaragua: some 41% of total health expenditure. This low prepayment rate is to a large extent due to the need to buy and pay for medicines. These represent 62% of the out-of-pocket expenditure in the poorest quintile (Artana 2005).

The average out-of-pocket expenditure per insured individual is not known, and their specific level of financial risk protection is therefore difficult to determine. It is clear, however, that for the majority of the uninsured population, financial risk protection is even more limited. 5.8% of households experience catastrophic expenditure, which is high, also in regional comparison (cf. UN 2008), and which also points to financial accessibility barriers. Table 5 shows that households from the two lowest quintiles experience up to 1.5 times more often catastrophic expenditure than the top quintile. Yet, their OOP expenditure on health as a share of household expenditure is smaller than that of the richer quintiles, suggesting that many poorer households are not seeking care when they need it because they are deterred by OOPs.

Table 5: Household out-of-pocket expenditure

Expenditure quintiles	OOP expenditure as % of total household expenditure	% of households experiencing catastrophic expenditure
Total Population	5.5	5.8
5 th quintile	6.7	4.5
4 th quintile	6.1	5.0
3 rd quintile	5.4	6.2
2 nd quintile	4.8	6.8
1 st quintile	4.2	6.3

Sources: based on data of the Living Standard Measurement Survey 2001 (INEC/INIDE 2001)

Furthermore, the performance indicator of health financing equity is not achieved. This is because of the (slightly) regressive tax burden and SHI contributions. OOP expenditure is also a regressive form of health payment, but in the Nicaraguan case, the OOP expenditure actually restricts financial access for lower income groups. Moreover, horizontal inequities in health financing exist between enrolled members and those who have evaded SHI membership despite being eligible.

Aggravating segmentation: The existence of non-conductive cross-subsidization

Various forms of non-conductive cross-subsidization from Government and the MOH to the SHI scheme occur. First, under SHI contribution rules, the Government should subsidize the SHI by contributing 0.25% of an SHI member's salary, although these contributions have not actually been paid to the SHI scheme over the past few years. Yet, this rule aspect turns out as a form of "risk un-equalization" in practice, since it contributes to increasing the difference in per capita health spending between SHI members and the uninsured. Given that the majority of SHI members belongs to the upper income quintiles, it actually constitutes a government subsidy for

the better-off. Second, as explained in more detail in the next section, the SHI benefit package rule excludes certain high-cost interventions such as the treatment of chronic diseases. This means that the MOH funds also cater for high-cost interventions needed by insured people, along with any other health service sought by insured people at MOH facilities. Prior to the introduction of the free health care policy, the SHI member was identified as an insured when seeking care at a MOH facility, enabling the MOH to recuperate the costs from INSS. This is no longer the case, with the result that the amount of cross-subsidies increases again, if insured people opt to seek care at MOH facilities.

It is possible that this form of non-desired cross-subsidization is even further aggravated. Before 2007, MOH hospitals were remunerated for providing services to the insured on the basis of INSS purchasing and payment rules. These rules provided an incentive to MOH hospital managers to attract as many SHI members as possible in order to increase hospital revenues. Hospital managers did so by shifting and misusing MOH budget resources to attract the insured by providing better services to them (MOH 2007c). To stop this non-desired cross-subsidization, the free health care policy no longer allows MOH hospitals to provide remunerated services to the insured, except for specifically designated public hospital entities that are financially and managerially separate from MOH hospitals. However, this new institutional design may provide incentives for a new form of provider-induced cross-subsidization. Private providers may wish to reduce costs by taking advantage of the free health care policy and sending certain high-cost patients to MOH facilities. This may be facilitated by the fact that SHI members may not always be fully aware of what exactly is covered by the SHI benefit package. As a result, the previous problem of non-conducive cross-subsidization may continue to exist to some extent in another form.

3.3. Purchasing

Benefit packages with incomplete financial risk protection

According to the MOH benefit package rule (MOH 2005) and the new Family and Community Health Care Model launched in 2008, Nicaragua's MOH facilities are responsible for providing curative, preventive and promotive care at primary level. At secondary care level, all services are, in principle, covered by MOH, provided they are available, and subject to waiting lists.

The composition of the MOH benefit package meets efficiency and equity criteria, since essential, cost-effective services with public health externalities are included, focusing on family and community health. Often, however, medical supplies and other necessary inputs or diagnostic services are unavailable, forcing patients to purchase them outside MOH facilities. This can lead to high out-of-pocket expenditure. In practice, therefore the MOH benefit package only provides limited financial risk protection.

The SHI benefit package rule (INSS 2008a) consists of a list of services and medicines in relation to curative and rehabilitative care. The benefit package also comprises cash benefits in case of illness and for funeral services. Yet, as we have seen, the SHI benefit package does not cover high-cost interventions. The SHI package does not therefore provide full financial risk protection either. For high-cost interventions, the insured have to seek care at MOH facilities or visit private facilities, and they may also face out-of-pocket expenditures for medical supplies and diagnostic services. Furthermore, the SHI benefit package does not include health prevention and promotion, dental care, eye care nor eyeglasses. It has been a deliberate decision

that the SHI benefit package only includes curative and rehabilitative care, thus excluding cost-effective preventive and promotive health care interventions, which are provided by the MOH to the whole population.

Weak strategic purchasing and inadequate provider payment mechanisms

The free health care policy translates into a purchasing rule through which the MOH is the single payer and purchaser for MOH facilities. According to the existing MOH allocation rule, the MOH transfers funds to the 17 SILAIS and government hospitals based on line-item and historical budgeting. Yet, these allocations are not adjusted to health care needs nor to population structure and size. This results in a fragmented MOH pool. Per capita expenditure across the SILAIS is hence very unequal, ranging from US\$13.60 to US\$36.52 in 2007 (MOH 2007d). Moreover, given the low degree of financial decentralization at SILAIS level (cf. Arredondo *et al.* 2005), only 5% of the SILAIS budget is under the discretion of the SILAIS management according to key informants. In sum, these resource allocation and resource management rules fail to incorporate strategic purchasing principles and hence undermine efficient use of scarce resources.

The purchasing rule of INSS foresees a split between the purchaser and the providers, the latter being contracted as Medical Provider Companies (*Empresas Médicas Previsionales*, EMPs), and since 2007 called Health Service Provider Institutions (*Instituciones Proveedoras de Servicios de Salud*, IPSSs). While the INSS purchasing rule does not limit their number, only 49 IPSSs are currently contracted, most of which are urban-based (INSS 2008b), raising concerns of geographical accessibility. SHI principal affiliates have to register at their chosen IPSS, but given the low number of IPSSs, provider choice may be limited in more remote areas.

The SHI provider payment mechanism in place is based on a family capitation rate that caters for the principal affiliate and his/her dependents. In general, a capitation system shifts the expenditure uncertainty to the providers. The resulting incentive for a profit-maximizing provider is to register as many members as possible, whilst managing resources efficiently and ensuring that registered patients stay healthy to avoid the need to seek care (Carrin/Hanvoravongchai 2003). This may, however, simply lead to under-provision of services, e.g., reduced consultation time, provision of too few or low-quality drugs, or treatment of high-cost patients being rejected. Under-provision is even more likely in cases such as Nicaragua's when many SHI members are unaware which services exactly are covered. As the existing enrolment procedures do not capture the number of dependants covered via the principal affiliate, an IPSS does not precisely know how many persons in total it has to provide care for. The expenditure uncertainty of such a family capitation payment mechanism is thus even higher. Another resulting incentive of this is that providers may engage in "cream-skimming" affiliates, i.e. preferring single employees or older ones with children above 12 years of age, and rejecting or discarding others - practices that are notoriously difficult to observe or detect.

3.4. Summary of the health financing performance assessment

The actual achievement in the health financing performance indicators is summarized in Table 6 below, to be set against the indicative targets outlined in Table 1. As can be seen, targets are not reached, and in some indicators, performance is very weak.

Table 6: Actual achievement in health financing performance indicators (for 2006)

<p>1. Level of funding:</p> <p><i>Even though higher than the absolute minimum of US\$34, total health expenditure is still low with US\$76 p.c., or US\$251 PPP p.c. in comparison to US\$771 PPP across the region (WHO 2008b). Public spending as a ratio of GDP is low (27%). Government expenditure on health (including SHI) as a share of total health expenditure is also rather low, standing at 55%. Overall, resource mobilization is below its potential, with an estimated 29% of total health expenditure foregone due to tax evasions and SHI collection deficits.</i></p>
<p>2. Level of population coverage:</p> <p><i>Population coverage is far from universal, with only 18% of the population being covered by an appropriate social health protection mechanism (SHI), against 45% that could be covered if existing SHI membership rules were applied and implemented effectively. The majority of the population without SHI coverage is not sufficiently risk-protected.</i></p>
<p>3. Extent of financial risk protection:</p> <p><i>Only 58% of total health expenditure comes from prepaid contributions for health (e.g. taxes, health insurance contributions). Out-of-pocket expenditure as a share of total health expenditure is 41%. A high percentage of households experience catastrophic expenditure (5.8% in 2001), with lower income groups being more likely to do so.</i></p>
<p>4. Level of equity in health financing:</p> <p><i>Health financing payments (taxes and SHI) are regressive. Horizontal inequity exists between the enrolled and those who are eligible, but do not take up SHI membership.</i></p>
<p>5. Level of pooling:</p> <p><i>Per capita health spending is very unequal across pools - particularly when health risks are taken into account. SHI health expenditure per capita is nearly twice of MOH health spending for the uninsured. Per capita health care spending is also very unequal across the SILAIS.</i></p>
<p>6. Level of cost-effectiveness and equity in benefit package composition:</p> <p><i>The MOH benefit package meets equity and efficiency criteria; the SHI benefit package only partially meets these criteria.</i></p>
<p>7. Level of efficiency in benefit package delivery:</p> <p><i>The MOH resource allocation mechanism is not related to health care needs and thus does not result in efficient use of resources. The SHI provider payment mechanism sets incentives for under-provision and rejecting high-cost patients, thus also undermining efficient use of resources.</i></p>

4. Conclusions and policy recommendations

As the above analysis revealed, low attainment in the health financing performance indicators is caused by deficits in the institutional design and organizational practice of the health financing functions. As such, the health financing objectives of sufficient and sustainable resource mobilization, financial accessibility and optimal use of resources are not achieved either, making it difficult to move towards the policy goal of universal coverage.

However, changes in institutional design and organizational practice of health financing could improve the performance of the health financing system. The following suggestions are based on and take account of the existing health financing system and aim at moving towards universal coverage by expanding social health insurance coverage.

Increasing resource mobilization

Resource mobilization should be increased via prepayments according to ability-to-pay in order to reduce out-of-pocket expenditures and to provide an enlarged benefit package.

With respect to increasing government revenue, effective implementation and enforcement of taxation rules and foremost control of tax evasion are important. In addition, ear-marked taxes for health could be introduced, such as "sin taxes" on products (e.g., alcohol, tobacco) that are harmful to people's health (cf. Folland *et al.* 2004). To increase resource mobilization via SHI it will be necessary to expand SHI membership. The existing SHI membership rule therefore needs to be properly implemented. The short-term goal should be to enroll all workers employed in the formal sector. Those employed in the informal sector should be brought in over the medium term. By modifying some elements of the membership rule, formal sector employers and the self-employed, such as doctors and lawyers, could equally fall under mandatory membership in order to increase coverage. Family membership should extend to all spouses and children above 12 years. Moreover, monitoring and enforcement procedures relating to enrolment and collection of contributions need to be strengthened, and penalties for enrolment evasion or deflated contribution payments could be increased. Changing the contribution rule, by introducing a small increase in the contribution rate in order to finance an enlarged benefit package for the whole family could also be an option.

Eliminating segmentation of the health financing system

To reduce segmentation and the significant differences in per capita health spending between the MOH and SHI, certain aspects of the pooling rules and practices need to be addressed. The contribution rule element whereby government contributes 0.25% of salaries for every SHI member should be removed to stop "risk-unequalization". Furthermore, rather than overburdening the MOH facilities as a last resort where everybody can receive care, independent of one's insurance status, the INSS purchasing rule needs to be aligned with the free health care policy. In other words, MOH facilities should once again be remunerated by INSS for treating the insured. However, instead of simply going back to pre-2007 organizational practice, new and more effective monitoring and enforcement mechanisms will be required to avoid the old style of indirect and non-desired cross-subsidization from the MOH to the SHI scheme.

By expanding SHI membership, the segmented health financing system with separate pillars of tax-based financing via the MOH and the SHI scheme via INSS could be gradually overcome in the medium term. To enable low-income groups unable to pay SHI contributions, the government could subsidize their SHI contributions using parts of the MOH budget that will be relieved from providing services to the insured.

Strengthening strategic purchasing of the MOH and INSS

There is a need to revise the MOH's allocation rule regarding the SILAIS funds. Resource allocation could be based on explicit allocation criteria, such as SILAIS expenditure needs, population characteristics, epidemiological profile and district context factors. This would also result in more equal health spending per capita in relation to health risks across the 17 SILAIS. In addition, further promoting financial decentralization and enhancing hospital autonomy would lead to more efficient use of MOH resources. The introduction of quality-based purchasing mechanisms could equally promote efficiency in resource use.

The SHI provider network could be broadened to improve geographical accessibility. Adjusting the SHI provider payment rule, namely turning the family capitation rate into an individual-based capitation, would lower the expenditure uncertainty of providers and thus diminish the

incentive for under-provision and cream-skimming. Introducing copayment rules and well-determined, moderate copayment rates for the insured would also contribute to enhancing rational efficient use of resources.

These suggested changes in institutional design and organizational practice would create a new incentive environment. It is beyond the scope of this paper to elaborate further. Nevertheless, an important step of an institutional-organizational analysis is to comprehensively and systematically anticipate positive or negative (cross-)impacts of the proposed changes in order to achieve the intended health financing performance improvements. It would also be important to assess the political and technical feasibility of implementing these changes (cf. Mathauer *et al.* 2008, Mathauer 2009).

This paper demonstrates how the analysis of the institutional design and organizational practice of the three health financing functions reveals bottlenecks to health financing performance and how it can help identify the necessary and context-appropriate changes.

The institutional design and organizational practice of a health financing system can be actively shaped and developed by modifying legal and regulatory provisions and by strengthening organizational capacity and enforcement practices. Nicaragua's movement towards universal coverage is determined partly by its own history and the way its health financing system has developed to date, but above all by its ability to make appropriate institutional and organizational changes, by political commitment as well as social preferences relating to solidarity. Gaining public support and boosting the spirit of solidarity are tasks that lie ahead.

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