

# *District-based Health Insurance in sub-Saharan Africa*

Part I : From Theory to Practice

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## *1. Financing health care in sub-Saharan Africa*

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### *The historical background: from free health care to cost-recovery*

When African states gained their independence, free health care was a constitutional right and public health care systems were supposed to be entirely tax-financed. This rapidly proved an illusion. Economic growth was low and decreased to a level below 1% per year in the early seventies. In the meantime, the post-independence period was characterised by a rapid population growth. In 1973, the price of oil soared and the world economy slowed. As the demand for products from developing countries declined the prices for those products began to fall and tax and export revenues were reduced. Developing countries had to borrow on the international market just to make ends meet. This crisis had dramatic effects on the government budgets allocated to health. Planned investments for the extension of the rural health infrastructure were postponed or downgraded and funds for operating vertical programmes diminished. The impact of the world recession in the period 1979-1980 on African economies was even more spectacular. An increase in international aid was unavoidable if the ambitious goals formulated at the 1978 Alma Ata conference on Primary Health Care were to be achieved, whilst maintaining the political goal of free health care for all.

That increase in external aid did not materialise, and public health expenditure as a percentage of GNP decreased. The redistribution of resources to the primary health care sector, particularly in the rural areas, was jeopardised by a lack of resources. National health sector budgets — even when they managed to remain more or less stable — were, and still are, often tied by ‘incompressible’ expenses (mainly the payment of salaries) which strongly reduced the room for manoeuvre of ministries of health. The payment of health workers wages indeed often constituted more than  $\frac{3}{4}$  of the total health budgets (Van Lerberghe and Pangu 1988; Mach 1978).

Many governments only succeeded to pay salaries by contracting other expenses: drugs and other medical supplies, or maintenance costs of the hospital infrastructure. Eventually the result in many African countries was a public health service — free at the point of use — with poorly paid and poorly motivated staff... and with less and less equipment, supplies and tools. In the Democratic Republic of Congo (former Zaire) for instance, government subsidies virtually stopped in the half eighties. The last government funding for the Bwamanda hospital (a mission-owned district designated hospital) in the Northwest of the country dates from 1984; in 1985

the subsidies to the Kasongo district government health services in the eastern part of the country were reduced to one fifth of their 1981 level, i.e. from approximately U.S.\$0.5 to U.S.\$0.1 per inhabitant per year (Van Lerberghe 1993). The quality of so called 'free' public health services deteriorated (Hours 1985) and at the end of the day those services turned out very expensive for patients forced to purchase drugs in the private sector and come up with under-the-table fees for the staff.

The 'free care' increasingly became a myth. The myriad of small health projects that saw the light during the 1970's and 1980's helped common sense to prevail over ideological rhetoric. Partly as a reaction against the failure of government services to live up to the post-independence expectations, they were supported by bilateral and non-governmental aid-organisations (often church related institutions). Within these small-scale projects the potential of the local communities as an important resource (in the field of financing, but also in other fields) was gradually recognised and tapped, especially at the health centre and district hospital levels (Arnaud 1985). Local payment schemes, often managed on an informal basis, thrived in a context where free care at the point of utilisation was still, at least theoretically, a constitutional right. The need to link these *ad hoc* local arrangements with nationally valid financial rules and provisions was recognised by the World Health Organisation as early as 1978 (Mach 1978).

At the end of the eighties most governments openly shifted to more formal policies of direct 'out-of-pocket' payments\*. The exception gradually became the rule throughout sub-Saharan Africa. Today user fees — under different forms — have become a fact of life in many countries of the continent (Vandemoortele *et al.* 1997). These policies were legitimised by international organisations like UNICEF and the World Health Organisation, for instance in the frame of the Bamako Initiative launched in 1987†. Their

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\* This impetus for more private financial inputs in health care has always received strong support from powerful international organisations like the World Bank, with ideological agendas of policies aimed at increased roles for the private sector, limiting of state intervention and shifting more responsibilities to the individual (Laurell and Arellano 1996). Attempts to dramatically reallocate budgets within the health sector (for instance from central hospitals to rural districts) have remained, on the whole, relatively marginal: the case of Zimbabwe, at the beginning of the eighties, is one of the most noticeable exceptions (Segall 1983).

† One of the aspects brought up when the Bamako Initiative was launched in sub-Saharan Africa was the doubt surrounding the *cultural acceptability* of payments for health care. Money, however, is not a new phenomenon in Africa and paying for goods and services does not need to conflict with existing traditions. Anthropologists, like van der Geest for instance, have argued that money is an artifact which is culturally incorporated in African society (van der Geest 1992). Without ignoring

primary purpose was to complement declining government tax financed funding and to improve quality of care within the public health sector through an increased availability of essential inputs like drugs. In addition, the social and political objectives of community financing were acknowledged (Criel *et al.* 1996b): making people responsible for more rational health care utilisation and involving the population in the management of their health services. Community financing, under certain conditions, was seen as a potentially powerful instrument in the development of Primary Health Care.

### *What matters in choosing a mode of financing?*

The choice of mode of financing the health care system — be it tax financing or user fees — has so many implications, that one would think it would be the subject of major policy debates. Choices are indeed debated hotly, but often in an unsystematic and *ad hoc* way. In reality, pragmatism often guides these choices, much more than a thorough analysis of the pro's and con's of each financing modality. The issue is complex, the consequences uncertain, and, maybe most important, the criteria for choice and even the terminologies are ill-defined. This is also apparent from the rather limited literature on the subject.

Reviewing the literature<sup>3</sup> can be done in two ways: one can consider the way each author interprets various criteria — 'criterion by criterion' — , or, alternatively, analyse what criteria are proposed by each author — 'author by author' — . The 'author by author' approach has the advantage that the trends in thinking about criteria can be identified. This will allow us to construct a grid for the evaluation of health financing schemes that builds on the experiences and progress of the last decades.

One of the first papers to explicitly address the issue of financing the

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the potentially harmful effects in terms of equity, he states that it is unlikely that cultural objections to paying for health care exist.

<sup>3</sup> Three points deserve to be acknowledged. Firstly, the fact that an attempt was made to identify the most significant documented contributions on the issue. This literature review has not the ambition of being exhaustive *per se*. Secondly, the finding that most of the theoretical work done (or at the least published) in the field of criteria for the choice of financing systems in developing countries seems to be relatively recent, i.e. in the late eighties and early nineties. Thirdly, the fact that the researchers and/or institutions who have been working on this issue seem to constitute a relatively homogenous group, at least in sociological terms. Most of the authors listed are health economists or health planners working in academic institutions and/or international organisations like WHO or the World Bank.

health sector in developing countries was published in 1975 by the World Bank (World Bank 1975). It only implicitly refers to criteria for choosing financing systems. It focuses on allocative and technical *efficiency*. The accent is on rationalisation of use of government funds rather than on the mobilisation of additional funds. In its introduction the report states that “*governments need to curtail their expenditures on hospitals and highly trained personnel, and devote more resources to the staffing of low-level health services in areas with few facilities*”. Nevertheless, the system of pricing policies in the government health services is considered as critically important, not only for mobilising funds but also for resource allocation in the health sector. Pricing policy is advocated as an instrument to create (financial) incentives for patients to use first line health services rather than hospitals. Twelve years later the Bank becomes more specific (World Bank 1987): the main problems in the area of health financing are poor allocative and technical (or internal) *efficiency*, and a lack of *equity* in the distribution of benefits from health services. The 1987 report still stops short of presenting an overview of possible criteria for the choice of financing mechanisms, but it highlights — at least implicitly — the criteria withheld. Indeed, the report advocates the generalised introduction of ‘out-of-pocket’ payments precisely on the grounds that such a policy would favourably affect these problems. In addition, the introduction of new financing mechanisms — user fees and insurance contributions — is also an instrument to enhance the use of the non-government health sector (including the private-for-profit sector). The *promotion of the private health sector*, as such, can thus be considered as one of the implicit criteria for the World Bank. In its 1993 document *Better Health in Africa* the Bank strongly focuses on options for additional resource mobilisation (World Bank 1993a). The challenge is to raise more revenue for the health sector. The options are analysed along the lines of three concerns: *efficiency* (both allocative and technical), *equity* and *sustainability*. The document advocates the introduction of ‘out-of-pocket’ payments (user fees and insurance systems) as a means to rationalise health services’ utilisation and to raise additional revenue. Implicitly, the criteria *impact on health care utilisation* and *revenue-generating ability* are referred to. The limitations of the private market in health are increasingly recognised as the role of the State is re-assessed, and there is an increasing stress on the necessity of regulating the health care market and controlling costs (World Bank 1993b).

If the World Bank took the lead in addressing these issues, the World Health Organisation had its own contribution to the debate on financing health services in developing countries (World Health Organization 1978). As the World Bank, WHO does not — at least not explicitly — present

criteria for the choice and evaluation of financing systems, but highlights the problems in financing of health activities: the lack of funds, the geographical ill-distribution of health resources, the rise of health costs (especially in countries with social security systems), the lack of co-ordination between health financing sources, and the inefficiencies in spending. Criteria to which funding mechanisms should respond can be deduced from this problem identification\*: *revenue-generating ability*, *allocative* and *technical efficiency*, and *cost containment*. In 1991 WHO proposed a set of five criteria for shifts in financing mechanisms (World Health Organisation 1993). A first is the impact on the *level* and the *reliability of funding*; including displacement effects. The second criterion was *efficiency* which was further decomposed in technical, allocative and administrative efficiency. *Quality of care* was deemed an important criterion: some in the study group considered it as integral part of efficiency, whereas non-economists were more comfortable viewing quality as an independent criterion. *Equity* was considered in the double perspective of vertical and horizontal equity, even if these specific labels were not used. The issue of social and political acceptability of financing mechanisms, as well as its sustainability, was addressed under the criterion *viability*. Finally, the report considered the possible *impact on health status* of financing mechanisms, acknowledging that an evaluation in terms of health gains would remain a very difficult exercise indeed.

Partly spurred by the work of the World Bank and WHO, the academic world started to show an interest in the subject. In 1979, Zschock presented a detailed overview of possible criteria for the evaluation of financing methods (Zschock 1979): efficiency, equity, displacement effect and impact on health care. Zschock argues that *efficiency* probably is the most important objective criterion for evaluating a financing mechanism and presents a detailed account of the characteristics relevant to evaluate the efficiency of a source of finance. One of these is the difference between gross and net yield, i.e. yield after deducting the cost of administration. More important even than net yield may be the reliability, or stability, of a source in providing health care financing. Finally, freedom and flexibility in the management of the funds from a particular source also affect its efficiency. Zschock considers *equity* as the most important subjective, or value-based, criterion. He distinguishes two different rationales of equity. First, the concern that everyone should bear a proportional share of the total costs of health care. The sick who need costly care should not be 'penalised' for that

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\* It should be noted that the denomination of 'community financing' - which is dominating the current discussion of health financing in developing countries - was not (yet) part of the WHO vocabulary.

matter. Zschock calls this horizontal equity. Second, there is the issue of vertical equity which refers to the concern to distribute the burden of financial support in accordance with ability to pay, depending on income distribution and on the distribution of the burden of other financial expenses (like the indirect costs occurring in the utilisation of health services). New financing mechanisms may have an effect on existing ones: they may displace funds from other sources (*displacement effects*). Hence, the apparent contribution of new funds may thus be more (or less) than its real or net addition to total resources available. But as Zschock argues, displacement is not necessarily negative if the new source of funding is more efficient or more equitable than the one it partially or entirely displaces. The *impact on health care utilisation and on health care provision* are yet other criteria considered. The most obvious impact of financing mechanisms on health service utilisation would be an increase or decrease in utilisation rates. In addition the author acknowledges the possible impact of funding mechanisms on the provision of types of health care (preventive versus curative), levels of health care delivery (hospital-centred versus 'community-based' care), staff employed (doctors versus auxiliary staff), etc.

Van Balen & Mercenier build on experience gained in the late seventies in the Kasongo district in the Democratic Republic of Congo (former Zaire) when they discuss the criteria to be used in the choice of methods of self-financing (Van Balen and Mercenier 1991). They limit the discussion to the micro- and meso-level of the health system, i.e. the district health system. Self-financing is considered as complementary to other sources of funding. The range of criteria proposed focuses on expected *system effects* of self-financing (contribute to continuity of care), on its *social impact* (it should promote social solidarity — horizontal equity — , and should foster a sense of responsibility amongst health services' users), as well as its effect on the (financial) *viability* of the health services system.

Griffiths & Mills stress the importance of economic efficiency (Griffiths and Mills 1983). They distinguish *allocative efficiency* — raising funds and allocating resources between different diseases, patients, geographical areas and services so as to maximise the net benefit to society — ; and *operational efficiency* — devising financing and production mechanisms to yield the most cost-effective improvements in health status. They further stress a certain number of aspects linked to the raising of revenue and the distribution of expenditure: the performance of the financing mechanism in terms of *net revenue-generating ability*, its social and political *acceptability*, its *reliability* and *flexibility*, the occurrence of *displacement effects*, the *impact on health service utilisation and provision*, and finally the *effects on the economy* at



large.

Hoare & Mills discuss the factors that need to be addressed in planning the financing of the health sector in developing countries and present criteria that emerge as being of central importance in the evaluation of financing mechanisms (Hoare and Mills 1986). They have largely built on the work done by Zschock (Zschock 1979). *Efficiency* is considered in four ways. First, under the heading of economy where reference is made to the net yield of a source of finance. Second, under the heading actual versus hypothetical yields, where the authors refer to the fact that administrative corruption or evasion on the part of those liable to taxation or fees may reduce the actual yield below its hypothetical yield. Third, under the heading stability or reliability of financing sources, where it is argued that the isolation of financing methods from uncertainty or cyclical fluctuations are important considerations. And finally, under the heading of flexibility, referring to the freedom and flexibility in the management of the funds (i.e. the possibility to overcome excessively stringent reporting requirements and restrictions on the allocation of funds between expenditure categories causing inefficiencies in the delivery of services). *Equity* is considered along the lines of the now classical distinction between horizontal and vertical equity. The effects on respectively *supply and provision of services*, and on *displacement of funds* are discussed in terms similar to the ones used by Zschock (see above). The authors further consider the wider effects of a given health financing mechanism on the economy as a whole, like for instance the effect on economic activities of increasing public funding.

UNICEF joined the debate in the 1980s, in the wake of the Bamako Initiative. It focuses the discussion — almost exclusively — on the cost-sharing aspects of community financing initiatives (Parker and Knippenberg 1991; Stryckman 1996). For UNICEF, community cost-sharing strategy makes it possible not only to *increase resources* for the health services, but also to *responsibilise* and *empower* local communities through their involvement in the management of the funds generated. In addition, the expected *system effects* are discussed in a prominent manner: i.e. effects on accessibility and quality of services, but also promotion of efficiency in household expenditure and in health services utilisation patterns.

Green in his introduction to health planning in developing countries presents a comprehensive overview of criteria that could be used in the choice of a financing system (Green 1992). He starts with emphasising the basic requirement for any financing system to be made to work. He refers for instance to the difficulties related to the practical application of exemption procedures in the case of a number of user-charge systems. Careful

consideration of *technical feasibility* is therefore essential. A second criterion is the *revenue-generating ability*, i.e. the ability of a financing system actually to generate funds. He highlights the importance of the net revenue-earning ability, that is the difference between the total revenue generated and the cost of operating the system. The administration of user charges, for instance, may include the costs of billing, accounting, as well as the safe storage and collection of funds. Clerical staff may need to be hired for that purpose, printing costs may be incurred etc. This administration thus requires an opportunity cost to the health services, which is particularly relevant where charges are seen as nominal. A third criterion relates to the *effects on service-provision*. Financing systems may have (dis)incentive effects on the pattern of service-provision which make them, as a service, less (or more) cost-effective. These effects may occur through a change in both provider and user behaviour. Fourthly, the possible effects on *equity* are discussed within the perspective of vertical and horizontal equity. The fifth criterion proposed is the potential for *participation in decision-making*. Finally, the criterion *effect on multisectoralism* is discussed. By multisectoralism Green refers to the possibility for funds raised in the frame of health care, for instance through user fees, to be used for alternative health-promoting uses such as safe water supplies. Alternatively, tax-based systems which have no connection with the health care system itself would allow greater freedom for wider application and use.

Carrin & Vereecke focus on evaluation criteria (Carrin and Vereecke 1992). They refer to previous work done by Hoare & Mills (see above) but restrict their analysis to the 'internal' organisation of financing mechanisms, i.e. not considering criteria like displacement effects or wider effects of financing mechanisms on the health sector. They propose the following criteria: *economic efficiency* and *administrative efficiency* on the one hand, and *equity* on the other. The concept of economic efficiency is narrowly related to allocative efficiency. The authors also label it operational efficiency. Administrative efficiency refers to the level of flexibility and freedom in the management of the funds, the stability of the financing source, and the importance of administrative reporting requirements. The authors propose a practical and easily monitored definition of equity as equal utilisation of health care for patients with similar needs.

Hsiao presents five criteria for assessing financing methods (Hsiao 1992). The first is *equity* which he further splits in three sub-criteria: respectively equal access, assessment of contributions according to ability to pay (i.e. vertical equity), and risk pooling (i.e. horizontal equity). The second criterion, *efficiency*, is also divided into three parts: allocative efficiency,

administrative efficiency, and co-ordination of services. *Cost containment* is a third criterion: the author argues that some modalities of financing health care (like user fees or private insurance) are poorly effective in controlling cost escalation. Hsiao considers *consumer choice* as yet another criterion: he implicitly argues that the more the consumer can choose his provider, the better it is. Finally, the *potential for raising sustainable revenue* is the last criterion.

Barnum & Kutzin discuss three criteria for the evaluation of financing methods in the specific context of public hospitals in developing countries (Barnum and Kutzin 1993b). They are, respectively, *efficiency* (both allocative and technical), *equity* and *revenue collection*. The authors insist on the need for stability in revenue collection, as well as on the efficiency of revenue collection — i.e. the proportion of potential revenue that is actually collected.

In 1995, Berman & Chawla discuss five criteria for the evaluation of the resource mobilisation strategies — i.e. user fees and insurance (Berman and Chawla 1995). The capacity for (net) *revenue mobilisation* is a first one. *Efficiency*, with a particular emphasis on allocative efficiency is a second one. A third criterion relates to *quality of care* and *patient satisfaction*. A fourth one is the effect of resource mobilisation strategies on *public accountability* and *community participation*. The last criterion is *equity* (vertical and horizontal equity).

In a 1995 World Bank study Shaw & Griffin consider four criteria when analysing health care financing in sub-Saharan Africa through user fees and insurance (Shaw and Griffin 1995). The extent to which these financing strategies increase opportunities to complement inadequate and often fluctuating government revenues constitute a first criterion: i.e. *revenue-generating ability*. Secondly, *efficiency* is considered in the light of pricing services, i.e. possible effects of pricing policy on the reduction of excessive or unwarranted demand for a service and on the promotion of use of institutional health care at the lower levels of the system. *Equity* is considered in the perspective of vertical equity when user fees are discussed, and in the perspective of horizontal equity when insurance is discussed. A fourth criterion relates to the issue of *public-private sector collaboration*: the capacity to foster competition and to promote substitution of private for public providers of health care.

Roughly similar criteria are used by Nolan & Turbat in a World Bank document (Nolan and Turbat 1995), and by Creese & Kutzin in a World Health Organisation discussion paper (Creese and Kutzin 1995). These authors focus on the specific strategy of cost recovery in public health serv-

ices in sub-Saharan Africa. In both papers three criteria are proposed for the evaluation of these cost recovery experiences. Firstly, the capacity for cost recovery mechanisms to *generate resources*; secondly *efficiency* with a large focus on pricing systems as an instrument to rationalise health services' utilisation; and thirdly *equity* with a special emphasis on the impact of charges on accessibility to health services for the poor.

### *Between academic criteria and real life*

Which criteria seem to matter most? Figure 1 summarises them under five headings: net revenue generating ability, ease of use, system effects, equity and effects on community participation. The various sub-criteria used are indicated under the corresponding heading, with the list of authors who explicitly refer to them.

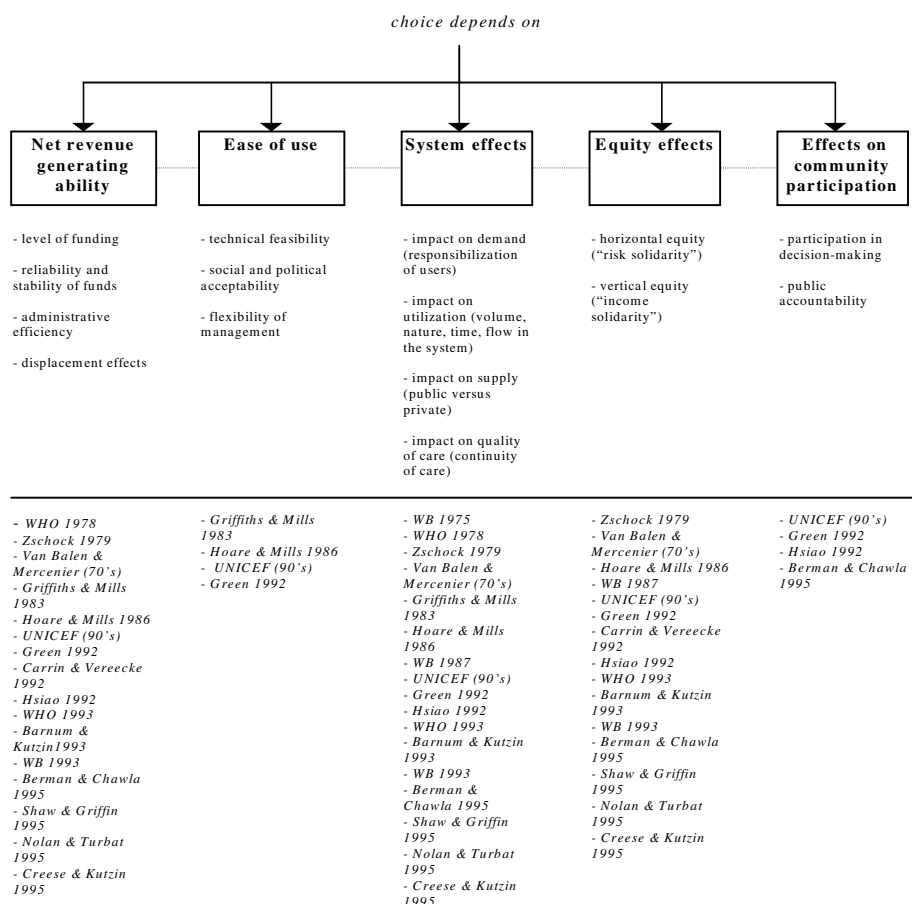
The literature shows a shift from the definition of criteria for the choice and evaluation of financing mechanisms *in general*, to the more narrow discussion of criteria for the evaluation of *one particular* mechanism of financing, i.e. cost-recovery schemes in the frame of 'out-of-pocket' payments. Also, there appears to be a hierarchy in the selection of criteria with a stronger focus by many on net revenue generating ability, systems effects and equity effects, while only few pay attention to ease of use and effects on community participation. This is probably not independent from the lack of explicit reference to an organisational model of health care delivery.

The varying emphasis clearly reflects underlying value judgements: for instance, the potential of financing mechanisms to promote the development of the private sector *per se*, or even its substitution to the public sector. Some of the criteria used to evaluate financing systems refer to potentially conflicting objectives these systems pursue: for instance, on the one hand the need to generate stable and reliable funds and on the other hand the concern for equity. Obviously, the criteria used are not neutral even if there is no explicit reference to a particular model and vision of society at large, and of health care organisation in particular.

It is interesting to confront this set of criteria with the 'real life' concerns of the officials in the various Ministry of Health officials. A recent overview of health financing reforms in Africa highlights that most governments instituted strategies of user fees as overall reforms of the financing of their health systems, without attempting to increase and/or reallocate government funding (Leighton 1995). The primary impetus has generally been the financing crisis, not the recognition of the failure of governments to deliver quality care. Health care reform has often been equated with financial reform, and financial reform with user fees (Criel *et al.* 1996b). The result has been that the issue of financing has been reduced to the 'net

revenue generating ability' of user fees. Governments were concerned these might not raise sufficient revenue to justify implementation costs. WHO argued that the objectives of equity, and, to a lesser extent, efficiency, have received lower priority in financing reforms than the aim of increasing revenues (Kutzin 1995). When we attempt to fit these concerns in the framework for choice and evaluation of financing systems presented above, it appears that the focus of government officials is on net revenue generating ability. System and equity effects do not get the same attention, although many expressed the concern that user fees may create substantial barriers to utilisation of health services.

Figure 1: Criteria for the choice and evaluation of financing systems



## A district health system perspective

The evolution from tax financed health care, free at the point of use, to a mix of financing modalities with an increasing share of user fees, took place in a context where the health care district gradually gained credibility and

expertise as the key organisational strategy for Africa's health care system. District health care has become a dominant paradigm in today's health care organisation in developing countries (Mills *et al.* 1990; World Bank 1993a; World Health Organization 1988). According to the 1987 Harare declaration: "a district health system is taken to mean a more or less self-contained segment of the national health system which comprises a well-defined population living within a clearly defined administrative and geographical area, either rural or urban, and all institutions and sectors whose activities contribute to improved health" (World Health Organization 1988).

In this section, focus is on the perspective of the District Health System (DHS) and the concerns of the District Management Team (DMT) heading this system. This focus can not be conceived in a vacuum. The criteria used by the DMT are guided by both pragmatism and a set of value loaded issues. The main features of this model of health care delivery are presented in Box 1. The criteria used by the DMT are not contradicting the earlier established grid, but completes it.

These premises can be operationalised through the development of *integrated* (district) health systems. The features of integrated health systems have been described in great detail in the past (Mercenier *et al.* 1986; Van Lerberghe and Lafort 1990; Pangu 1988; Kasongo Project Team 1982; Unger 1991; Unger and Criel 1995; Criel 1995a). In essence, the system should contain no functional gaps, it should avoid functional overlapping amongst its different constitutive levels, and patients should be taken care of at the level best fit to manage their problems. Inherent in these criteria is the need for a specific and complementary role between the various levels of care in the health system including the care provided by the community itself (self-care, traditional care).

Important consequences of opting for integrated district health systems are the choice for a social, or public, finality of its health care production; the principle of subsidiarity between self care, first contact level care, and hospital care; and the need to adapt the financing set-up to the district organisation.

Box 1: *The rationale for the organisation of health care delivery in a district format*

The health care delivery system should be effective and offer scientifically sound and socially acceptable solutions for the individual and social suffering caused by health problems. The solutions provided should be such that loss of individual and collective autonomy is minimised and that excessive dependency from institutionalised solutions is avoided. The skill and self-confidence of individuals and communities in the care of health problems should be valued and strengthened. Resources should be used in an efficient way and their level should be in harmony with overall socio-economic development. Health care indeed is only a relative priority to people and health services offer only a relative contribution, albeit an important one, to the ultimate objective of suffering relief and improvement of health status. Health care delivery should promote individual and collective responsabilisation and develop participatory decision-making on the basis of technically correct and understandable information. The system should be equitable and thus positively discriminate disadvantaged population groups and reduce as much as possible their exclusion to health care.

THE GOAL IS A SERVICE TO THE PUBLIC

In a district based health care perspective one does not consider the development of the private (or public) sector *per se* as a relevant criterion for the choice and evaluation of financing mechanisms. What is relevant however, is that health services pursue a public purpose or finality, *whatever their administrative identity or tutelage*, i.e. irrespective of whether their ownership is public (the case of government facilities) or private (the case of non-governmental facilities), and whether providers are civil servants, employees or private entrepreneurs. The nature of the output is what is of relevance, more than the administrative status of the operators. The set of five criteria proposed in Box 2 helps to assess the 'public' finality of a health care institution (Giusti *et al.* 1997). *A priori*, one would want a financing mechanism to fit in with those criteria.

OPTIMISE RATHER THAN MAXIMISE

Increasing utilisation of institutional health care is not a goal *per se*. It is relevant only for those health problems which cannot find an adequate solution within the realm of self-care, but where either health centre or hospital can offer a solution. Utilisation of health care services is a cost, for



both health services and patients, and should be optimised rather than maximised. When we look at the relation between financing and utilisation of health care, what matters is *utilisation of institutional health care which is complementary to self-care, and which takes place at the adequate level of the district health services system, at the appropriate time, for those patients who need it*. We have to qualify the notion of utilisation with the adjectives 'appropriate' and 'useful'.

*Box 2: Criteria for the definition of a public finality of health services*

- ✓ A social perspective: a concern to enhance people's well being and autonomy in a perspective of human promotion. In the case of health services this more specifically means contributing to people's realisation of a socially productive life, in a climate of dialogue between all implicated partners and in harmony with the prevailing overall socio-economic development.
- ✓ Non discrimination: a concern to offer people accessible and quality health care without discrimination whatsoever with regard to race, sex, religion, political affiliation, social status, income level etc. This is not in contradiction with a positive discrimination of specified population groups in particular need of health care (e.g. women, children, handicapped or blind people, etc), or with a focus on specific health problems in the frame of vertically organised health programmes (e.g. Trypanosomiasis control programme, Family Planning services, etc).
- ✓ Population-based: a concern to take responsibility for, and to be accountable to, a well-defined population for its health care delivery. This accountability could be based on a contract with the population, specifying the mission statement of the service or institution.
- ✓ Government policy guided: a concern to comply with government health policies for the level of care provided and to fit in a broader master-plan. Should any different views arise with regard to official policy, then it is necessary that they be argued, discussed and, when possible, formalised in official agreements between the health institution and the national health authorities.
- ✓ Non lucrative goals: a concern not to reduce the purpose of the service to profit making. This does of course not mean that good working and living conditions would not be a right for staff, nor that the service must be run at a loss. On the contrary, it is desirable that any service be self-sustained (this is not always possible; it is even virtually impossible in the case of district hospitals) and that its staff can work in acceptable conditions. The social objective of health care delivery should however not be sacrificed for purposes of profit:

hence fund raising should be optimised rather than maximised.

SOURCE: Giusti, Criel & de Béthune, 1997

This discussion on appropriateness of institutional health care use implies that out of a concern of efficiency, levels of priority can be, and need to be, introduced in the range of problems for which utilisation takes place. A first distinction can be made, in a given context, between justified utilisation and unjustified utilisation. A second distinction can then be made in the larger body of justified care: high priority justified health services utilisation on the one hand, and low priority justified health services utilisation on the other. That such distinctions are more than academic is illustrated by the payment set-up in the Kasongo district in Zaire (Box 3).

*Box 3: Paying for hospital care in Kasongo: Who pays? Why? And how much?*

In practice, two distinctions were made. The first was between users 'within' the (district) system, and users 'outside' of the (district) system. The following patient categories were considered as 'within' the system.

- ✓ Individuals who lived within the defined geographical area of the district, and where a health centre was operating; those who had been referred to the hospital by their health centre;
- ✓ Individuals who lived in areas located within the boundaries of the district, but where no health centre had yet been set up, and who then used the first-line service on the compound of the hospital (usually a clinic held by a nurse);
- ✓ Individuals of any of the previous groups who presented with an emergency who came straight to the hospital, even if they had bypassed their health centre.

The following patient categories were considered as 'outside' of the system:

- ✓ Individuals from other districts, those who did not belong to the well-defined communities living within the district boundaries;
- ✓ Individuals from the district who did not follow the adequate path within the health system, such as patients who came straight to the hospital (except emergencies) when there was a health centre operating within their community.

A second distinction was made between justified care on the one hand (qualified as 'need'), and unjustified care — or justified care which could not be provided within the limits of the available resources (both qualified as 'demand') on the other. Former ('need') patients were favourably assessed in terms of fees, so as not to hinder continuity of care.

JUSTIFIED HIGH	JUSTIFIED LOW	UNJUSTIFIED
PRIORITY CARE	PRIORITY CARE	CARE

'WITHIN' THE SYSTEM	highly subsidised care: no fees	partly subsidised care	charges beyond real cost
'OUTSIDE' THE SYSTEM	full cost of care	full cost of care	charges beyond real cost

The following two examples illustrate this distinction. A caesarean section was considered as a need, the request of a private hospital room as a demand. A strangulated hernia was considered as need and a non-complicated inguinal hernia as demand. The former example is clear-cut, while the latter is not. In fact, the surgical care of a simple non-complicated hernia is justified *in se*, but out of efficiency considerations it is necessary to set priorities within the body of justified care. The volume of work foreseen for the doctors did not allow equal commitment for all the justified care. The opportunity cost of performing surgery on all the hernias would become too high. The decision to consider a given health problem under the heading 'demand' or 'need' needs to be made after taking in consideration the local circumstances. Such a decision would include an assessment of the severity of the problem, its frequency, and the level of resources available. The categorisation of health problems in either group must be subject to regular review. In Kasongo for example, a removal of a benign tumour (such as a lipoma) was considered as priority justified care. This changed in 1987, when decreased external funding made it necessary to downgrade it to non-priority justified care. Hence, the distinctions made were the result of a flexible answer to a changing situation requiring new choices and the definition of new priorities. It is not possible, given the scarcity of the resources available, to do everything for everyone under the same conditions. The ethical concern behind such a policy is the concern to maintain a sustainable health service system for the people for whom the system has taken an explicit responsibility.

SOURCE: Criel and Van Balen, 1993

#### CHOICES ARE DIFFERENT FOR HEALTH CENTRES AND HOSPITALS

Funding through direct household expenditure should preferably be targeted to the least complex operational levels of the health care system: e.g. the first line health services, and to a lesser extent the district hospital. Why? It is indeed at these levels that individual patients and communities are in the best position to understand what use is made of their moneys. If financing systems are to contribute to the development of participatory management of health services, then people need to be involved in the decision-making process on the allocation and management of the financial resources that are made available. Community financing schemes should not be a mere instrument for generating additional resources but also serve

more social and political objectives, regardless of other financing mechanisms: making people responsible for more rational health care utilisation and involving the population in the management of their health services (Criel *et al.* 1996b). It should however be emphasised that community financing is by no means a sufficient means for triggering or sustaining the dynamics of community emancipation. Funding of the first line health services through community financing mechanisms has the advantage that the interface between the community and the health service will not lose its dynamism and credibility if external inputs are discontinued (Van Balen 1989). The corollary of this principle is that external funding should preferably be directed to the more complex elements of the system (Van Balen 1989; Chabot *et al.* 1995).

Within in a given country, the mix of financing mechanisms may need to differ among areas. For instance, poor areas may receive larger parts of public funds, thereby decreasing the need for additional private funding, for instance through direct household contributions. This correction of structural inequalities is usually called a system of *perequation*. Perequation implies explicit planning decisions at the various decision-making levels of the health system. This in turn raises the issue of the limits of decentralisation policies (Collins and Green 1994; Gilson 1989): full-blooded decentralisation of revenue generation is likely to run counter to the principle of equity.

#### A DISTRICT MANAGER'S WISHING LIST

What then are the elements a District Health Manager looks for? From the perspective of District Health Systems in the developing world in general, and in sub-Saharan Africa in particular, what are the desired and undesired effects of financing systems?

Problems are abundant and resources are scarce. The district health system manager needs to put the delivery of care in a wider perspective of individual and collective development. Health care constitutes an important, but relative, contribution to this process to the extent that it promotes health status through the delivery of effective care. At the same time, the health care system should minimise people's dependency on institutionalised solutions and involve them in the decision-making process. Financing can be an important instrument in this development process to the extent that the district manager's wishing list takes into account both technical/managerial and ethical considerations.

The 1980's have been referred to as "*the era of health care financing*" (Mills 1997b). The health care financing crisis is now widely recognised. African patients increasingly contribute to the funding of the health system

through direct contributions at the point of use. This has been a matter of pragmatic decisions more than of well thought out strategies. In practice one particular option has thus been privileged among the various possible financing mechanisms. The next chapter positions these *de facto* choices in an overall framework of options for financing the health sector.

Table 1. District management expectations with regard to financing mechanisms

<i>Obtain</i>	<i>Avoid</i>
A level of financial resources sufficient for an effective and sustainable functioning of the District Health System (DHS), compatible with the resources available to other social sectors	Dependency of funding on circumstantial factors, complex and costly managerial procedures, an attitude where profit is maximised, and the creation of an effective health system in a surrounding 'ocean of misery'
Improve the quality and cost-effectiveness of the care offered within the institutional structures of the DHS	Offer of poorly rationalised care due to an indiscriminate response to people's demand and/or to supply induced irrational demand, with in both cases explosion of costs
Improve access to and utilisation of institutional health care, for those who need it, at the adequate level of the DHS, at the appropriate time of the evolution of the health problem	Poor efficiency in the pattern of health services utilisation leading to a waste of meagre resources, to care of limited effectiveness, and to an undermining of the specificity and complementarity of the different tiers in the DHS
Promote individual and collective autonomy and a responsible patient behaviour towards utilisation of health care	Individual and collective dependency from the DHS for excessively medicalised management of health problems
Promote the level of equity within the DHS	Financial transfers from poor to better-off population groups, with the burden of health care costs not distributed in accordance with ability to pay
Promote informed decision-making by the population in the process of organisation and management of health services, in a perspective of dialogue and on the basis of technically correct and understandable information	Reduce participatory decision-making to mere accounting matters
Strengthen the level of integration of the DHS	Undermine the acceptability and credibility of a two tier DHS through the over-development of one tier in the system

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## 2. Sources of funding of health care

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This chapter presents an inventory of the different sources of funding of the health sector. Health care systems rarely rely on one single source of finance, and certainly not in developing countries (Bennett 1991). A variety of sources of finance\* increases a country's resources for health care; it also makes the pursuit of efficiency and equity more difficult because of duplication and overlap in function and coverage (World Health Organisation 1993; Mach 1978). The mosaic of financing sources implies that governments in most developing countries are working in a complex policy environment requiring more and more concerted action.

### *Where does the money come from?*

Conventionally, one makes a distinction (Abel-Smith 1986) between public and quasi-public sources of funds and private sources of funds (Table 2).

Table 2: Sources of funds for health care providers

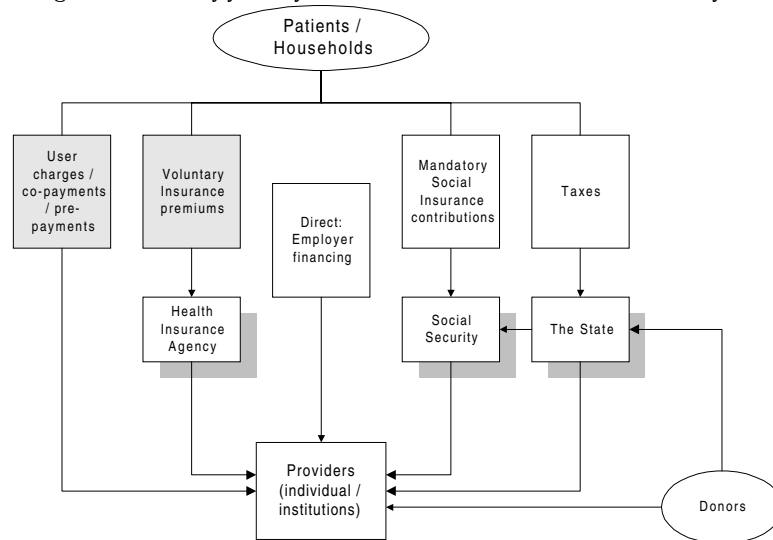
Public and quasi-public sources
General tax revenues:
Collection by national financial authorities
Collection by local governments
Social insurance (earmarked contributions)
Deficit financing (loans):
Domestic
Bilateral/multilateral aid
External funding (grants) & 'charitable' contributions
PRIVATE SOURCES
Direct employer financing
Household contributions to private health insurance
Direct household contributions through: user charges or prepayment of premiums for local insurance schemes

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\* It is important to distinguish between *financing* and *provision* of services. Health services may be publicly financed yet privately provided, or vice-versa; for instance the strategy of *contracting out* is increasingly advocated (Bennett 1991; Mills *et al.* 1997c). Financing and provision interact; policies and strategies where private provision is promoted are more likely to increase private financing (World Health Organisation 1993).

This is somewhat artificial because, ultimately, the households remain the main source of funding (Figure 2). In industrialised countries, the bulk of funding takes place either through taxes or through social security contributions. In developing countries, financing through social security is marginal. In both situations direct household contributions through user fees and premiums for privately organised insurance schemes exist, but they are more important in the case of developing countries. External funding of the health system, through donors, also constitute an important source of funds in developing countries. These different sources of funding will be discussed in more detail.

Figure 2. Flow of funds for the health sector in sub-Saharan Africa



NOTE: adapted from de Ferranti, 1984

### Taxes and social security contributions

Households contribute through taxes and through earmarked (mandatory) contributions for the financing of social security in general, and social insurance in particular. In most social insurance systems of Western Europe, intermediate institutions\* are often given the formal responsibility by the

\* In Belgium, these institutions are called *sickness funds* or *mutualities* (Nonneman and Van Doorslaer 1994). They receive an allocation covering their administrative costs which is function of the number of people that are affiliated to the sickness



government to manage the funds. This situation is commonly referred to as the *Bismarck* model of social security (as is the case in Germany, France and Belgium). Additional funding coming from general tax revenue may complement these resources. A situation where general taxes, under the sole management of the government, directly finance providers and health care institutions is referred to as the *Beveridge* model, as is the case of the National Health Service in the United Kingdom (Sigerist 1943).

Several countries in sub-Saharan Africa are studying plans to establish compulsory health insurance-based on the payment of earmarked contributions (Abel-Smith 1992a; Bachmann 1994; World Bank 1987; Ron 1993a; Abel-Smith and Rawal 1994). But its importance in Africa remains marginal. Where they exist, they benefit only to a small percentage of the population\* (Berman and Chawla 1995; Gruat 1990; Vogel 1990). Generally, administrative costs are high (World Bank 1993a). In most African countries, tax collection constitutes the bulk of public revenue. General tax revenue also is the single most important source of health care financing in most cases (Sorkin 1986). The 'tax ratio' — the proportion of national income collected through taxes — is much lower in Africa than in the rest of the world. Many governments in Africa cannot really expect, on the short and middle term, to raise much more revenue from taxes than they are doing now already (Berman and Chawla 1995; Sorkin 1986). Their fiscal capacity is undermined by a series of factors like limited administrative capacity, poor economic performance, rapid population growth, etc. Tax revenues are not necessarily the most reliable source of funding because of the uncertain relationship between budgeted funds and their actual availability and disbursement.

The multitude of taxes levied by central government can be conveniently regrouped under two headings. On the one hand, there are the *direct* taxes: i.e. taxes levied on income, land property, business profits and licences. On the other hand, there are *indirect* taxes, which can be split into *internal* indirect taxes and *external* indirect taxes. The former are constituted basically by value-added taxes (for instance, VAT levied on tobacco and alcohol) and the latter by taxes on foreign trade under the form of import and export duties. Theoretically, direct taxes constitute the major instrument for a progressive way of collection of taxes. Despite the huge heterogeneity of the economies in sub-Saharan Africa, most of the fiscal sys-

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fund. These funds may own and run themselves a network of health care facilities.

\* For example, the *Caisse Nationale de Sécurité Sociale* (CNSS) in Guinea-Conakry, created in 1957, currently covers 45,000 households in a country of 10 million inhabitants (Tchicaya 1997).

tems in place are based on taxes levied on foreign trade (Green 1992). In sub-Saharan Africa the bulk of tax revenue comes from external indirect taxes (Liman-Tingui 1994). The relative importance of direct taxes as a source of total public revenue in sub-Saharan Africa decreased from 26.6% in the period 1980-1982 to 24.5% in the period 1986-1987. Hence, tax systems seem to favour instruments of collection that are regressive by nature\*.

The collection of tax revenue by local governments is generally of marginal importance. It is most often raised through indirect taxes, local business taxes, and household income taxes and has, theoretically, the advantage that it can be more easily 'earmarked'<sup>†</sup>. In the context of decentralisation policies, there may be a scope for greater resource mobilisation through local governments. Precise data for sub-Saharan Africa are lacking, but studies carried out in Latin America and Asia indicated that local governments collect as little as 40-60 per cent of the revenues actually owed to them (Rondinelli *et al.* 1989).

General tax revenue can be augmented through borrowing, both domestically and internationally. Such borrowing is usually referred to as *deficit financing*. Repayments will have to be made from future general tax revenues. The net yield is influenced by the amount of interest that has to be paid on out-standing loans. Domestic deficit financing is limited in low-income countries where savings rates are low; deficit financing then depends on foreign loans (World Bank, African Development Bank, etc.). Sometimes conditionalities exist on the use and the destination of these loans (e.g. purchases of relatively high-cost — and not necessarily appropriate — goods to be made in the lending country). The interests of aid loans generally is lower than for equivalent commercial loans: for instance, World Bank (soft) loans are easier to repay because of lower interest charges and of more flexible repayment periods (Green 1992). It is clear that excessive deficit financing has contributed to the debt burden African countries face today (Kanji *et al.* 1991).

Central government health expenditure per capita in Africa in the second half of the 1980's varied between U.S.\$1 and U.S.\$20 (World Bank 1993a). As a percentage of total government expenditure, it varies between

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\* A recent country report of Uganda (The Economist Intelligence Unit 1997) mentions that a 17% value-added tax introduced in 1996 in Uganda increased the prices of basic consumer goods while the Uganda Revenue Authority (URA) faced considerable difficulties in collecting income tax from members of parliament.

<sup>†</sup> For example in Mali, a fixed percentage of local taxes have to be earmarked for local health care if the district is to benefit from health development support.

6 and 7 percent in SADC countries ('high' health expenditure countries) to less than 3 percent in most central and West African countries ('medium' and 'low' health expenditure countries). In the latter group, the health share in central government expenditure actually fell during the 1980s. Structural adjustment policies are not significantly correlated\* with government expenditures on health as a share of total government expenditures, or government expenditures as a share of Gross Domestic Product.

### *Donor funding*

External aid organisations may fund the State directly or may support specific health care institutions. External funding, through grant aid rather than through loans, can be considered as a quasi-public source of financing of health care to the extent that the amount and allocation of the funds are decided in common agreement between government and donors. These donors principally consist of multilateral and bilateral agencies, and to a lesser extent, non-governmental aid organisations†. The contributions can be in the form of financial support, or they may largely consist of in-kind donations of personal services (technical assistance), physical facilities, equipment, supplies, etc. An important liability of this source of funding is that the donors may have priorities that do not coincide with the most pressing needs of the population. Grants may also be 'tied' in different ways (Green 1992).

External financial assistance for the health sector is substantial in Africa. A survey carried out in 60 NGO district hospitals in sub-Saharan Africa in 1988 indicated that about a third of the funding originated from external sources (Van Lerberghe *et al.* 1992). Macro-economic data indicate that between 1981 and 1986, external aid for health averaged more than

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\* Several features of structural adjustment programmes nevertheless have a negative impact on the functioning of health services: for instance, devaluation of local currency make imports much more expensive: "not only the importation of spares for the ministerial Mercedes Benz but also essential drugs, other medical supplies and the motor fuel needed for vaccination campaigns and AIDS prevention work have become more expensive" *The Lancet* (Editorial 1994).

† 'Charitable' contributions are yet another source of external funding, even if decisions concerning the origin and allocation of these funds are (often) beyond any control of a formal government body. This funding is often not properly accounted for and thus difficult to quantify. Church-related institutions are basically concerned by this type of private funding (donations in kind or in cash). The current debate on private/public collaboration may increase the demands from these 'private' structures to benefit (more) from public funding (Giusti *et al.* 1997). Until recently the development of government support to non-for-profit organisations seems to have been very *ad hoc*.

U.S.\$1.50 per capita, equivalent to more than 20 percent of average central government expenditures on health (World Bank 1993a; Michaud and Murray 1994). By 1990 aid climbed to about U.S.\$2.50 per capita, even if wide variations among countries exist. At the end of the eighties, the relative share of external funding was respectively 62% by bilateral organisations, 32% by multilateral organisations, and 6% by non-governmental organisations (World Bank 1993a).

The *strategic* importance of external financial assistance should not be underestimated. Government funding often is limited to 'incompressible' expenditures, like the payment of (often grossly insufficient) salaries of health workers. Hence, little room for manoeuvre is left to invest in the actual development of health care delivery systems. The priorities that are imbedded in the external finance have often driven the selection of health strategies in Africa and therefore constitute an important leverage on the design of health policies (Van Lerberghe 1993). An example is the push for universal childhood immunisation between 1985 and 1990, which was largely financed by external funds (mainly UNICEF, Italy and WHO) (World Bank 1993a). Another example is the case of Zaire: national expenditure for health care dropped from U.S.\$3/inhabitant/year in 1978 to less than U.S.\$1 at the end of the eighties (Noterman *et al.* 1995). Zaire nevertheless maintained an acceptable level of functioning of basic health services on a large part of its huge territory, with the help of external funds. In the Kasongo district in the eastern part of the country, a model district health services system was developed — and contributed to shape national health policy — in a context where approximately 70% of the health expenditure was financed by external sources (Pangu 1988). Overall donor money has been meeting an increasing share of public recurrent expenditure for health care (in the eighties, 13% of international aid was directed to operating costs (World Bank 1993a)), increasing its strategic leverage.

#### *Direct employer financing*

In certain economic sectors (e.g. mining, railway, industrial agriculture), employers may directly fund health care for their employees. This system constitutes an important fringe benefit for the employees in countries without national social security systems. Its main rationale is to maintain the productive capacity of the work force, but coverage is often extended to include the employee's dependants. Care may be provided — generally free at the point of use — either in publicly or privately owned health facilities, or in facilities owned by the employer organisation itself. In the case of Zaire employer funding has always been mandatory (Box 4).

Box 4: Sources of private funding for health care in Kasongo, DR Congo

In the Kasongo district in the eastern part of the country employer financing constituted almost one third of the total amount of private funding raised in the district health services system. The contracting health care institutions (health centres and hospitals) were paid a capitation fee on a prospective basis. The relative importance of this source of funding was substantial at the level of the district hospital where it accounted for approximately 60% of private revenue. This proportion was only 13% at the level of the first line.

	1986	1987	1989
First line health services :			
1. Direct user payments for health care (%)	1,851,835 (88%)	3,428,686 (86%)	10,860,539 (87%)
2. <b>Employer organised insurance schemes (%)</b>	254,935 <b>(12%)</b>	554,790 <b>(14%)</b>	1,605,040 <b>(13%)</b>
Subtotal in Zaire	2,106,770	3,983,476	12,465,579
In U.S.\$	35,113	36,213	35,616
Referral level :			
1. Direct user payments for health care (%)	584,420 (44%)	844,054 (33%)	3,442,288 (42%)
2. <b>Employer organised insurance schemes (%)</b>	729,345 <b>(56%)</b>	1,717,601 <b>(67%)</b>	4,667,122 <b>(58%)</b>
Subtotal in Zaire	1,313,765	2,561,655	8,109,410
In U.S.\$	21,896	23,288	23,170
Total in Zaire	3,420,535	6,545,131	20,574,890
In U.S.\$	57,009	59,501	58,786

NOTE: The average exchange rate Zaire per U.S.\$ was 60 in 1986, 110 in 1987 and 350 in 1989. SOURCE: Criel and Van Balen, 1993.

*Funding through voluntary payments of insurance premiums*

These premiums are paid to an intermediate institution (i.e. an *indirect* pattern of insurance) or directly to the provider (i.e. a *direct* pattern of insurance) (Kutzin and Barnum, 1992; Roemer, 1971). In the latter case, the health care institution is at the same time the insurance institution. This pattern is found in the *Health Maintenance Organisation* (or HMO) model, a frequent arrangement in the USA, and timidly promoted in Africa from the 1990's onwards\*. In the case of non-for-profit insurance institutions the

\* A HMO is basically characterised by the following features: a contractual responsibility to provide a stated range of health services; the provision of services to a defined population; the voluntary enrolment of subscribers; a fixed and periodic payment by enrollees; and an assumption of financial risk in the provision of services (Luft 1991; Luft 1981). Experience with HMOs in Latin-American and Asian middle- and low-income countries is still scanty; it is virtually non existing in sub-

premiums generally are community-rated, i.e. independent from age, sex, health risk, occupation, etc. (Mills 1983). Local health insurance systems — with local premium collection and use, and managed by a private non-for-profit body — are increasingly being experimented with in sub-Saharan Africa (Brouillet *et al.* 1997).

In the case of private-for-profit insurance these premiums are generally actuarially rated or risk rated, i.e. they are function of the individual risk status. The premiums are often so high that only a small segment of the population can afford to pay them. The intermediate institution is then an insurance company. The market share of private for profit health insurance is extremely small in sub-Saharan Africa. At most it covers part of the upper-income classes (Vogel 1990).

#### *Funding through user fees, co-payments and prepayments*

User fees (or user charges) are paid, at the time of use, to the provider who retains them partially or totally. In that case they constitute at the same time her/his remuneration. These fees can be mere nominal amounts intended principally to deter unnecessary utilisation of services by households, or they can be more substantial, up to complete cost-recovery. The fees can take different forms: they can take place on a fee-for-service basis, they can be organised under the form of a lump sum payment\*, or they can take place under the form of intermediate payment modalities.

User fees can also be constituted by the personal *co-payment* to be paid by the user in case of insurance-based financing systems. The rationale for these co-payments may be either to act as a 'deterrent' to frivolous utilisation, or as a means to raise immediately available revenue, or both (Mills 1983).

Individuals may also contribute through *prepayment* schemes. They exist in two forms (Shepard *et al.* 1990; Galland *et al.* 1997). First, a prepayment for services where the cost and the frequency of consumption can be, more or less, anticipated beforehand (for instance, preventive activities like immunisations or antenatal care). Second, a prepayment where potential users purchase a 'card' of a certain amount allowing the one who paid to use

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Saharan Africa (Tollman *et al.* 1990).

\* Fee-for-service payment is constituted by the payment per item of service - individual acts of diagnosis, treatment, drugs, etc. These items are added together and billed to the patient. A flat rate (or lump sum) payment per episode of disease (in the case of curative care) or risk (in the case of preventive care is not itemised and added up as in the case of fee-for-service. This flat fee may not correspond to the actual cost of care given, in which case a certain level of risk-sharing takes place amongst the users (Criel, 1995b; Korte *et al.*, 1992).

health services until the total prepaid amount is entirely consumed. Prepayment schemes are not based on risk sharing: there is no *mutualisation* of risks unless the card's use is not personalised to the individual who purchased it. Experience with this type of user charges is very scarce\*.

Direct household funding of health care through user fees is called 'community financing' when it refers to "a system of consumer payment for health services, the proceeds of which are retained within the health sector and managed at local level" (McPake *et al.* 1993b). A key feature distinguishing community financing from other forms of direct household expenditure is the community's involvement in the health services management (World Health Organisation 1993). Community financing has been pursued in many countries as a way of both raising revenue and of promoting self-reliance and community responsibility.

### *The health financing triangle*

In developing countries the three main sources of funds are public (mainly tax and some social insurance contributions), donor and private. Using an approach similar to the health care financing triangle designed for industrialised countries by Van Doorslaer and Wagstaff, 1993 (Box 5), their relative contribution can be summarised as in Figure 3.

Data for the 45 sub-Saharan countries (Murray *et al.* 1994) indicated that in 1990 35% of total health care expenditures was publicly funded<sup>†</sup>, whereas aid accounted for 24.5% (median) and direct out-of-pocket for 38.5% (median). The proportion of aid is much more important in Africa than in other parts of the world<sup>‡</sup>, and conversely, the role of the public

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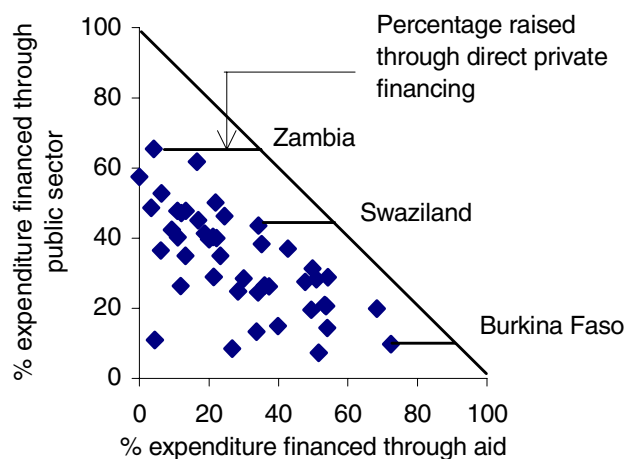
\* A prepayment scheme was launched in Tororo District Hospital in Uganda (Stormer and Opio 1994). People pay a deposit to the hospital and receive a health "card". Patients use this card when they fall ill. Each "card" carries a discount which makes prepayment cheaper than cash payment at the moment of the treatment. The use of the cards is not personalised and they do not expire after a certain time period. The benefits are obvious: treatment is immediately available in emergency situations and no cash transfers are involved at the point of treatment. Unfortunately, the performance and effects of the scheme have not been reported. Another prepayment scheme was launched in Zambia by the Ministry of Health (Cassels and Janovski 1996): prepayment in kind (90 kg bag of grain) took place in return for a health card entitling participating families to treatment during one year. However, the pilot project was never replicated, and the scheme has now been virtually abandoned. No evaluation data are available.

<sup>†</sup> Median for the 45 sub-Saharan African countries including the Republic of South Africa. (World Bank 1993b).

<sup>‡</sup> Aid corresponds to 1.3% of health expenditure in Latin America and the Middle

sector *per se* less prominent. There are important differences between Africa countries. In a country like Uganda for instance — which is reputed to be heavily dependent on donor money — 14% of its recurrent health expenditure in the period 1992/1993 was tax financed. In the same period, 19% was funded by international, bilateral and non-governmental donors; and the remaining 67% by private household expenditure (unpublished data). In 1990, in Botswana, Chad, Mozambique and Swaziland less than 30% of expenditures were privately funded; in Cameroon, the Sudan, and Zaire more than 60%. In Burkina Faso, Somalia and Zaire, the public sector — donor aid excluded — funded less than 10% of expenditures; in Botswana, Gabon, the Republic of South Africa and Zambia more than 50%.

Figure 3. The health care financing triangle in sub-Saharan Africa: public, aid and private funding of total health care expenditures



SOURCE OF DATA: Murray *et al.* 1994

Most of private out-of-pocket payments go to payments that do not enter the formal public care sector: private care providers, purchase of drugs, and the like. There is, however, also a growing contribution through the cost-recovery schemes of the public or private non-for-profit sector, with a small but expanding share for privately organised local insurance systems. In chapter 1, it was already pointed out that the expansion of user

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East, 1.6% in India, 0.6% in China, and 1.4% in Asia (World Bank 1993b).

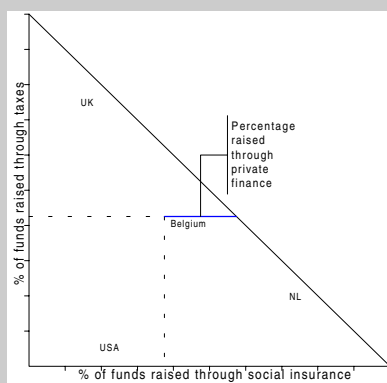


fees was the public sector's pragmatic response to declining tax funding. Advocates of user fees increasingly point to their potential to rationalise utilisation of health services. At the same time, the huge experience with user fees created awareness of their drawbacks, especially in terms of equity. These different effects, both positive and negative, will be briefly discussed in the following chapter.

*Box 5. The health care financing triangle in the industrialised world*

A convenient way of illustrating the mix in health care financing is to plot countries in the health care financing triangle (Figure 4). The closer a country is to the bottom left-hand corner of the triangle, the closer it is being 100 per cent privately financed. By contrast, the closer a country is to the hypotenuse, the closer it is to being 100 per cent publicly funded. Amongst the predominantly publicly funded systems one can distinguish between those that are predominantly tax-financed (the top left-hand corner) and those that are predominantly insurance-financed (the bottom right-hand corner). The figure illustrates the case of the United Kingdom (UK), the Netherlands (NL), and the United States of America (USA). These countries are examples of situations where health care is mainly financed by general taxation, by social security contributions, or by private expenditure respectively. Estimates for 1993 would situate Belgium at a level where a more or less identical share (approximately 40%) is drawn from taxes and social security contributions. The remaining 20% comes from direct payments explaining the fact that Belgium is amongst the countries in Western Europe that are the most remote from the hypotenuse (Louckx 1995).

*Figure 4. The health care financing triangle for the industrialised world*



SOURCE: Van Doorslaer and Wagstaff, 1993



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### 3. *Out-of-pocket payments: the particular case of user fees*

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According to the World Bank (World Bank 1993a), essential district health care can be organised in low-income African countries for about U.S.\$5.5 per inhabitant per year (capital costs excluded)\*. In many countries inhabitants already pay that amount or more, in the form of out-of-pocket expenditures (under the counter payments to health personnel, fees for private practitioners or traditional healers, privately purchased drugs, and the like), but without having access to that essential district health care. Channeling the already existing 'willingness' and 'ability' to pay for rationalised care in facilities operating within a public perspective — whether they be government or private not-for-profit —, is one of the main ideas behind the introduction of user-fees during the last decade. User fees in public or private-not-for-profit institutions are, indeed, at the heart of the financing debate in Africa.

This chapter discusses the effects of user fees in sub-Saharan Africa. The analysis is based on literature† and on own experience — mainly in Zaire. It concentrates on three aspects: the ability for user fees to increase revenue, their system effects, and their equity effects. The ease of use of user fees and their effects on community participation have been rarely analysed and documented in a formal way.

The effects of user fees are of course influenced by a variety of *other* organisational aspects of the health care delivery system. Some of these are: the nature of provider payment, the intensity and the quality of the dialogue between health care providers and users, the availability and use of instruments for the rationalisation of care, the existence of supervision, etc. In this overview, abstraction is made from this wider environment. Hence,

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\* The indicative cost per capita to operate a district health services system (15 health centres and one hospital for a population of 150,000) in low income countries of sub-Saharan Africa is U.S.\$7.74 (U.S.\$5.5 for operating costs, U.S.\$2.1 capital costs and U.S.\$0.13 for in-service training). When institutional support, and water and sanitation activities are added to the package, the figure is U.S.\$13.22.

† Not all literature is reviewed (probably several hundreds of papers, mainly in the grey literature, document the effects of user-fees); when possible country reviews were favoured. This literature sample consistently indicates similar *trends*, but only very rarely distinguished fee-for-service payments and flat rate payments. This makes it difficult to address these two modalities separately in this chapter.

it provides an incomplete picture of a complex reality. In real life, user fees cannot be considered in isolation (Korte *et al.* 1992): acting upon one element in the health system — in this case the direct payment for health care — may yield unexpected, even undesirable, effects if other aspects (structural and organisational) are not tackled as well.

### *Net Revenue Generating ability*

In sub-Saharan Africa, the current gross yield, i.e. without taking into account the cost of the administrative systems required to collect and manage these funds, amounts to some 5% of MOH recurrent expenditure (Creese 1990; Nolan and Turbat 1995) (Table 3). This revenue is not sufficient to compensate for the decrease of public funding in the recent past (Dumoulin and Kaddar 1993). The costs of the collection procedures are rarely known. In some cases the net revenue may actually be much lower than the gross revenue. Moreover, many experiences where data on revenue collection are known have been conducted in the frame of 'projects' functioning with substantial technical assistance (the cost of which is often not known, let alone accounted for).

*Table 3: Revenue generated through user fees as a percentage of total MOH budgets.*

Country	Year	% of MOH budget
Botswana	1983	1.3-2.8
Ghana	1986	7.9
	1987	11.8-12.1
	1992	7.8
Guinea-Bissau	1988	0.5
Ivory Coast	1986	3.1-7
Kenya	1993	2.1
Lesotho	1986-87	5.8
	1991-92	9
Mali	1986	1.2-7
Mozambique	1985	8
	1992	<1
Senegal	1986	4.4-7
Swaziland	1985	2.2
	1988-89	4.6
Zimbabwe	1991-92	3.5

SOURCE: Creese and Kutzin, 1995

These estimates refer to the revenue generated from fees as a percentage of *total* ministry health budgets. It gives a distorted picture of reality because it concerns cost-recovery scales at the *macro*-level of the health system. When looking at the *micro*-level of individual facilities (for instance, health centres and sometimes even district hospitals) much higher cost-recovery rates are found, even if the evidence is extremely variable. A distinction should be made between national cost-recovery data on the one hand, and data referring to local projects or experiments. At that level they may represent a much bigger share of total expenditures, and the “*marginal productivity of additional net revenue may be greater than the small numbers which are indicated by the overall cost-recovery percentage*” (Creese and Kutzin 1995). A further distinction that should be made is between cost-recovery at health centre and at hospital level. Both are usually organised separately — although there have been some experiments with cross-subsidies from health centres to hospitals (Box 6).

There is definitely a potential for health centres to rely heavily on user-fees for cost recovery, witness evidence from Congo, Mali, Benin and Guinea-Conakry. In the Kasongo district in the Democratic Republic of Congo (former Zaire), approximately 45% of the recurrent costs at health centre level were covered through local community financing mechanisms in 1986 (Criel and Van Balen 1993). A 1997 study in Mali of the financing sources in 18 community health centres, or *centres de santé communautaires*<sup>\*</sup>, indicated that more than 90% of the recurrent expenditure is financed by direct contributions paid by the health centre users. Among the 12 government health centres, or *centres de santé d'arrondissement*, this ratio was 77% (Blaise *et al.* 1997). Data on cost-recovery in Bamako Initiative systems in Benin and Guinea-Conakry indicate that revenue collected at health centre level covered all local recurrent non salary costs except vaccines (Soucat *et al.* 1997b).

The success stories of cost-recovery at health centre level in Africa tend to ignore that the bulk of health care spending takes place at district, provincial and national hospitals (Nolan and Turbat 1995). A review of the financing of public hospitals in developing countries has shown that in most situations cost-recovery in hospitals is very limited (Barnum and Kutzin 1993c). This review provides longitudinal data for cost-recovery rates for a number of countries. Table 4 presents the data pertaining to sub-Saharan Africa. Variations in the level of magnitude of government subsidies through time must obviously be kept in mind in the interpretation of cost recovery

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\* Facilities managed by a local community health association and operating in the frame of a contract with the Ministry of Health.

rates. An increasing cost recovery ratio may mean that public subsidies are being cut back and does not necessarily imply that hospitals are doing a better job of raising revenue than they had been doing previously.

*Box 6. Flexible health centre contributions to the functioning of the hospital.*

The Kasongo district team implemented a scheme where the health centre network — through its local user fee system — contributed to the cost of the referral level. The limited financial resources available to the hospital indeed required the district health team to look for additional financial resources than the ones raised via hospital user charges. A system of financial contributions from the health centre network level to the hospital level was implemented from 1986 onwards.

The health centre contributions needed to be proportionate to the utilisation of hospital-based care by the population covered by each health centre. Theoretically, the larger the population, the higher the (potential) utilisation of the hospital. But obviously other factors than population size determined the extent of hospital use. The following variables were also considered: distance from health centre to hospital; availability of transport facilities to the hospital; and finally, the degree of scatter of the population within the health centres' catchment area. A coefficient per health centre was determined for each variable. For example: a distance coefficient of 1 for health centres located within a range of less than 5 km from the hospital, a distance coefficient of 0.9 for health centres within a range of 5-15 km from the hospital; down to a distance coefficient of 0.3 for health centres situated at more than 80 km from the hospital. The contribution of each health centre was then calculated according to the following formula :

$$\text{number of inhabitants} \times \text{distance coefficient} \times \text{transport facilities coefficient} \times \\ \text{population scatter coefficient} \times \text{constant}$$

In 1986, the constant was 1 Zaire (approximately U.S.\$0.02). Some of these coefficients were fixed (like the coefficient for distance), whereas others were amenable to change over time (like the coefficient of transport facilities). In 1986, the yearly contributions per health centre varied between 85 Zaire (U.S.\$1.4) for a remote health centre with a small population to 12,466 Zaire (U.S.\$208) for a large urban health centre. The urban health centres in the district referred more often patients to the hospital than the rural health centres, in both absolute as relative terms; the size of their contribution was thus also higher than for the rural health centres.

In 1986, the total contribution for the entire network of health centres yielded approximately 68 000 Zaire (U.S.\$1,133), which is about 5% of the total amount of money raised locally in the district. It was theoretically possible to further increase each health centres' contribution - for instance by increasing the constant in the

calculation. However, the effect of such a measure was limited by the financial capacity of the health centres (which was precarious for most of the rural health centres). The total yield in revenue of these contributions from first line to second line thus remained relatively marginal. In fact, the importance of this policy seems more prominent in the field of its equity effects, and perhaps even its effects on community participation, than in terms of its capacity to generate (net) additional revenues. Indeed, these payments avoided a situation where only the actual hospital users would contribute to its cost. Potential users also contributed. The logic behind this decision, as well as the criteria used to determine the contribution's size, were acceptable to the different health committees.

SOURCE: Criel and Van Balen, 1993

In some countries, the level of cost recovery is much higher than the figures presented in Table 4 because the government subsidy is limited or even nil. The case of the Democratic Republic of Congo (former Zaire) is illuminating. Financial data for the year 1985 of seven well functioning health districts indicated that about 80% of the recurrent costs of the *entire* district health services system — excluding depreciation costs and salaries of expatriate staff — was covered by user fees (USAID/Kinshasa 1987). In the Kasongo district in the same country almost 20 % of the recurrent costs at hospital level were covered by user fees (Criel and Van Balen 1993).

In Mali rural district hospitals recovered almost half of their expenses through user fees (range from 41-52% in three hospitals); in the one urban hospital studied this ratio was 39% (Blaise *et al.* 1997).

Revenue generating ability is significantly affected by the ability of the facility to retain and utilise the fees collected (World Health Organisation 1993) even if there are exceptions. A striking example are Ethiopian hospitals, which are not entitled to retain any fee revenues, but show moderately high cost recovery rates at hospital level — much higher than in Mali for instance where hospitals can retain 100 percent of revenues (Barnum and Kutzin 1993c). The long-standing tradition of hospital fees in Ethiopia may be an explanation. Revenue retention is by no means a sufficient condition for success in terms of revenue collection: revenue 'leakage' has been frequently reported or revealed by a comparison of the revenue expected from utilisation levels and that actually collected.

According to a recent international survey of user fee policies in 26 low- and middle-income countries (of which 12 were in sub-Saharan Africa) arrangements for local retention of revenue existed in 19 countries (73%) but that retention practice was by no means homogenous (Russell and Gilson 1997). Facilities could retain all revenue in 8 countries, but in

the others revenue was being split between the facility where the money is collected, other health structures, and/or the treasury. Despite the benefits of local fee retention, one should not consider a split in revenue as a negative feature *per se*. A redistribution of resources to poorer communities that raise less revenue then becomes possible, at least in theory. The need for such redistribution measures may be overlooked, especially where attention is focused on implementing cost recovery at the first line of the health services system. In addition, there is need to treat such redistribution measures with caution, since they could erode the incentive to collect fees because they in effect tax the successful community or district in order to subsidise those who do not raise much revenue (Nolan and Turbat 1995).

At macro-level, user-fees remain marginal. At local level they can constitute a major share of the revenue of health centres and hospitals. They are then not without major effects on the functioning of the health care system, and have implications in terms of equity.

Table 4: Cost recovery rates in public hospitals in sub-Saharan Africa

Country	Year	Cost recovery through user fees (%)
Botswana	1974	7.0
	1978	2.9
	1983	1.3
Ghana	1985	7.3
	1986	7.8
	1987	11.8
Lesotho	1974-75	16.0
	1980-81	6.3
	1986-87	5.8
	1989-90	8.8
Swaziland	1983-84	2.0
	1985-86	4.9
	1988-89	4.7
Zimbabwe	1981-82	3.6
	1983-84	3.2
	1984-85	4.3
	1985-86	2.5
	1987-88	3.0

### *System effects of user fees*

One could expect user-fees to have the following effects:

On the demand side: (i) reduction of 'frivolous' or unnecessary use of institutional health care; and (ii) a more appropriate mix of first line and



referral health services utilisation. On the supply side: (i) more responsiveness from the providers to the concerns and needs of patients: better quality through linking performance and revenue at the facility; and (ii) increased availability of basic inputs in the process of care.

The general effects of user fees on the *volume* of utilisation are well-documented. The case of Ghana (Waddington and Enyimayew 1990; Waddington and Enyimayew 1989) is illustrative for what happened in many other countries. A national decline in attendance (outpatient care) was observed in 1985, the year in which user fees were substantially increased. The absolute number fell from 4.5 million visits in 1984 to 1.6 million in 1985. There was a slight rebound in utilisation in 1986 to 2.1 million visits, but the level prior to the increase was never reached again. Another example, among many others, is that of the Kindu health district in the Democratic Republic of Congo (former Zaire) where a flat fee per episode was charged at health centre level. A sharp increase in fees in 1986, in order to reach a financial break-even point, led to a sharp drop in outpatient attendance. The utilisation rates in seven urban clinics decreased from 0.37 in 1985 to 0.31 new episodes per inhabitant per year in 1986 (de Béthune *et al.* 1989).

The effect of user fees on the volume of utilisation is not *per se* a negative phenomenon: what matters is whether *useful* health care utilisation has been negatively impacted or not\*. It is technically difficult to assess whether 'unnecessary' or 'non-useful' utilisation has in fact declined. Attempts were made to study this possible outcome. In Swaziland for instance, a nationwide increase in user fees led to an overall decline in utilisation of approximately 33% in government facilities. There was no evidence that the decrease in utilisation would consist primarily of *minor ailments* or *self-limiting illness* (Yoder 1989). In Kasongo, Zaire, regular price increases for curative care at the level of the first line was associated with an overall drop in utilization rate from 0.35 new episodes per inhabitant per year in 1981 to 0.25 in 1985. In the same period, the absolute number of referrals from health centre to hospital did however not decrease, on the contrary (2,565 referrals out of 56,000 new cases in 1981 and 2,702 out of 40,000 in 1985). The proportion of referred cases significantly increased from 4.6% to 6.9%. The marked drop in utilization apparently did not negatively impact health service utilization for severe episodes (i.e. requiring second level care).

Currently, there is no hard evidence that the imposition of charges reduces unnecessary utilisation (Creese and Kutzin 1995; Nolan and Turbat

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\* See concept of *useful* care in chapter 1.

1995). In fact this is to be expected, since other, indirect, costs remain important in many situations: the cost of transport, time, lodging, etc. often constitute a sufficient deterrent to 'frivolous' use (Abel-Smith and Rawal 1992b). This is the case particularly in rural areas.

Systems of 'cascading' charges\* may promote appropriate use of the referral system. However, surveys indicate that this possibility has only rarely been pursued in sub-Saharan Africa (Nolan and Turbat 1995), or at least poorly documented (Creese and Kutzin 1995). In many cases, the same fee is charged at each level, and referrals from health centres have to pay again at the hospital level and therefore save money by starting at that level. In some countries it is even cheaper to go to the hospital than to the health centre: this was the case in the Hoima district, Uganda, in the early nineties (Criel and Pariyo 1997).

The common finding of overcrowded hospital outpatients departments — there where cascading charges exist — support the position that such a pricing policy is not by itself sufficient for improving the use of the referral system (Creese and Kutzin 1995). The introduction of such a fee system, as an *isolated* policy option, will yield little effect. The case of Zimbabwe is illustrative. In 1994 one third of the population of Murewa district (Mashonaland East) used the hospital for first line health care services (Criel *et al.* 1996), despite a fee policy discouraging hospital use by non-referred patients. The main reason was the poor coverage of the district area in first line health facilities offering quality care; the solution therefore consists in an extension of the health centre network (mainly in the peri-urban area surrounding the district hospital) rather than (re)enforcing the pricing system†.

There is evidence that user fees have — at least when they cover critical costs like drugs for instance — contributed to improve the quality of health care services. An evaluation of the Bamako Initiative (BI) carried out in the early nineties in four sub-Saharan African countries (McPake *et al.* 1993b) suggests that, in most cases, the Initiative's activities provide a service which is actually cheaper when all costs to the household are taken

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\* This is a system where patients referred to a hospital by a health centre pay less than "self-referred" patients.

† In the six month period preceding the opening of the Murewa urban health centre in May 1996 30,498 new cases attended the curative consultation at the hospital's out-patient department. In the six month period following the opening of the health centre, the workload at the hospital was reduced to 17,727 new cases whilst 19,450 cases attended the curative consultation at the new health centre. Currently, the Murewa health centre team can hardly cope with this workload and the need for a second urban health centre is apparent.

into account, than was available before. On the whole, the Initiative is *at least* capable of achieving improvements in terms of community's perceptions of quality of care. These findings were confirmed by other reviews of the progress made in the frame of the Bamako Initiative which was adopted by 33 developing countries throughout the world by the end of 1994 (UNICEF 1995; Hanson and McPake 1993). The Bamako Initiative definitely contributed to making low-cost, quality drugs accessible to the majority of the population, even if many other determinants of the quality of care have yet to improve (Criel 1992). Recent accounts of the effects of the Benin and Guinea-Conakry Bamako Initiative programmes show a dramatic increase in the health system's output in a period of six years, as evidenced by the increase in utilisation of curative care, and coverage of both under-fives immunisations and antenatal care (Levy-Bruhl *et al.* 1997).

*Box 7. Changing the mix of first and referral service use through cascading fees.*

In the Kasongo hospital, a fee system discouraging direct hospital use for non-urgent cases and facilitating hospital use by referred patients was introduced in 1973. In the period 1973-83, a gradual and substantial decrease took place in the use of the hospital as a first line health service, in absolute as well as in relative terms. In the same period, the health centre network gradually expanded and health centre utilisation increased. This utilisation trend was consistent with increasing efficiency in district health services use. The contribution of the pricing policy to this trend is not established; it is likely to be marginal. What matters, however, is that the fee schedule was not an isolated measure. Concomitantly to its implementation, a network of well-functioning health centres was developed. Patients thus had an alternative to the (expensive) direct use of the hospital's outpatient department.

YEAR	NUMBER OF CASES AT THE HOSPITAL'S OUTPATIENT DEPARTMENT	NUMBER OF CASES AT THE HEALTH CENTRES' CURATIVE CLINIC	TOTAL NUMBER OF CASES	% OF CASES PRESENTING DIRECTLY AT THE HOSPITAL OPD
1973	11,780	13,522	25,302	47
1974	10,880	25,308	36,188	30
1975	7,726	34,013	41,739	19
1976	5,943	42,348	48,291	12
1977	7,000	45,000	52,000	13
1978	7,226	34,410	41,636	17
1979	7,774	46,639	54,413	14
1980	7,792	54,362	62,334	13

1981	6,599	54,589	61,188	11
1982	3,245	42,000	45,245	7
1983	2,572	39,883	42,455	6
1987	1,050	54,381	55,431	1.9
1989	Data not available	59,285	n.a.	n.a.

SOURCE: Criel and Van Balen 1993; Pangu 1988.

### *Equity effects of user fees*

User charges are highly *regressive*: i.e. they take a decreasing proportion of income as income rises (Mills 1983) and cause thus the greatest hardship for the poor. User fees create particular problems for subsistence farmers, for whom income is highly seasonal. In sub-Saharan Africa, fees have been associated with declining utilisation levels in enough cases to make it a real concern. Although it has not been fully demonstrated that the fall in utilisation has been concentrated among the poor, this is likely to have been the case (Nolan and Turbat 1995). The absence of charges does however not mean that the care is free. In the beginning of the nineties, many patients in Tanzania had to incur substantial costs to use the 'free' services at government facilities (Abel-Smith and Rawal 1992b). These costs were related to travel costs, but also to the fact that supplies (especially drugs) were hardly available. Hence, patients had no choice but to purchase drugs from private pharmacists. The average patient cost (excluding travel costs) of an admission in government hospitals offering 'free' care was reported to be higher than the fee to be paid in mission hospitals. Modest charges would probably be less inequitable than maintaining the free care system. The situation is similar in Zambia where, until recently, no official charges for medical care existed, but where people were sent off to pay for their prescriptions at a chemist's shop (Booth *et al.* 1995).

In Cameroon Litvack and Bodart (1993) have shown that the policy of user fees actually improved utilisation by the poor. Fees were used to improve quality of care at the facility level where they are collected: total costs of care of acceptable quality actually decreased. The increased costs from higher fees were more than offset by reduced costs in travel and time made possible by the improvements in the quality of locally available health services. This study has been extensively quoted in policy papers advocating and/or legitimising the introduction of user fees (World Bank 1993a). Recently published survey results of the Bamako Initiative implementation in Benin and Guinea-Conakry show similar findings. An important part of the population does not use 'Bamako Initiative health centres' for financial reasons, and the poor use these health centres relatively more than richer so-

cio-economic groups\* (Soucat *et al.* 1997a).

Still, exemption of payment for the poor in the community remains an issue. There is a wealth of evidence that income-related pricing and exemption measures have proven very difficult to implement (Willis and Leighton 1995; McPake *et al.* 1993b; Russel and Gilson 1995; Gilson *et al.* 1995; de La Rocque 1996; Vandemoortele *et al.* 1997). Formal exemption procedures are often anti-poor because advantaged populations groups — like civil servants, the military, etc. — benefit most from it (Green 1992; Barnum and Kutzin 1993a; McPake *et al.* 1993b). The implementation of 'means-testing' programs is complex and costly. The loss of transparency from the patient's perspective may leave greater scope for abuse (McPake 1993a). Sometimes the exemption process itself can be seen as stigmatising (Pangu and Van Lerberghe 1990; Gilson 1988).

## Conclusion

User fees may generate important revenue at the local level but they reduce the access to health care. A notable exception are situations where revenue generated is used to improve the quality, and where it is part of a mix of interventions rather than an isolated policy measure. This is more likely to be the case in situations where local revenue is kept at the facility. Paying for health care may eventually constitute more value for money than offering a service free at the time of use, but of poor quality.

Ensuring access for the poor nevertheless remains a matter for concern. They may not be able to pay beyond a certain level, or the cost of health care may dramatically conflict with other vital expenditures. Ability to pay is not necessarily constant over time. At some periods of the year, it can be much more of a problem. A combination of user fees and of seasonal variations in available money may lead to outright exclusion. This issue is the subject of the next chapter.

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\* Pre-programme data on household health seeking behaviour per socio-economic group are not available. Hence, it was not possible to establish whether the poorest have benefited more than the richest group. However, the very low coverage with services *before* BI implementation makes it likely that the poor have benefited in absolute terms and receive more quality care than they did before.



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#### 4. *The problem of exclusion: the case of Kissidougou in rural Guinea-Conakry*

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Data from Guinea-Conakry illustrate how important financial exclusion (the inability to pay for health care) can be in a rural population where user charges are levied. They show what impact exclusion has on health care utilisation and how various community mechanisms help to cope with the exclusion phenomenon\*.

The Kissidougou district counts 178,382 inhabitants (1996) of whom more than two thirds live in rural villages. The district health services system is based on two tiers: a network of decentralised health centres and a district hospital. There are few private health care providers except in the informal (often illicit) and traditional sectors. The hospital enjoys a position of virtual monopoly.

The principal source of revenue is the commercialisation of agricultural crops. Rice, coffee, and cola are harvested at the end of the year; part of the harvest is sold at the beginning of the dry season in December/January<sup>†</sup>. The bulk of the rice harvest is stored. It is used for household consumption but also constitutes a potential source of cash income which can be mobilised in case of need (for instance, for medical expenses). For a substantial number of households in the Kissidougou area, this reserve is at its lowest during the third quarter of the year.

Hence, part of the population faces a problem of partial financial exclusion in the second half of the year (which coincides with the rainy season), more in particular during the months of July, August, and September. In 1991, the per capita income of a rural household in that part of the country was estimated at U.S.\$200 (Centre International de Développement et de Recherche 1994). This is not evenly distributed over the year: in the second semester it is only half of what it is between January and June (Galland

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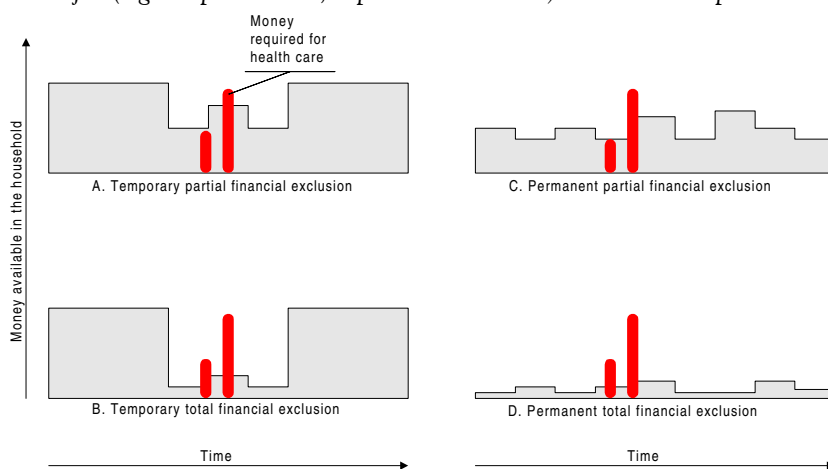
\* This study is based on data from an ongoing research project in rural Guinea-Conakry that looks at the relevance and feasibility of health insurance systems in the Kissidougou district located in the South Eastern Forest Region. *PRIMA* project (*Projet de Recherche sur le Partage des Risques-Maladie*) is a joint action-research project of Medicus Mundi Belgium (MMB), the Gesellschaft für Technische Zusammenarbeit (GTZ German bilateral cooperation) and the Ministry of Health Guinea.

<sup>†</sup> The months of February, March and April are also those when most of the traditional feasts and ceremonies take place, consuming a considerable amount of the household resources.

1996).

There are different types of exclusion (Centre International de Développement et de Recherche 1994; de La Rocque 1996; Galland 1994; Galland *et al.* 1991; Galland *et al.* 1997). A first distinction can be made in terms of the duration of the exclusion (*temporary* versus *permanent* exclusion); a second is made in terms of the importance or size of the exclusion (*partial* versus *total* exclusion). They are illustrated in Figure 5. Some households may be able to face all kinds of health expenditures the whole year; others may have difficulties in paying for major, or for major and minor expenditures, the whole or part of the year.

Figure 5. Different types of exclusion, for households confronted with a minor and a major (e.g. hospitalisation, expensive treatment) health care expenditure



Temporary exclusion occurs when households lack money during part of the year. Seasonal exclusion is frequent where cash income is only raised at specific periods of the year. Temporary exclusion can either be partial (situation a) or total (situation b), the former being generally more frequent. Temporary exclusion was reported to arise in about 40-50% of the households in the *Région Forestière* in Guinea-Conakry (Soucat *et al.* 1997a). On the other hand, some people are excluded on a permanent basis, i.e. they *always* lack (partially or totally, respectively situations c and d) money to purchase health care. The population group that faces both permanent and total exclusion is generally quite small compared to other types of exclusion. In the *Région Forestière*, some 5% of the general population are



reported to face such a situation (Galland 1996). A recent overview of the performance of the Bamako Initiative in Guinea reports the proportion of real indigence in the entire country (i.e. both rural and urban populations) to be situated between 3 and 10% (Soucat *et al.* 1997a). This type of exclusion is only rarely limited to a mere phenomenon of financial or economic exclusion, but very often also is of a social nature\*.

### *What is the impact of exclusion on health care utilisation?*

#### THE CONTEXT

As elsewhere in the country, government health services in Kissidougou have a user fee system that is a compromise between a flat fee and fee-for-service payments. The total (official) flat fee charged for a hospital admission varies between U.S.\$10 and U.S.\$30 depending on the patient's age and the nature of the health problem; at health centre level the fee charged for an episode of care varies between U.S.\$1 and U.S.\$5 (Ministre de l'Intérieur et de la Sécurité *et al.* 1993). The rates are different for adults and children, for curative and preventive care, for problems needing certain drugs or requiring laboratory investigations, etc. Hence, the magnitude of the flat rate is all but transparent to the user.

This complex payment system is abused by a majority of health workers who charge 'under the counter' payments in addition to the official fee (Criel 1996a). These payments — which are locally called 'over-billings' — often largely exceed the official fees and constitute an important additional financial burden to patients<sup>†</sup>. They create yet another source of uncertainty since they make it difficult for patients to anticipate the precise amount of money that they will need to pay in case of health service utilisation.

Senior staff of the Kissidougou District Health Team indicate that over-billing is more common in the case of patients coming from remote rural areas. These patients constitute an easier 'target': they are generally less

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\* Vuarin makes the distinction between *economic* and *social* capital (Vuarin 1993).

<sup>†</sup> The phenomenon of over-billing (*surtarification*) is virtually generalised at health centre level (but also exists at hospital level). Health centre nurses sometimes keep patients 'under observation' at the health centre — even 'admit' them — in order to charge an additional bill. Over-billing in case of curative care is reported to reach sometimes a tenfold of the official fee. In the case of antenatal care, it is common practice to charge 1000 *Francs* (about U.S.\$1), whereas the official fee is 600 *Francs*. This over-billing is relatively well accepted by women because they then know in advance how much the fee will be. For curative care, however, the uncertainty is real.

well informed about existing official fee schedules, they often are less assertive in the negotiation process with health care providers, and they can not rely upon social networks in town. Currently, the community is not sufficiently well organised to challenge this behaviour openly and attempts to 'regulate' it have largely failed.

The PRIMA project in Kissidougou has to investigate the possibilities of introducing insurance schemes. In the pre-operational phase the social perception and impact of exclusion were studied, as well as the effects of the reported lack of financial resources, at a specific time of the year, on utilisation levels of institution-based health care. A lack of financial resources was *a priori* considered to have more impact on inpatient hospital utilisation than on ambulatory health centre utilisation since the former constitutes by far the most expensive element in the health system. In order to assess the repercussions of the unstable income on health and health care utilisation, two parallel approaches were used.

#### METHODS

On the one hand, the PRIMA research team carried out a community-based survey using a 'rapid rural appraisal' methodology (RRA) in three villages of the Yendé health centre area. RRA is an anthropological method that is being used increasingly in public health in general, and in nutrition in particular (Gueye and Schoonmaker Freudenberg 1991; Desclaux 1992). Triangulation of methods and data guided the design of the survey. The RRA was carried out in May 1997 and took about 4 days. The purpose of this investigation was to gain more insight in the community's perception of the problem of exclusion and on existing coping mechanisms. More specifically, the following tools were used: the construction of a village calendar for health problems, accessibility of health care services, availability of financial resources, and agricultural activities; the establishment of a local socio-economic classification of households; investigation of health seeking behaviour with the help of a flow diagram; drawing of a Venn diagram exploring relationships between village and the external world; and semi-structured interviews with key informants. A detailed account of the findings of the RRA is available elsewhere (Projet de Recherche sur le Partage des Risques-Maladie 1997): here only the most important results concerning the village of Touffoudou shall be presented. It is a small village of 49 households (376 inhabitants), at 8 km from the Yendé health centre.

On the other hand, the PRIMA team looked at seasonal patterns of health care utilisation so as to check whether temporarily diminished income actually affects utilisation. For that purpose the routine health infor-

mation system of the government health services was analysed:

Utilisation data for curative services (separately for under-fives and for total new cases) at the rural Yendé health centre in the Kissidougou district were analysed for the year 1996. As mentioned above, the crucial months in terms of financial exclusion are July, August and September. Utilisation rates in the third trimester (data extrapolated to 12 months) were compared with utilisation rates in the three other trimesters (also extrapolated to 12 months). No information was collected on the utilisation of *private* first line health care providers operating in the same health centre area.

Hospital inpatient utilisation was analysed for the three-year period 1994-1996. The routine hospital recording system made it possible to identify the patient's residence in virtually all cases\*. In Kissidougou district there are three urban *sous-préfectures* which were grouped (total population of 56,628 in 1996) and twelve smaller rural *sous-préfectures* (total population of 121,754 inhabitants in 1996). Patients coming from other districts (less than 5% of inpatients) were excluded from the analysis. The data for the period 1994-96 were pooled and admission rates were calculated separately for the 'exclusion' period (months of July, August and September) and the 'normal' period (i.e. the remaining months of the year). In order to cope with the different lengths of the two periods compared in the time-span 1994-96 (27 months for the normal period and 9 months for the exclusion period), the average number of admissions/10,000 inhabitants/month was calculated for both periods. The calculation of hospital admission rates was carried out separately for urban and rural populations. Indeed, an important part of the urban population is less subject to the phenomenon of seasonal exclusion because its income is not dependent only on agriculture. Relative risks (RR) were calculated in order to appreciate to what extent utilisation in the normal period is higher than in the exclusion period. Inpatient utilisation was also assessed for each single department and separately for exclusion and normal periods.

Hospital utilisation was also assessed for two specific health problems for the same period 1994-96: major surgery for obstetrical problems (mainly caesarean sections) and strangulated inguinal hernias. The variation in admission rates according to residence (urban versus rural) indicates varying

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\* Bias in the notification of residence is possible: indeed, it is not rare for patients actually living in rural *sous-préfectures* to give as their address the place where they actually spent the night(s) immediately preceding hospital admission, which in quite some cases precisely is the Kissidougou township. Hence, it is possible that the admission rates for the urban population are a slight overestimate of reality and that admission rates for the rural population are underestimated.

levels in adequate coverage of needs that can be considered independent from income.

## RESULTS

### *Exclusion in Kissidougou as assessed by the population*

The RRA confirmed that the exclusion period lasts from June to October, with a peak in the months of July, August and September. From October on, potential 'mobilisable' household income slowly starts to rise to reach its peak in the period March/April. Three people of the village (2 men and 1 woman) were asked to establish a socio-economic classification of all the 49 households of the village according to a set of criteria identified by themselves. Every single household was 'assessed' according to the following criteria: size of land and live-stock property; capacity of the household to lend money to others; capacity of the household to hire labour; perceived solvency of households when they borrow money from others (Projet de Recherche sur le Partage des Risques-Maladie 1997). A classification in three different categories was established: the 'rich', the 'self-sufficient' and the 'poor'. The ranking of each household was carried out independently by the three local reviewers and was remarkably consistent in terms of results. The data are presented in Table 6. The distribution is bimodal.

Table 6. Socioeconomic classification of households in Touffoudou

Socio-economic class	Number of households
Class I: the 'rich'	18 (37%)
Class II: the 'self-sufficient'	13 (27%)
Class III: the 'poor'	18 (37%)
Total	49 (100%)

This classification was eventually validated by a village assembly at the end of the enquiry. The survey indicated that the rich face no particular problems in paying for health care in the exclusion period. Moreover, they are capable in that very period to lend money to other households, or to hire labour force to work on their land. The self-sufficient sometimes face problems in the period July to September but they can easily obtain loans (generally without interest) from the rich, and reimburse these loans in the

\* In the local Kissi language, the following denominations were proposed by the three "reviewers": the rich "*vana bolofa bendua*" or "*vana bolofa pomboa*"; the self-sufficient "*vana bolofa lendapila*"; the poor "*vana balafondoa*".

first semester of the following year. The group of poor face considerable problems in the exclusion period, not only for health care utilisation but also for finding the necessary food to overcome the most difficult months. They are not always sufficiently creditworthy to obtain substantial long-term loans and are then forced to sell their labour to the rich in the village. In fact, the survey indicated that already from the end of May on, the self-sufficient and the poor start to solicit the more wealthy households for loans and for work (see Figure 6). All groups expressed their interest in health care insurance schemes; the self-sufficient and the poor because it would obviously relieve them of (some) of the constraints they face in the exclusion period; the rich because it would allow them to use their financial and economic surplus otherwise in the second semester.

No households were identified as destitute. This suggests that the households in class II and III actually manage to return — after the exclusion period — to a threshold (close or similar to their previous level of household income availability) where they are in a position to pay back their debts and where they again are creditworthy. It is unlikely that this is always the case. The situation in Touffoudou is not necessarily representative for all the communities in the area.

Figure 7 illustrates the hypothetical case where poor households would *not* manage to return to the prior level of income availability and where debts are being made in a context where the borrowing household did not succeed in repaying previous debts to the lender. In such a situation the borrower gets into a vicious cycle where his debts increase every year up to a point where nobody will be willing to lend him money.

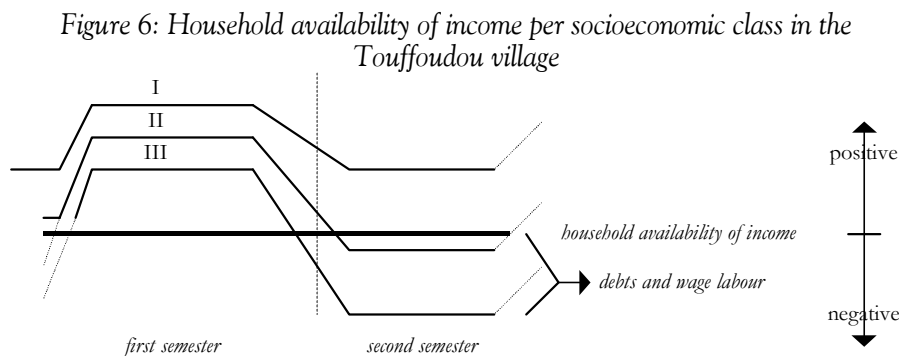
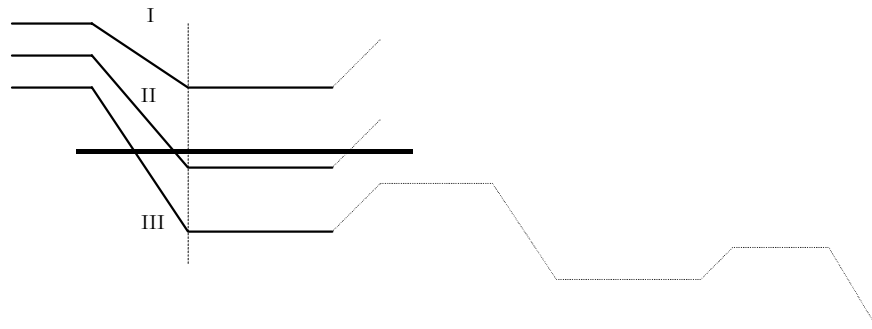


Figure 7: The road to destitution?



Admittedly, this scenario is speculative and other scenarios are galore. For instance, households of group III might very well remain in the 'circuit' after the death of one or more children, or after the death of the mother. Other less catastrophic events, like for instance the decision not to make use of education or other services in order to save resources, may also enable households to remain solvent. At any rate, the consequences for the general wellbeing of the household are substantial.

#### *The effect of exclusion on health care utilisation*

Ideally, one should follow the three above-mentioned groups prospectively over time. This was not possible. The effect of exclusion was *a priori* considered important enough to express itself in the overall utilisation of health care.

*HEALTH CENTRE UTILISATION.* The number of new cases (under-fives and total) per month is presented in Figure 8. At first glance, there is no clear pattern. Health centre utilisation is somewhat lower during the second half of the year: 0.42 new cases/inhabitant in the first semester and 0.37 in the second; (RR=1.13; CI: 1.1-1.2), but such small differences may well be explained by local seasonal epidemiological variations.

The absence of clear pattern remains when one looks at the crucial period in terms of financial exclusion: the months of July, August and September (Figure 9).

Figure 8: Utilisation of curative services in Yendé health centre (1996)

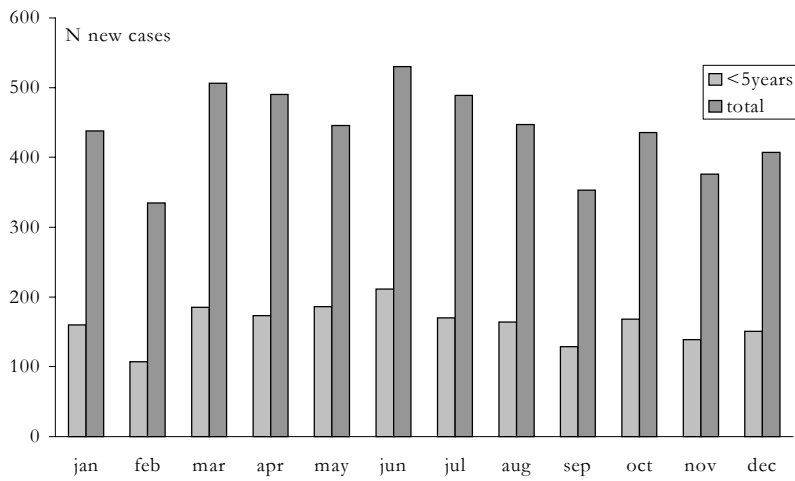
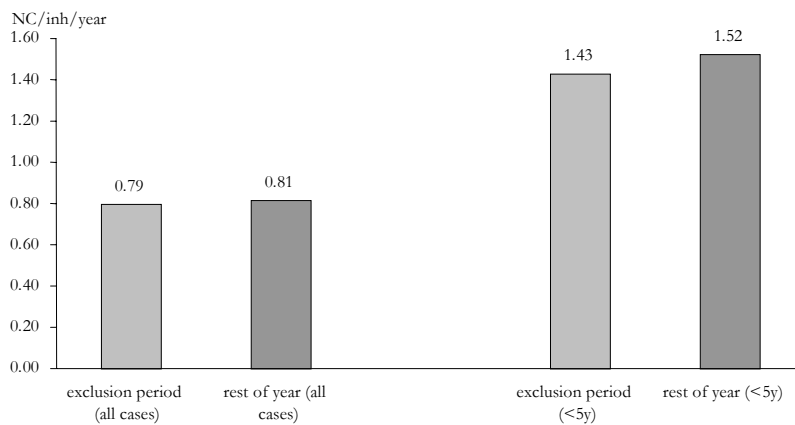


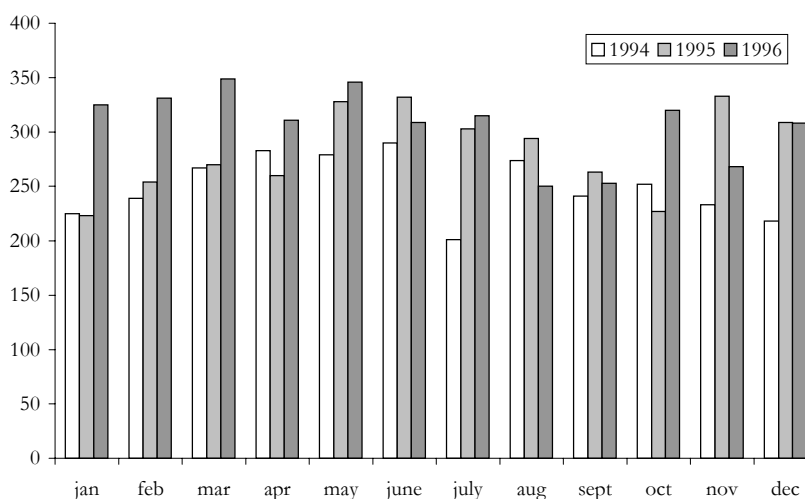
Figure 9: Utilisation rates of curative services in Yendé health centre (1996). The 'exclusion' period versus the rest of the year. Utilisation rates are extrapolated to a 12 months period.



*HOSPITAL UTILISATION.* The numbers of admissions per month in the hospital for the years 1994, 1995 and 1996 (Figure 10) show two trends.

First, the number of admissions has increased over the years. Indeed, the yearly hospital admission rates are 17.8‰, 19.6‰ and 20.7‰ for 1994, 1995 and 1996 (the denominators have been adjusted for a population growth rate of 2.8% (World Bank 1994)). One possible explanation for this increase is the substantial institutional and logistical support the hospital received in the frame of the GTZ programme *Projet de Santé Rurale*. There are indications that the quality of care provided has dramatically improved in that time-span\*. Kissidougou hospital is currently reputed as one of the best district hospitals in the country. Its population has been relatively stable and has not faced an influx of refugees as has been the case in other *préfectures*.

Figure 10: Hospital admissions per month in Kissidougou préfecture (1994-96)



Second, there is a slight drop in admissions during the exclusion period (Table 5), somewhat more pronounced for the rural sous-préfectures (Figure 11). This is more pronounced in the years 1995 and 1996 when

\* The number of admissions from all origin steadily increased from the early nineties on: 1,596 admissions in 1991 (60 beds), 1,658 admissions in 1992 (61 beds), 2,888 admissions in 1993 (70 beds), 3,546 admissions in 1994 (85 beds), 3,938 admissions in 1995, and 2,140 admissions in the first semester of 1997.



overall hospital utilisation was higher. The impact of exclusion on inpatient hospital utilisation by the population of the entire *préfecture* is relatively minor (RR of 1.07), and remains so for the rural population (RR of 1.16). Striking, but not surprising, are the high urban/rural ratios for inpatient hospital utilisation in both periods (10.4 and 11.5 in normal and exclusion periods respectively). In the Kissidougou context, this urban/rural differential is not only due to the effect of distance and the costs this implies\*, but also to the fact that people from rural areas often have no relatives in the urban township where the majority of people belong to a different ethnic group†. *We do not know anybody in town* is a complaint often voiced by the rural dwellers (W. Van Damme, personal communication). Additional costs may also arise from the under the counter over-billing we mentioned earlier.

Table 5. Average monthly admission rates (per 10,000 inhabitants) (1994-96)

	Total <i>préfecture</i>	Urban sous- <i>préfectures</i>	Rural sous- <i>préfectures</i>
In normal period	15.91	41.5	4
In exclusion period	14.91	39.6	3.45
Relative risk (95%CI)	1.07 (1.02-1.12)	1.05 (1-1.1)	1.16 (1.04-1.3)

These variations are apparently not due to seasonal epidemiological variations. If such epidemiological variations played a significant role, we would then expect them to mainly affect admission rates in the paediatric and internal medicine departments (where communicable diseases are a frequent cause of admission) and less the admission rates in the maternity and the surgery departments. A separate analysis of each hospital department rules this out. The data are presented in Table 6, using the general population data for 1996 as denominator. The rates again represent the average number of admissions per month per 10,000 inhabitants. The relative risks for the rural population — where financial exclusion is a bigger problem than in the urban area — are consistently above 1, which indicates de-

\* The (official) fee of a caesarean section in Kissidougou hospital is U.S.\$10. But, the indirect cost of hospital utilisation is often much higher: for instance, in 1996 the fee charged by local truck owners for emergency transportation of a woman with obstructed labour to the hospital from the most remote areas of the *préfecture* easily reached the threefold of that amount.

† Mainly *Malinke* and *Peulh* in the township and *Kissi* in the rural areas.

creased hospital utilisation in the exclusion period. The fact that utilisation in *all* departments is affected in a similar way makes it unlikely for the lower utilisation in the exclusion period to be due to seasonal epidemiological variations.

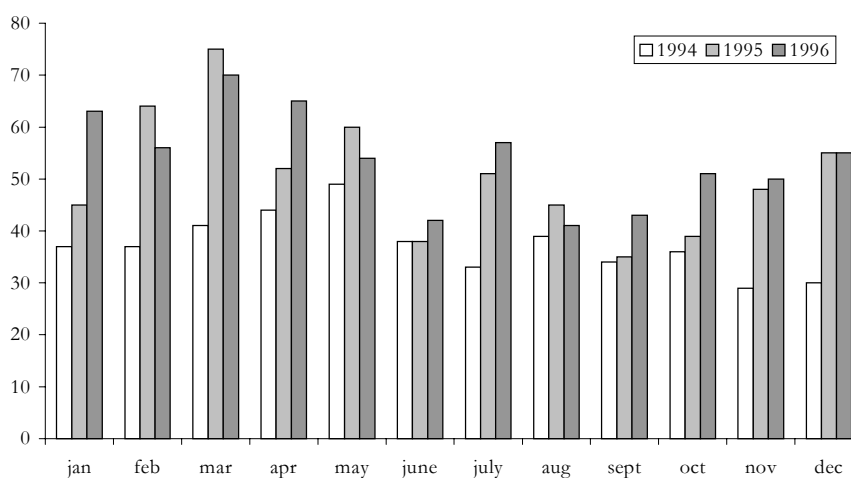
Another element pleads against a hypothesis of epidemiological variations: where services are free, no such seasonal pattern in hospital utilisation is observed. The nearby N'Zérékoré *préfecture* faces similar epidemiological disease patterns and has been hosting a high proportion of refugees from Liberia for several years. The care for the refugees was free of charge in 1995 (the costs being entirely supported by the High Commission of Refugees). Overall hospital utilisation by the refugee population remained stable throughout the year, whereas for the autochtone population — who had to pay — it dropped significantly in the second semester of the year (Galland 1996).

The impact of financial exclusion on the utilisation of the different departments seems thus relatively homogeneous. The RR pertaining to the rural population (indicated in bold in Table 6) are however never significant except for the paediatric department (CI: 1.01-1.8). A level close to significance is obtained for the (female) internal medicine department (CI: 0.96-1.71). The ratios of urban/rural population admission rates remain similar in both normal and exclusion periods, except for the paediatric department where the ratio increases from about 20 in the normal period to 27 in the exclusion period. The fact that the utilisation of the paediatric department is most affected by exclusion is not surprising. When resources become very scarce people obviously need to make choices and to establish priorities concerning health care and other expenditure. It is likely that more efforts will be mobilised for the health problems faced by adults. Hence, the lack of available financial resources will be overcome in some cases, in others this will not happen. Other considerations than the perception of the problem will also influence this decision-making process: for instance, the effectiveness of the technical answer the formal health services currently offer for the management of the health problem and/or the existence of technically effective solutions in the community itself. For some of the paediatric problems, reasonably effective alternatives exist to hospital-based care (for instance, self-medication and/or the utilisation of local private providers).

It can be hypothesised that the relatively low admission rate in Kissidougou is an indicator of a deficit in *useful* hospital utilisation — especially for the rural communities given the important urban/rural utilisation differentials — and that it suggests the existence of substantial unmet need. Data

from Kissidougou on admissions for strangulated inguinal hernias and for major obstetrical interventions support this hypothesis (patients from out of the *préfecture* were excluded). It is unlikely that their respective incidences would be significantly different in the urban and rural population of Kissidougou. The existence of supply-induced surgery for these kind of health problems also is unlikely, certainly in the case of strangulated hernias, although misclassification and errors in reporting evidently cannot be ruled out given the nature of our database.

Figure 11: Hospital admissions per month of rural patients in Kissidougou préfecture (1994-96)



In the 36-month period 1994-96, 168 strangulated hernias were admitted (a majority of male patients): 98 patients came from the urban *sous-préfectures* and 70 from the rural ones. The average yearly admission rate was 31.4/100,000 for the total population; 57.7/100,000 for the urban population; and 19.2/100,000 for the rural population. The urban/rural ratio thus equals 3. In the same period, 301 pregnant women underwent surgery (mainly caesarean sections) because of major obstetrical problems: 202 urban and 99 rural women. The average yearly admission rate (with the number of expected pregnancies as denominator) for the period 1994-96 is 1.25% for the total population; 2.64% for the urban population; and 0.6% for the rural population. The urban/rural ratio is 4.4.

Table 6. Average admission rates (numbers) per hospital department in the normal and in the exclusion periods (1994-96)

	Medicine females	Medicine males	Paediatrics	Maternity	Surgery females <sup>a</sup>	Surgery males <sup>a</sup>
Total:						
Normal	2.37 (1140)	2.56 (1235)	4.73 (2277)	3.28 (1579)	0.72 (334)	2.37 (1097)
Exclusion	1.93 (310)	2.22 (357)	4.82 (774)	3.15 (505)	0.64 (103)	2.15 (345)
RR	1.23	1.15	0.98	1.04	1.12	1.1
(95%CI)	(1.08-1.39)	(1.15-1.3)	(0.9-1.06)	(0.94-1.15)	(0.9-1.4)	(0.98-1.24)
Urban:						
Normal	6.02 (921)	6.42 (981)	13.39(2047)	8.71 (1332)	1.87 (276)	5.35 (788)
Exclusion	4.96 (253)	5.59 (285)	)	8.34 (425)	1.67 (85)	4.92 (251)
RR	1.21	1.15	14.07 (717)	1.04	1.12	1.09
(95%CI)	(1.06-1.39)	(1.01-1.31)	0.95 (0.87-1.04)	(0.94-1.17)	(0.88-1.43)	(0.94-1.25)
Rural:						
Normal	0.67 (219)	0.77 (254)	0.7 (230)	0.75 (247)	0.18 (58)	0.98 (309)
Exclusion	0.52 (57)	0.66 (72)	0.52 (57)	0.73 (80)	0.16 (18)	0.86 (94)
<b>RR</b>	<b>1.29</b>	<b>1.17</b>	<b>1.35</b>	<b>1.03</b>	<b>1.13</b>	<b>1.14</b>
<b>(95%CI)</b>	<b>(0.96-1.71)</b>	<b>(0.91-1.53)</b>	<b>(1.01-1.8)</b>	<b>(0.8-1.32)</b>	<b>(0.66-1.89)</b>	<b>(0.9-1.43)</b>
Ratio ur- ban/rural:						
Normal	8.9	8.3	19.1	11.6	10.4	5.5
Exclusion	9.5	8.5	27.1	11.4	10.4	5.7

<sup>a</sup> In the case of surgery, the normal period covers only 26 months (the data for January 1995 were lost); in all other cases, this period covers 27 months.

## DISCUSSION

### *The effect of exclusion on utilisation is limited*

What can we learn from this? Within the limits of the data presented (data for only one health centre), it appears that the overall impact of the partial financial exclusion on institutional health care utilisation is limited. There was virtually no impact on the utilisation of curative care at health centre level\*. The impact on inpatient hospital use is more pronounced, especially

\* These findings do however not mean that there would be no problem at the household level, at the stages *preceding* utilisation. For example, in a survey carried out in 1994 in the Kissidougou *préfecture*, patients indicated that the delay before resorting to health centre utilisation was much higher in the "exclusion" period than during the rest of the year (Centre International de Développement et de Recherche 1994). This delay was reported to be due to the time needed to find the

at the level of the paediatric department. This last finding needs however to be placed in a context of relatively low levels of health services utilisation, especially when the hospital is concerned. Yearly admission rates of about 20‰ inhabitants indeed are relatively low compared to what is observed in other African district hospitals. A 1988 mail survey addressed to 88 non governmental district hospitals in sub-Saharan Africa indicated a median yearly admission rate of about 25‰, not including maternity deliveries (Van Lerberghe *et al.* 1992). Another survey in seventeen district hospitals in four Anglophone African countries indicated yearly admission rates of 23.7‰ in Tanzania, 32.4‰ in Ghana, 39.6‰ in Zambia and 39.9‰ in Kenya (data for the period 1975-1990) (Petit and Van Ginneken 1995).

Investigations carried out in the neighbouring Guékédou *préfecture* and in the nearby N'Zérékoré *préfecture* indicated that the overwhelming majority of children with episodes of disease that eventually led to death, *actually never reached the hospital* (W. Van Damme, personal communication). The district health services of these two *préfectures* are fairly comparable to Kissidougou in terms of performance. This empirical evidence suggests important levels of unmet need in children and confirms the findings on unmet needs regarding strangulated hernias and caesarean sections.

In a context of low utilisation (when life-threatening problems for which the health services can offer a technically effective solution will receive priority) it is unlikely for seasonal exclusion to further significantly decrease the level of inpatient hospital utilisation. Future measurements of hospital use, in both exclusion and normal periods, would allow to appreciate whether the impact of exclusion — which is low in a situation of low utilisation — would actually increase when the Kissidougou inpatient hospital utilisation further grows.

### *Coping with exclusion*

The Touffoudou investigation illustrates that utilisation of health services in the exclusion period is often only possible because a variety of fund raising strategies are mobilised. A same level of utilisation (of either health centre or hospital) at different periods of the year has different implications on the overall household economy (Figure 12).

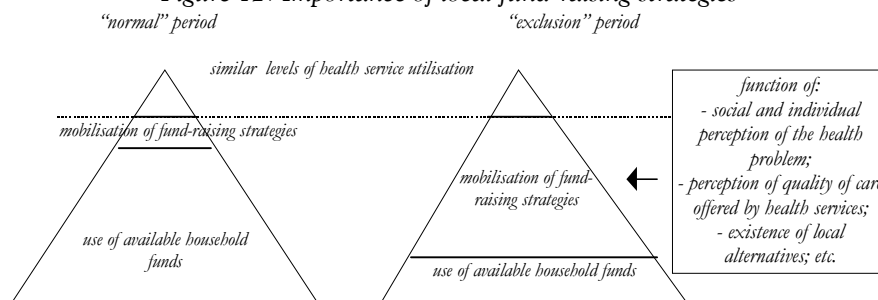
The most common strategies consist of borrowing from more wealthy

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necessary funds. A patient exit poll carried out in July 1994 among 314 patients indicated a median time delay of three days preceding health centre utilisation. It can be hypothesised that this delay would be less important at a time of the year where availability of household income is not (or less) problematic.

people in the community, selling labour, and in last resort selling food stocks and/or other personal assets. The opportunity cost related to seasonal debt remains manageable as long as the poor can repay the incurred debts before the next exclusion period. The picture is different when debts cannot be refunded: in such a situation the appropriate care for the grandfather's strangulated hernia or for the mother's obstructed labour (both problems scoring high on people's priority list) may take place at the expense of the (future) well-being of the entire household.

Figure 12: Importance of local fund-raising strategies



Seasonal variation in household income is a common feature in rural communities of the developing world and may contribute to exclude people from health care in settings where people have to pay at the time of use. The Kissidougou case clearly illustrates that health care utilisation is affected by a variety of factors. Financial barriers rarely are an isolated phenomenon. A variety of mechanisms are developed by the community to cope with the lack of resources at specific periods of the year. It remains to be seen whether, and to what extent, insurance-based financing has a potential to further limit the effects of exclusion. This issue will be tackled in chapter 6. However, before doing so, the basic principles of insurance and the different types of mutual aid (one of them being health insurance) will be discussed in more detail. This is the subject of the next chapter.

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## 5. Insurance and solidarity: concepts and typology

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### *The concepts of insurance and solidarity*

#### WHAT IS INSURANCE ABOUT?

The International Labour Office defines insurance as “*the reduction or elimination of the uncertain risk of loss for the individual or household by combining a larger number of similarly exposed individuals or households who are included in a common fund that makes good the loss caused to any one member*” (International Labour Office 1996). Insurance has to do with risk-sharing between many people. It reduces individual uncertainty concerning the timing and amount of future possible expenses that may be incurred. Insurance relies on the fact that what is unpredictable for an individual is highly predictable for a large number of individuals. It is based on risks or probabilities, quite different from pre-financing or prepayment of known future events\* (Mills 1983). The basic set-up is as follows: premiums or contributions are paid to an institution. This institution compensates — partly or totally — any insured victim of the event for the financial loss resulting from it. The range of events covered — i.e. the package of benefits — varies from one scheme to the other. This insurance institution may either be an intermediate institution or organisation, or the health care provider himself.

The concept of insurance is a modernistic and abstract construct that is not readily mastered by traditional societies (Abraham and Plateau 1995; Devisch 1996). But citizens of modern societies are very much risk-averse. In that respect, the twentieth century is sometimes referred to as the “*age of insurance*” (Kimball 1960), or the “*no-risk society*” (Aharoni 1981)†. Insur-

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\* In practice a prepayment element exists in health care insurance, since certain types of health care utilisation are highly predictable.

† This increasing importance of risk discourse in industrialised societies has been extensively analysed. Risk has been described as a social-cultural construct loaded with meaning and risk discourse as a means to exert social control (Lupton 1993). People “at risk” are considered *sinners* because of their lifestyle where risk is apparently being courted. A heart attack, a positive HIV result, or the discovery of a cancerous lesion are interpreted as a failure of the sick to comply with directives to reduce health risks. He/she is therefore to be blamed for his/her predicament. Risk assessment has become a growth industry in the industrialised world and risk discourse in public health is sometimes creating anxiety rather than peace of mind. The non-medical benefits of social health insurance indeed include reduction in anxiety, but at the same time some of these anxieties have been medically induced (Rushing 1986).

ance implies that expenses are being incurred so as to compensate the effects of a future, but uncertain, disaster. In so far as people are risk-averse, the expected utility for them increases as a result of the insurance operation: insurance reduces anxiety. This security is considered an element of well being as such, whether the risk event occurs or not, and justifies part of the cost represented by the payment of risk premiums (Abraham and Platteau 1995). It compensates for the fact that, eventually, *ex post*, there will always be (financial) winners and losers: everybody pays in to compensate the damage suffered by some. The feeling of security constitutes a 'return' or gain for the one who engages in insurance.

In most voluntary collective arrangements of mutual aid, there is an expectation of a return. If there is none, the arrangement may not be acceptable or viable in the long run. The return takes place under different forms: it may occur on short term or be delayed; it can be partial or total; it can be material or immaterial. Whatever the nature of the arrangement, individuals strive for a fair transaction. The perception and interpretation of fairness is culturally bound.

Hence, the distinction between reciprocity and insurance is conceptually artificial\* but helps to point to different expectations and time perspectives in terms of return. In the case of reciprocity inputs and expected outputs are equivalent. In the case of insurance this is not necessarily so: the equivalence of return is mitigated by a varying degree of solidarity.

#### WHAT IS SOLIDARITY?

A Dutch government committee report has defined solidarity as "*the awareness of unity and a willingness to bear its consequences*" (Dunning 1992). Solidarity means that people accept that the size of the return may not match the resources (financial or others) they have put *ex ante* in the system. The redistribution effects of insurance are consciously accepted. The willingness to bear 'the consequences of unity' has however limits. A feeling of compassion often triggers spontaneous solidarity, but this generally does not last very long.

Voluntary health insurance builds on self-interest: i.e. economical risk-aversion. It can be blended with different degrees of solidarity. A voluntary

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\* All these systems are based on some notion of reciprocity, although the context and the rules of what is exchanged and how this happens vary greatly. Reciprocity is directly experienced in face-to-face relations (when small groups that know each other well are concerned), or can be something more abstract as in the case of larger social insurance systems.



character of health insurance constitutes an important limitation: some people may decide to pull out of the scheme or simply not to engage in it. This occurs when people perceive the potential return as too low: the consequences of the event are not feared (if one is wealthy, one can afford the health care when needed) and/or do not warrant the investment (pay the premiums). Economically this makes sense for the individual, but in societal terms it runs counter to the principle of solidarity. A situation where low-risk and/or wealthy individuals opt out of the insurance is dangerous because it weakens the scheme's financial basis.

In the case of mandatory insurance, the unequal relationship between individual inputs (i.e. the cost for the insured) and eventual return is imposed on people by law. Solidarity is then institutionalised, but is nevertheless reversible. Whether it is reversed or not depends on the political and social choice society makes.

Elchardus takes a similar stand in his analysis of the European culture of solidarity (Elchardus 1994). He states that an effective and sustainable mutual aid system necessarily needs to build on both insurance and solidarity. Self-interest (based on the element of insurance) must be complemented by a sense of solidarity rooted in broader cultural and emotional grounds\*.

This issue of self-interest in insurance is consistent with the theory of collective action developed by de Swaan (1988a). He addresses the question of how and why people come to collective, nation-wide and compulsory arrangements to cope with adversities that appeared to affect them separately and to call for individual remedies. He uses two lines of argument. One relates to the concept of 'external effects'. It refers to the indirect consequences of one person's adversity for others not immediately afflicted themselves. For instance, if the sick are not cared for, then the healthy may also get sick: there are positive externalities to collective action. Solidarity can be in line with self-interest.

The other line of argument refers to the extension and intensification of the 'chains of human interdependence' in the course of time. Interdepend-

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\* He argues that this sense or feeling of solidarity in European societies is based on three components. The first is of Christian origin: the awareness of a personal duty to charity. The second is linked to the historical period of *Enlightenment* where the perception grew that diversity is not a threat but a positive and enriching experience. Solidarity is then not reduced to the narrow bond existing between individuals of a same kind, but is a feeling of sympathy for many, making life in community a feasible endeavour. The third component is social-democratic in nature. It is the choice for individual dignity and autonomy, with the awareness that the conditions for individual freedom are of a collective nature.

ence between the rich and the poor, or between the strong and the powerless, is central to the collectivising process. De Swaan argues that this process eventually led to the creation of a 'social consciousness' in European society: i.e. "*an awareness of the generalisation of interdependence, coupled with an abstract sense of responsibility which does not impel to personal action, but which expects the needy to be taken care of by the State and out of public tax funds*". This 'social consciousness' implies a tacit approval of a high tax pressure by a majority of citizens. It is the expression of a more humane society.

#### HEALTH INSURANCE AND ITS TWO PITFALLS

Given this tension between self-interest and solidarity, insurance systems have to deal with two very important constraints: the in-built possibilities of perverting the aims of the collective insurance system through *adverse selection* and *moral hazard*.

##### *Adverse selection*

In voluntary health insurance schemes it is important to minimise the preferential selection of high-risk individuals, a phenomenon the insurance industry calls 'adverse selection'. Adverse selection occurs when those who anticipate needing health care choose to buy insurance more often than others: for instance, in the case of health insurance, patients with chronic diseases or individuals who are clearly more likely than others to use health services. It occurs when insurance suppliers lack full information about the risk of individual insured persons or when, on grounds of equity, they offer insurance policies based on 'community-rated' premiums\*, in a context where low-risk individuals may opt out (Arhin 1995b). The occurrence of adverse selection is a function of the nature of the subscription unit (individual or household) and also of the proportion and self-selection of people who join the scheme. The former determinant can be controlled in the design of the scheme; the latter cannot, unless a minimum level of participation is imposed before the insurance scheme can function. From a public health point of view adverse selection is not a problem — one wants the high risk individuals to be able to benefit from health care — ; it is a major problem in terms of financial sustainability of the insurance scheme.

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\* Community rating refers to a policy in which the premiums are related to the average risk in the group as a whole; that is, all subscribers will pay similar premiums (except for adjustments for family size). The premiums will thus not vary according to age, sex, health risk, occupation, etc., as is the case with 'actuarially-based' premiums. Community rating discourages those of low risk from purchasing insurance while making it more attractive to high-risk individuals.

### *Moral hazard*

Moral hazard also has received considerable attention from the insurance industry. It is defined as “*the tendency of individuals, once insured, to behave in such a way as to increase the likelihood or size of the risk against which they have insured*” (Mills 1983). By extension, moral hazard refers to ‘over-consumption’ of health services for health problems that could find an adequate solution at lower levels of the system or that even do not require an institution-based technical intervention at all. It leads to inflation of costs, loss in individual and collective autonomy, excessive medicalisation, and even iatrogenesis (World Health Organization 1977). It is thus a problem both from a public health and a financial perspective.

Moral hazard is a phenomenon that can be induced by the patient himself, but also by the health care provider’s behaviour (Donaldson and Gerard 1993). More in particular, the remuneration method of providers influences the occurrence of *doctor moral hazard*. Remuneration on a fee-for-service basis is more likely than a fixed salary remuneration — other things remaining equal — to lead to a multiplication of medical acts. Rodwin, in his analysis of the French health care system, wrote that “*if one were to ask, as an intellectual exercise, how to design a cost-maximising health care system, a likely response might be to have a combination of health insurance, fee-for-service remuneration of providers, and minimal state intervention to regulate fees and monitor the volume of services rendered*” (Rodwin 1981). Moral hazard is also likely to occur in a context where the organisation of the health services system lacks basic rationalisation: for instance, a situation where people insured for hospital care have unlimited access to hospital services in the absence of an effective gate-keeping system.

Different methods have been developed in order to counteract moral hazard (Donaldson and Gerard 1993). One of the most widely used methods to control patient moral hazard, but not necessarily the most effective one, is to institute ‘co-payments’ or ‘co-insurance’. The insured persons then pay a part of the fee at the time of health service utilisation. Co-payment may be useful, not only in limiting excess demand, but also in generating additional resources for the health services.

The occurrence of moral hazard is considered one of the major problems faced by social security systems in industrialised countries. It contributes to an increase in unjustified consumption of health care at inappropriate levels of care in the health pyramid, and jeopardises the establishment of an *integrated* health system. One of the major challenges health planners in developing countries face when implementing voluntary health insurance

is to design measures that will optimise both patient and doctor behaviour.

### *Typology of mechanisms of 'mutualisation' of risks*

Mutual aid mechanisms are arrangements where the risk and the consequences of individual adversities are relieved through a collective action. Empirically, at least the following mechanisms of mutual aid can be distinguished: family solidarity systems; informal insurance systems; private-for-profit health insurance systems; mutualistic associations, non corporative or corporative; and compulsory social insurance systems

Recently a new set-up has been experimented with: district-based voluntary insurance systems. These combine elements of some of the others and will be discussed in the following chapters.

All of these systems are instrumental, to varying degrees, in increasing the households' security concerning the multiple stresses they face — one of them being health care related events. The characteristics of these mechanisms, their potentialities and limitations, are discussed below. Two qualifications are in order. First, the various systems discussed in this chapter exist, have existed, or may potentially exist in the future, in any part of the world. The examples given focus on sub-Saharan Africa, but the typology is not *per se* an African typology. Second, this overview is based on a description of *what exists today in Africa*, but these systems are in constant evolution\* and influence each other. They may merge, complexify, become more performant or disappear as they may stay as they are.

#### FAMILY SOLIDARITY SYSTEMS: MORAL OBLIGATION TO HELP

Traditional societies<sup>†</sup> have developed a variety of mechanisms against risks threatening their survival. These solidarity systems operate within the fam-

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\* The relevancy of putting the different mutual aid models in a historical, and thus dynamic, perspective is illustrated by the history of social insurance in Western Europe. This system is the result (but by no means the end result) of changes that have taken place over a very long time. It has its roots in something different.

† The label *traditional* is often used when discussing family solidarity systems. This is misleading when 'traditional' is equated to archaism or absence of obligations (Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung 1996). Tradition, and hence traditional societies, are not static nor are they refractory to modern influences. In reality, most so-called traditional societies have integrated elements of modern society (Van Dormael 1997). Traditional systems very often build on a series of obligations, even if not explicit. The label *endogenous* seems therefore more adequate than traditional.

ily or ethnic group\*. They are selective since not everyone can benefit from them. They enhance integration whilst at the same time creating exclusion. Exclusion is based on social or moral grounds. These systems are strongly influenced by a set of differentiated and hierarchic rules and norms, largely shaped by specific kinship relationships between individuals within a same family or ethnic group. Their features result from a system of relationships and values that is imposed by tradition in all its strength (Fassin, 1992; Vuarin, 1993). It is a bit awkward, virtually irrelevant, to discuss their 'design' and 'management' features as if these were consciously thought of, let alone analysed, by the group concerned. In that respect, it makes no sense to talk about objectives or about managerial issues like nature and size of contributions, membership, financial risk-bearer, etc. Membership, for instance, is not explicitly defined in a bureaucratic or organisational logic: it is automatic for those people who are part of the family or ethnic network.

Family solidarity is based on the moral obligation to help others. It is 'mobilised' for a large range of events that are not explicitly defined. These events do not necessarily have a negative or accidental character (like an illness or an accident); on the contrary, they may be happy events (like a birth or a feast) which play an important and positive role in social networks and rituals. The obligation to help does not necessarily apply to all family members: some individuals in the family — not just anyone — can be more subject to it than others. These obligations are codified — at least implicitly — and are often characterised by a certain sequence or asymmetry that needs to be strictly respected. For instance, for some it is perfectly acceptable to call upon the other(s) for help, but the opposite does not necessarily hold. The help given has positive effects for the donor and is not merely a unilateral sacrifice: the one who gives gradually strengthens his power and image in which generosity and social success is closely intermingled†. The capacity to redistribute can be motivated by pure self-interest: for instance, the creation of a relationship of allegiance. Hence, for one to give is not necessarily an expression of generosity.

It seems unlikely for these mechanisms to be scaled up successfully to more formalised and less selective mutual aid systems. A mechanism of equitable redistribution of monies would meet strong resistance given the pronounced personalised character of the transfer of resources, and given the

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\* This system of mutual aid also exists in modern societies, even if they have gradually eroded. Family solidarity is an extremely valuable form of mutual aid that is capable to manage far better some problems (e.g. the care for the elderly, or the care for psychiatric problems) than any formal and institutionalised system.

† This is an example of an *immaterial* return: assistance is reciprocated by allegiance.

personalised ceremony that accompanies it. The terms 'hot money' — which is strongly socially loaded — and 'cold money' have been used (Bédard in (Vuarin 1993))\* . Redistribution would entail a 'cooling down' of the resources involved and make any such attempt socially unacceptable.

Vuarin analysed the pro's and con's of 'scaling-up' the dynamic of aid given at the occasion of the baptism of new-borns in Bamako, Mali, so as to transform it in some kind of more or less institutionalised 'baptism fund' (Vuarin 1993).

Positive arguments relate to the non-exclusive character of such a fund since *every* child, whether from a rich or a poor family, is baptised. In addition, every baptism is accompanied by an economical transaction that is not incompatible with the ceremony itself, on the contrary. Wealth that is mobilised and offered to the family constitutes a central part of the ceremony.

The negative arguments, which outweigh the positive ones, focus on the likely cultural resistance to any mechanism of redistribution and on the fact that the presents given are value loaded and have a symbolic meaning. Vuarin also refers to the fact that, presently, the trustworthiness of the state as a possible manager of this would-be fund is doubtful. Finally, he argues that some population groups, like the *griottes* for instance (who act as ceremony masters and who are due to receive a part of the gifts), would oppose such a redistribution because they would then lose their benefit in the transaction.

An analogy can be made between this discussion and the debate on whether traditional or indigenous medicine can be, or even should be, integrated into Western medicine based primary health care systems. Van der Geest has argued that integration of both, while preserving the logic and identity of traditional medicine, is not possible (van der Geest 1985). He uses the metaphor of *fatal embrace* when describing the likely consequences of such a policy of integration. In that respect, the suggestion made by the International Labour Office (Mouton and Gruat 1988), to build upon endogenous African family solidarity systems and to gradually formalise and institutionalise them, is to be considered with caution indeed.

#### INFORMAL INSURANCE SYSTEMS: BALANCED RECIPROCITY

These systems are not constructed on moral obligation to help, but result from an individual and voluntary choice. These systems *de facto* constitute an informal (but not illicit) savings mechanism which is not subject to pub-

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\* In a roughly similar perspective, Cornil speaks about "hot" and "cold" solidarities when he refers to social security in Belgium (Cornil 1997).

lic control and regulation (Lespes 1990). These systems are based on *balanced reciprocity* (Dubuisson 1996). This concept implies two things. First, the transfer of resources is conditioned by the commitment to return it within a relatively short time-span. Second, in the perception of the members, the return must compensate or balance the initial transfer.

The exact terms of this reciprocal transfer can remain relatively vague in some instances, leaving room for divergence between transfer and counter-transfer. This is the case in the informal sea rescue organisations existing in fisher communities in Senegal (see Box 8). The reasons for this vagueness are twofold. There is, firstly, a *technical* reason: exact calculations are not always possible because transfers may take place in time or labour, and not necessarily in cash. Hence, they are only accounted in an approximate manner. What matters is that the return is tangible, even if its exact date (to the extent that it is not too much delayed in time) or size are not known in advance. The second is of a more *social* nature: people may fear that too 'calculating' an attitude may impede the cordiality of the social interaction. The fact that there is no strict equivalence, between transfer and counter-transfer points to the existence of a solidarity mechanism without an explicit awareness by the members participating to the arrangement.

A material return on relatively short term also characterises the phenomenon of traditional rotating savings and credit associations (ROSCAs) such as currently found all over Africa but also in expatriate communities in large cities of the industrialised world. They are usually called *tontines* in French speaking Africa (Lespes 1990). In these arrangements, participants make regular payments to a common pool (the 'pot') which is then periodically allotted to each one of them in turn. In this case, there is a strict equivalence between transfer and counter-transfer\*. The reciprocity is not balanced but total. The sequence of redistribution may be determined at the beginning of the period, it may be randomly, or it may be a function of the relative intensity of the participants' needs at that time. In the latter

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\* In some instances, the amount of resources (coming from the pot) that is allocated to an individual who faces a given event may be limited. In that case, the ROSCA *de facto* establishes an upper limit (a "ceiling") to the return (such a system is labelled *fixed indemnity* in the insurance industry and is one of the possible measures to counter consumer moral hazard (Donaldson and Gerard 1993)). This is reported to be the situation in some *tontines* in Cameroon where the constitutive assembly decides on the amount of money that is given to a member who falls sick and who needs to use the health services (de Champeaux 1995). The rationale is to limit the consumption of resources put in common. It introduces a dangerous element of arbitrariness in the functioning of the *tontine*.

situation an element of solidarity is introduced (Abraham and Plateau 1995).

The acceptability of these schemes is based on the expectation of a material return *within a relatively short time-span*. If the risk is too low, then the extension of the scheme to a larger range of risks may compensate for the expected delayed reciprocity. Everyone within the group can then reasonably expect to have a return within a rather short span of time. These informal 'insurance' systems do not seem appropriate to cover services provided at hospital level (a low risk event). Health care provided at first line health services is different because the risk is much higher. These systems may contribute to reduce exclusion to certain types of health care but their capacity to generate stable financial resources for the functioning of the health services is nil since there is no pre-payment of premiums to a provider.

*Box 8: Sea rescue organisations in Senegalese fisher communities.*

In Senegalese fisher communities boat owners commit themselves to rescue fellow fishermen lost or in trouble at sea and to contribute towards repairing or replacing the damaged equipment. These contributions (in time, cash or labour) are made in the expectation of future reciprocity. The indemnity paid to fishermen whose boat gets damaged actually represents only a minor fraction (approximately 15-30%) of the total repair cost. Hence, the scheme does not allow full recovery of the cost of the damage caused by the event; but this does not jeopardise the scheme's acceptability. After some time, participants who repeatedly contributed to the scheme without ever benefiting from it may consider the situation unfair and express the desire to withdraw. The unbalanced character of the situation is a source of frustration. When these participants decide to actually pull out of the scheme, they ask for a reimbursement of past contributions. This is accepted by the other members of the group, which indicates that the principle of balanced reciprocity is shared by the remaining members. The logic of reciprocity is easily abandoned when dramatic life-threatening events occur: in such a situation solidarity prevails — must prevail — and all sorts of calculations are dropped at those moments of crisis. Selfish calculations nevertheless reappear as soon as the acute crisis is solved and when questions of material indemnities occur.

SOURCE: Dock, 1992



#### THE PRIVATE-FOR-PROFIT MODEL: INSURANCE PREVAILS OVER SOLIDARITY

This model is based on a principle of *insurance*, generally with little or no *solidarity* — be it risk-solidarity or income-solidarity\*. Currently, private-for-profit health insurance in sub-Saharan Africa has a limited share of the market (Vogel 1990). At the end of the eighties, private insurance had a foothold in Ivory Coast, Ethiopia, Kenya, Nigeria, Swaziland and Zimbabwe. The number of people covered by these schemes ranged from 60,000 in Ethiopia to about 700,000 in Zimbabwe.

The case of the Commercial and Industrial Medical Aid Society (CIMAS) in Zimbabwe, which was created in 1945, is one of the most developed and well-documented private schemes operating in sub-Saharan Africa (Chaora 1997; CIMAS PULSE 1995). CIMAS presently covers only 7% of the country's total population, the vast majority of them living in urban areas. Subscribers meet the full cost of (monthly) premiums alone or with their employers' assistance. Traditionally, CIMAS has attracted middle to high-income earners, although it is attempting — rather unsuccessfully — to appeal to low income groups. CIMAS faces the well-known problems in the insurance industry of adverse selection, moral hazard and cost explosion. The fact that CIMAS enjoys subsidies through tax deductible refunds and exemption of corporate taxes creates a hidden flow of subsidy. General tax revenue is used to subsidise an insurance scheme mainly benefiting the happy few in the country.

The rationale of such schemes is profit making. Contributions are 'actuarially-rated' (or risk rated). They constitute a higher burden for high-risk individuals. Hence, their potential to adequately cover poor populations is very limited. Moreover, the administration costs of private schemes are generally high, certainly in situations where a competitive market for insurance companies exists and where economies of scale are more difficult (Feltese 1992). It seems unlikely that such schemes could become a viable means of financing health care for a significant proportion of the population at the current pace of economic development in many African countries (Ron 1993a). Such schemes impede establishing solidarity between the rich and the poor, and, as in the case of CIMAS, increase rather than reduce inequity.

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\* Private insurance also exists in European countries where well functioning social insurance systems operate. The relative importance of private insurance in these countries is an indicator of the limits society sets to what is to be covered by collective nation-wide solidarity. In Europe private-for-profit insurance is generally robust and creditworthy, but lacks transparency and consumer involvement in terms of management.

#### THE MUTUALISTIC MODEL: VOLUNTARY AND CONSCIOUS SOLIDARITY

Mutual health insurance has been defined as: “a voluntary association of people, without lucrative purpose, which is based on solidarity between all its members; through the contribution paid by its members and on the basis of decisions taken by the members themselves or by their management structures, it takes action to promote mutual help between members in the light of social risks they face” (Alliance Nationale des Mutualités Chrésiennes de Belgique *et al.* 1996). This definition implies that the range of events covered go beyond the sole risk of illness. Hence, the label mutual health insurance may be too restrictive, although some coverage of health care is virtually always included\*. In addition, the following principles of mutual health insurance are also cherished by its proponents: a participatory and democratic way of functioning through self-established management structures; a relative autonomy in its management from state, political parties, employers, health services, pressure groups, etc; and the promotion of individual and collective autonomy.

The mutualistic model of health insurance is based on both insurance and solidarity. The level of solidarity may differ from one scheme to the other, with generally stronger emphasis on risk-solidarity than on income-solidarity (which is much more difficult to implement in the context of developing countries). The main feature of mutual health insurance is its link with a social *movement*, like a village association, a trade union, or a women’s association (Atim 1995).

The discourse on mutual health insurance systems emphasises that anyone may join in — irrespective of health status, sex, race, religion, political preference, etc. In practice, the creation of such an association implies a privileged link between its members†. People living in a same neighbourhood, workers of a same company, users of a same facility, members of an existing social or professional movement may decide to pool some of their resources in order to cope with social risks. *De facto*, a more segmented part of the population will join in whilst some individuals will be excluded on the basis of (implicit or explicit) social criteria and norms‡.

The size of the group needs to be relatively small if the social proximity in the association’s life is to be sustained. Social proximity enhances trust

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\* Which was not the case in the European mutualistic associations that boomed at the end of 19<sup>th</sup> century. At that time, the effectiveness of medicine was far less established.

† I.e. the “principle of identification” (Galland *et al.* 1997).

‡ Witness the compartmentalisation (*verzuijing* in Dutch) that exists among the Belgian ‘mutualities’. ‘Socialist’, ‘Christian’ and ‘Liberal’ mutualities compete on the insurance market.

and allows for transparency in the scheme's management. It may contribute to reduce the occurrence of 'moral hazard' amongst the members: enhanced visibility results in more effective social control.

The small size implies that the level of pooling of resources may be too limited to cover expensive events and the relative lack of economies of scale may impede the scheme's effectiveness and efficiency. Also, the transparency because of small-scaledness has its drawbacks: members legitimately benefiting from the system may be resented the others, even if no moral hazard is at play (Rushing 1986). The paradox is that a lack of visibility — with lower levels of social control and more moral hazard — leads to a solidarity mechanism *that would (perhaps) not be socially acceptable if they were fully known*.

Two types of mutual insurance schemes can be distinguished. First, there is the 'non corporative' variant where no specific population group is targeted, although in reality some level of selectivity exists. Second, there is the 'corporative' variant explicitly organised for and by a well-defined professional group. A roughly similar classification was made in the frame of a nation-wide survey carried out in Senegal in 1995 (Brouillet 1996; Brouillet *et al.* 1997). In this survey 30 existing mutual insurance associations were identified. They were classified in *type I* associations (i.e. schemes covering people working in the formal economic sector) and *type II* associations initiated by people without any link with the formal sector. About two thirds (21/30) of the associations were classified under *type II* of which a majority (14/21) operated in rural areas\*.

#### *Non corporative mutual insurance associations*

Most of these associations were created in the nineties and few well-documented cases exist as yet (Ilunga *et al.* 1997). In Senegal more than one third (13/30) of the experiences reported were 'dormant' at the time of the inquiry, indicating a limited sustainability. Most of these inactive associations (10/13) had less than 500 members. Two examples are presented in Box 9 and 10.

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\* The lack of reliable information on the prevalence of mutualistic schemes in sub-Saharan Africa is obvious. Illustrative is the fact that the International Labour Office, in a workshop organised in Lomé in 1995, identified some twenty associations operating in the continent (Galland *et al.* 1997), whereas the Senegal survey found thirty associations in only that country.

Box 9: *The Mutuelle de Fandène.*

The *Mutuelle of Fandène* was created in 1989. It is still functioning today and is considered as a model for mutual insurance in Senegal. Fandène is a small rural community of about 3,100 inhabitants situated at 7 km from the regional capital Thiès. This community is ethnically and socially relatively homogeneous. The Fandène people mainly practice subsistence agriculture. An intense associative dynamic preceded the creation of the mutuelle: a youth association, an association of parents of school children, a local credit and savings association, etc. The presence of these associations is said to have substantially contributed to the creation of the mutuelle. The mutuelle was formally launched in 1989 with the active support of a local priest. Later, it also benefited from support from the hospital director of the nearby Saint-Jean de Dieu hospital. After a year of regular contributions (initially 100 Francs CFA — or approximately U.S.\$0.4 — per person per month; from 1994 on the contribution was doubled), the scheme became operational in January 1990. Initially, about 80% of the population joined the scheme that covers  $\frac{3}{4}$  of the cost of hospital-based inpatient care (with the exception of surgery and maternity services). Most of the hospital use took place in the private mission hospital of Saint-Jean de Dieu located in Thiès. In 1994, the hospital admission rate for members of the association was approximately 35%. No data are available for the non-members.

The main problems reported in the operation of the scheme were:

- ✓ a precarious financial situation (in 1993 more than half of the members were behind schedule in their contributions), to the extent that a system of fines was installed for 'irregular' members;
- ✓ adverse selection due to the fact that the association finds it 'socially' very difficult to object to people joining the scheme when they are already hospitalised;
- ✓ a strong demand to expand the range of services covered by the insurance;
- ✓ an absence of a formal legislative framework;
- ✓ a poor monitoring system of hospital utilisation by respectively members and non-members leading i.a. to substantial fraud and to difficulties in appreciating the scheme's impact on health services' utilisation.

SOURCE: Brouillet, 1995

Box 10: The *Bouahoun Mutuelle*.

The area of the Bouahoun village in Burkina Faso counts about 11.000 inhabitants living in four villages of which the most remote is located at 15 km from the central village where a government health centre is operating. The initiative for creating the association was taken by the health centre nurse in 1991-92. The main features of the scheme have been documented. The mutuelle, as it is called, was run initially by a bureau elected by the general assembly of members. The nurse was member of the board and acts as technical advisor. Affiliation to the mutuelle takes place on an individual basis and is restricted to the inhabitants of the Bouahoun area. The subscription fee was 300 Francs CFA/individual/year (approximately U.S.\$1 before the FCFA devaluation). The services covered are the cost of outpatient care at the level of the Bouahoun health centre, part of the drugs prescribed during these consultations (about 15%), and the cost of transport to the hospital for emergencies. The utilisation of the health centre's services was substantially higher for the members. The interest for the scheme decreased with time: the affiliation rate for the year 1992 and 1993 was 20 %, but dropped to 15% in 1994. The limited coverage of drug costs seems to have acted as a major disincentive to join the association. In all the three years, the majority of the affiliations took place for families living in the central village of Bouahoun, but in the most remote village of the area only 6% of the population joined the scheme. The scheme gradually moved away from a mutualistic model to one where the role of the health services is more prominent. Indeed, in 1993 — i.e. after one year of functioning — the elected bureau of the mutuelle was merged with the health centre management committee created in the wake of the nation-wide implementation of the Bamako Initiative. This change was deemed necessary because of the lack of human resources and management skills to operate, at the same time, two different structures (a bureau and a management committee).

SOURCE: Nacoulma *et al.* 1995

There are a number of recurrent features in 'non corporative' mutual aid associations. They generally operate on a small scale (a few thousand people at most). They are often created, under the impetus of local leadership, to cope with other problems than ones related to health care (for instance, the provision of credit for agricultural activities at family level). They are more prevalent in rural and peri-urban areas. The relative lack of management skills within the community associations, and the limited ability to exert rigorous control on regularity of contribution payments, on adverse selection, and on moral hazard, contributes to financial bankruptcy. The lack of managerial capacity leads in some instances to a more prominent role of local health services in the operation and monitoring of these schemes.

The creation of mutualistic associations may strengthen the position of the community in its negotiations with the health services and constitute a leverage to improve quality of care and consumer participation. Available experience indicates that, presently, this potential is constrained by the relative lack of economies of scale, by the limited managerial capacity of mutualistic associations, by their lack of both authority and firmness to regularly collect premiums and to control for adverse selection and moral hazard. These limitations may negatively impact on the financial viability of these schemes (the associations are also the risk-bearer in case of financial overrun) and jeopardise the adequacy of health services' utilisation by the members.

The proponents of this model of mutual aid advocate that such associations, when entrusted with the institutional power of a health committee, would fulfil this role in a more effective way than is the case at present in many African countries (Galland *et al.* 1997). There is, as yet, no documented evidence supporting this hypothesis (Ilunga *et al.* 1997; Centre International de Développement et de Recherche 1997).

#### *Corporative mutual insurance associations*

There are a number of corporative mutual insurance associations in sub-Saharan Africa (two examples are given in Box 11). Information is scarce, but they appear to have the following characteristics. They are more ancient than 'non corporative' associations and are largely inspired by the existing European model of health insurance, *without however sharing the same history*\*. They are more prevalent in urban areas and operate on a relatively

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\* Mutual insurance associations at the basis of the European social insurance system grouped vulnerable and disadvantaged populations. In corporative mutual associations in developing countries the opposite is the case: they cover the more advan-

large scale. Corporative mutual aid associations often run their own facilities, i.e. a situation where purchaser and provider functions are combined. These facilities are closer to the *policlinic* model — large teams including specialists — than to the health centre model staffed by a small-sized multifunction team responsible for a well-defined population.

Africa is definitely witnessing a dynamic of mutual insurance systems. For reasons of scale and managerial capacity, among others, their present performance is weak and sustainability shaky. As we will discuss in chapter 8, they have a potential for contributing to district based insurance systems, or even for developing into social insurance (but only in the long term, probably over decades).

#### MANDATORY SOCIAL INSURANCE: LARGE SCALE SOLIDARITY

Social insurance is based on a combination of *insurance* and *solidarity*. Financial and managerial considerations dominate the present view on these systems\*. These financial considerations obviously serve a social purpose: i.e. to provide all citizens accessible health care in a sustainable way and raise the necessary resources in such a way that the rich contribute more than the poor. It is consistent with a more humane society. Social insurance as it exists now in Europe is the result of a long social development process where solidarity between healthy and sick, rich and poor, elderly and young people have gradually been institutionalised (Kesenne and Evrard 1997).

Social health insurance is characterised by mandatory, earmarked and income-related contributions†. These systems are developed on a nationwide scale enabling economies of scale and genuine risk sharing of costly events. The state is the financial risk-bearer in case of financial deficit. Personalised relationships among beneficiaries are less prominent than was the case in the past. The management is under the central responsibility of the state or 'parastatal' institutions. Social security in general, and social insur-

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taged population groups (wage earners).

\* WHO in its guidebook for planning social health insurance states that social health insurance is to be considered as "a replacement for, or a supplement of, existing funding sources" and that social insurance "must serve to improve both funding for health services and access to care for the population" (Normand and Weber, 1996). Norman is quite explicit when he writes that "the main function of health insurance is the mobilisation of funds" (Normand, 1997).

† This is not always the case. In the Netherlands, for instance, it is mandatory only for households below a certain income level. Households above that threshold pay for private insurance. The functioning of private insurance is strongly regulated by the government.

ance in particular, is a fact of life for the European citizen.

*Box 11: Two examples of corporative mutual insurance.*

The *Mutuelle des travailleurs de l'éducation et de la culture* (MUTEC) of Mali targets employees (and their relatives) of the Ministry of Education and Culture. The voluntary contributions are withheld from the employees' salaries. The Mutec operates its own facilities that can also be used by non-members who are charged higher fees. In 1995, more than 10,000 people were covered by the activities of the Mutec 'health centre' in Bamako. This facility faces a precarious financial situation due, amongst other things, to problems in collection of contributions (in 1995, only 21% of the subscriptions were collected). Its package of activities is much wider than the one available at the level of government health centres (its management plans to add to this package specialist care like surgery and ophthalmology), its staff is much larger, and it establishes contracts with private companies. The facility also receives public subsidies (20% of its income in 1993). The mutual association of the military in Senegal covers about 80,000 people. The affiliation, without being 'mandatory', is automatic and contributions are proportional to the salary. The military administration is strongly involved in the management of the scheme. The association also runs its own facilities.

SOURCES: Camara 1995a; Camara 1995b; Brouillet 1996

*Table 7: Criteria for scoring countries according to potential for social insurance*

Shaw & Griffin, 1995:	<i>Supply-side criteria:</i> density and importance of urban population; proportion of total population in formal sector employment; (external) aid flows to the health sector <i>Demand-side criteria:</i> Per capita income; level of private medical expenditure; Availability of private health workers and hospital beds
Ensor, 1997	Proportion of population in the industrial sector; Size of the urban population and the population density; Country's income and growth rates of incomes

There is definitely an interest in exploring the potential of social health insurance for Africa. In 1995 World Bank economists have developed a classification of the African countries where this would be a realistic option (Shaw and Griffin 1995). They designed a scoring system, based on a set of



criteria shown in Table 7. In 1997, Ensor, also an economist, developed a similar classification (Ensor 1997).

The scoring exercises lead to a remarkably diverging assessment of the potential of development of social insurance in sub-Saharan Africa (Table 8). At first glance the World Bank classification seems over-ambitious in allocating relatively high feasibility scores to countries like Mali (+2) or the Democratic Republic of Congo (former Zaire)(+1). Ensor (with scores ranging from -4 to +4) presents a far less optimistic picture. He allocates a low score of -3 or -4 to most of the sub-Saharan African countries, including Zimbabwe, the country that scores highest in the Shaw and Griffin ranking. For Ensor South Africa scores highest, followed by Botswana, Namibia and Ghana, but with a score of only -1 for the latter three.

Table 8: Feasibility of social insurance in selected sub-Saharan countries

<i>Shaw &amp; Griffin, 1995</i>	<i>Ensor, 1997</i>
+ 3: Zimbabwe	+ 4 and + 3 : none in Africa
+ 2: Central African Republic, Mali, Mauritius, South Africa, Togo	+ 2: South Africa
+ 1: Benin, Botswana, Cameroon, Chad, Comores, Djibouti, Gabon, Ghana, Mauritania, Niger, Nigeria, Senegal, Seychelles, Sudan, Democratic Republic of Congo (former Zaire)	+ 1 : none in Africa
0: Angola, Cape Verde, Ivory Coast, The Gambia, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Namibia, Sao Tome & Principe, Swaziland, Zambia	0: none in Africa
- 1: Burundi, Mozambique, Rwanda, Sierra Leone, Somalia, Tanzania, Uganda	- 1: Botswana, Namibia, Ghana
- 2: Burkina Faso, Malawi	- 2: Senegal, Ivory Coast, Nigeria, Kenya, Burundi
- 3: Ethiopia	-3 and - 4: Lesotho, Guinea, Zimbabwe, The Gambia, Zambia, Guinea-Bissau, Democratic Republic of Congo (former Zaire), Uganda, Malawi, Tanzania, Ethiopia, Niger, Sudan

The criteria focus on a number of important economical, financial and demographic features. However, there is no reference to social dynamics where communities organise themselves, with or without the help of external leadership, to develop more elaborate mechanisms of mutualisation of risks. The history of European social security systems (Box 12) indicates that such local initiatives were at the basis of the eventual creation of social

security. The particular historical conditions — industrial revolution and class struggle — shaped the transformation of what we would now call ‘community based’ initiatives in a large-scale bureaucratic machinery that made efficient use of the economic possibilities.

Both Shaw & Griffin and Ensor’s criteria present things the other way around, as if facilitating environmental conditions would be sufficient by themselves. A perspective where the social dynamic is ignored is a-historical and incomplete.

A dynamic of small-scale mutualistic movement exists in Africa. It is as weak as it was in Europe at the end of the 19<sup>th</sup> century. Unlike in Europe, however, it does not build on a long tradition of self-organisation and of struggle to conquer help from the State. The State lacks credibility and trustworthiness, whilst its administrative, institutional, technical and financial capacity is often questionable. “*In many instances, especially in central Africa, the public authority has lost any legitimation and can no longer count on a minimal consensus or a sufficiently large social basis*” (De Villers 1997)\*.

On the short and even middle term it is not really realistic to expect significant structured state intervention in the mutualistic dynamic, nor for the State to build a social insurance system top-down, from scratch. The fact that the majority of African citizens are rural self-employed people — and not wage earners — makes the collection of premiums by the state an extremely complex exercise for which the administrative basis is presently lacking (Korte *et al.* 1992; Ensor 1997). All these constraints make it unlikely, in most sub-Saharan Africa, that equitable social insurance schemes be developed on the short or middle term.

*Box 12: A short historical overview of the genesis of social insurance in Europe*

Social insurance in Europe is the result of a phased history, characterised by:

- \* a long-standing tradition of mutual aid movements;
- \* a tremendous boost of the mutualistic social movement at the end of 19<sup>th</sup> century in the period of rapid industrialisation,
- \* gradual institutionalisation and increasing intervention by a strong state in the 20<sup>th</sup> century as a result of growing social revendications;
- \* implementation of a compulsory health insurance system (in most cases after the second World War);
- \* an extension of the insurance system to non wage earners in the ‘golden sixties’;
- \* a shrinkage, recently, of the benefit package.

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\* He uses the label “*L’Etat prédateur*” or the predatory State.

In the period of early industrial capitalism and accelerating urbanisation at the end of 19th century Europe, small-scale voluntary mutual insurance movements were created in order to cope with changing needs. 'Traditional', or endogenous mutual aid mechanisms, based on kinship and on the tradition of craftsmen's guilds (which have existed in Europe since medieval times) were no longer adequate in this dramatically changing environment. Strong associative movements arose where workers put part of their meagre salary aside (often on a weekly basis) for a common fund that would help their family in case of loss of employment, disablement, old age, death, etc. In that period, the health care system still was of limited effectiveness and coverage of health care was of rather marginal importance in this mutual aid dynamic. Benefits were mainly of a non-medical nature. In England and Wales this took the form of '*friendly societies*' (almost half of the adult male population belonged to a society by the middle of the 19th century); in France and Germany these associations were called '*Sociétés de secours mutuel*' and '*Krankenkassen*'.

Their management was relatively autonomous, but the associations were inherently weak and vulnerable because of the limited knowledge of actuarial science. Contributions were set according to vague rules. The general lack in administrative skills facilitated corruption, fraud and favoritism. Small in terms of membership and capital, these mutualistic associations brought together people with similar social, professional and even demographic characteristics, and often with common political ideas. The homogeneity of the membership reinforced a sense of togetherness; it also led to a concentration of risks of (occupational) disease or loss of work. The fact that people within these associations often were of the same age-group meant that they would grow old together: the burden of paying for relief in old age would become too heavy when the proportion of non-working members would suddenly increase.

The trade-off between, on the one hand, social homogeneity and concomitant concentration of risks, and, on the other hand, a more heterogeneous membership with dispersion of risks but with weakening of social cohesion was apparent even if not explicitly recognised. Many associations were tempted to exclude 'bad risks'. Given the lack of actuarial knowledge, social status took the place of risk calculation. 'Decent' working men wanted to differentiate themselves from people of lower social status. The lower substratum of the working class was excluded while the government, at the same time, tended to support the associations composed of somewhat better off people.

The dynamic of mutual aid associations coincided with the development of the trade union movement that took off at the end of the 19<sup>th</sup> century\*. It was gradually

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\* A survey organised by Emile Vandervelde indicated that in 1890 some 10% of the industrial workers (mainly in the coal industry) were member of a trade union—E.

taken over by nation-wide, state-controlled, compulsory institutions of social security that provided greater security — the state being the most creditworthy risk-bearer. The appearance of private insurance also contributed to the ‘out-pricing’ of mutual societies. The take-over by the state enabled a dramatic increase in scale — with pooling of resources — but was accompanied by qualitative transformations in terms of social relations between members. Professionalisation and bureaucratisation increased; rules, regulations and objective procedures took the upper hand. Insurance became the business of highly skilled technicians, while the improvement of actuarial science made it possible to calculate risks, fees and benefits. This (impressive) achievement of administrative technique was possible because the state was the most encompassing administrative and organisational structure that functioned effectively.

The first nation-wide compulsory insurance scheme was established in Germany under chancellor Bismarck but with the resistance of the worker’s movement and against much opposition in the parliament. The Social Democrats feared that social insurance, on a compulsory basis and with more state control, would cripple their movement. Social insurance also was a political instrument for the Bismarck regime — in coalition with industrialists — to strengthen the state and its apparatus and to improve its ties with the industrial working class. The short-term objective was to stem and domesticate the rapidly swelling tide of the worker’s movement and to secure the workers’ loyalty. The state subsidies were the price to be paid for more social control.

Generalised social insurance in Western welfare states became an impressive machinery: *“compared to an electric bulb or a combustion motor, where more than two thirds of the energy is spoiled for the production of useless warmth, (European) social security systems are wonders of efficiency where less than a tenth of the resources are spent for administration\* and a similar part, at most, leaks away through evasion and fraud. Complete efficiency is only possible in a police state”* (de Swaan 1988a). The gains in efficiency, however, came at the expense of participation and ownership. One of the major problems social health insurance faces today is the gap between management and community. Timid attempts are now made, i.a. in Belgium, to revive the social dynamic that was at the origin of the mutualistic movement, by giving more room for bottom-up decentralised planning and management (Spit 1996; Nonneman and Van Doorslaer 1994).

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Vandervelde in Chlepner 1972

\* The Belgian mutualities, for instance, receive from the government an allocation for administrative costs equivalent to 4% of the total amount of money they manage.

SOURCES: (Rushing 1986; Sigerist 1943; Ron *et al.* 1990; Kesenne and Evrard 1997; Descampe 1992; de Swaan 1988b)

## Conclusion

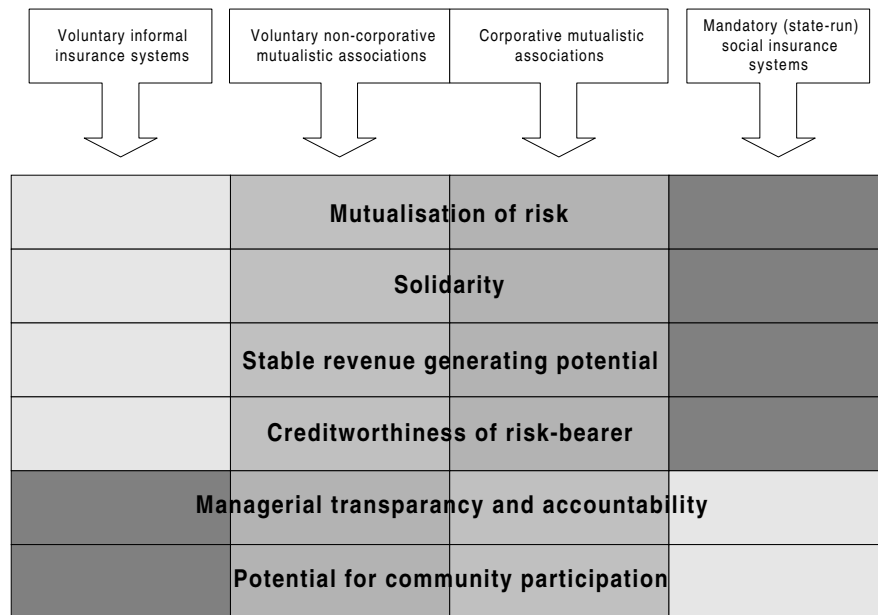
Family solidarity systems and private-for-profit health insurance are particular because they are based on a very specific logic: moral obligation to help other family members, or the wish to maximise profit.

The three other mutual aid schemes (informal, mutualistic and social insurance systems) represent collective, conscious and planned efforts to reduce the uncertainty concerning health risks, not as for profit-purposes but in a logic of solidarity. They vary in extent of 'mutualisation' of risks, level of solidarity, potential to raise stable revenue for the health services and creditworthiness of the risk-bearer. The other side of the coin is that increased effectiveness and efficiency entail bureaucratisation and formalisation of complex managerial decisions that go at the expense of transparency, community participation and social proximity (Figure 13).

State-run social insurance schemes are the most effective in terms of reducing uncertainty. But there is a price to be paid. The complexity of the decision-making process justifies centralisation, but population and health care providers are reduced to 'consumers' and 'spenders' without being confronted with the financial implications of their behaviour. On the other hand, the potential of the other schemes (informal insurance and many mutualistic associations) is limited by the lack of economies of scale and by the management difficulties they experience.

The increasing political stress on decentralisation (Mills *et al.* 1990) and the progress of the district paradigm (World Bank 1993a; Criel 1995a; Unger and Criel 1995) created a climate where new, district level, initiatives have been launched. These try to combine the efficiency and robustness of bureaucratic social security with the managerial simplicity and transparency of small-scaledness. Such district level health insurance systems are still rare and young, but they may offer an alternative that is more realistic than social security and more sustainable than local mutual aid schemes. The experience gained in a few of these attempts is summarised in the next chapter.

Figure 13. Potential and limitations of mutual aid schemes



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## 6. District-based insurance: *a synthesis of case study findings*

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District-based insurance systems are still very young (the first date back to the mid-eighties) and rare. This chapter presents a synthesis of the findings of a limited number of case studies, that are described in part 2 of this study, with a detailed, and often narrative, account of the three experiences. They are all located in Central Africa: the *Bwamanda* and *Masisi* schemes in the Democratic Republic of Congo and the *Murunda* scheme in Rwanda. The *Bwamanda* scheme started in 1986 and is still operational. The *Masisi* scheme started in 1987 but was halted in 1990 because of the acute exacerbation of the political, social and economic crisis prevailing in the area. In *Murunda*, the 1994 genocide in Rwanda put an end to the experience started in 1988.

This chapter presents an overview of the main case study findings and summarises the design and management features of the three experiences. The different schemes are confronted with the evaluation grid defined in Chapter 1 (Figure 1). The lessons learnt are used to assess the potential of such schemes for a situation such as described in Guinea in Chapter 4, more in particular, as a way to address the problem of exclusion.

### *Case study methodology: what, how, when and where?*

These evaluations are in the format of case studies. “*Case study evaluations are valuable where broad, complex questions have to be addressed in complex circumstances. No one method is sufficient to capture all salient aspects of an intervention, and case studies typically use multiple methods. Case studies are appropriate when the questions being posed require an investigation of a real life intervention in detail, where the focus is on how and why the intervention succeeds or fails, where the general context will influence the outcome and where researchers asking the questions will have no control over events*” (Keen and Packwood 1995). The implementation of insurance schemes is a typical example of an intervention consisting of a complex mix of changes that occur over time. Each actor involved (the health services managers, the health personnel, the different communities concerned, the State, etc.) may have a legitimate, but different, interpretation of events and appreciation of success or failure. These features exclude an experimental approach to evaluation.

The selection of sites for study is central to the case study approach but

case study research is not sampling research. One looks for cases that are typical of the phenomenon being investigated, those in which a specific theory can be tested, or those that will confirm or refute a hypothesis (Keen and Packwood 1995). The first criterion should be to maximise what we can learn. This is called *instrumental* case study (Stake 1995) which, obviously, may be extended to several cases. Good instrumental case study does not depend on being able to defend its typicality. Potential for learning is a different and sometimes superior criterion to 'representativeness' (Stake 1994). This is what Patton calls *purposeful* sampling (Patton 1980a). Eventually, on the basis of data researchers can draw their own conclusions. In our case, the selection of sites was certainly limited by the fact that in sub-Saharan Africa there (still) are very few district-based insurance schemes under operation. This gives a poor basis for generalisation since only three cases are studied. But these are studied at length, and certain problems or answers come up again and again. Each case study by itself does not fundamentally change but makes it possible to refine our understanding of the phenomenon.

Case studies can be done either prospectively or retrospectively. In our situation, two cases are clearly retrospective (Masisi and Murunda). These evaluations were carried out jointly with key actors of both schemes at a time when they had already left the respective settings: in the case of Masisi, the District Medical Officer (Dr J.P. Noterman); in the case of Murunda, the Hospital Medical Director (Dr C. Roenen). The case of Bwamanda has been studied through a mix of retro- and pro-spection. The author worked himself as a medical officer in Bwamanda from 1986 to 1990 and regularly corresponded with the district team in the period 1991-97. His own perception and insights are an integral part of the data. A member of the Bwamanda district team was in Antwerp on different occasions and the author himself revisited Bwamanda in the period March-April 1996. He has thus been part of the 'system' and his investigations certainly influenced the perceptions, perhaps even the planning process, of the local actors involved in the operation of the hospital insurance. Hence, the study of the Bwamanda scheme goes beyond what is called *summative* evaluation, i.e. research with the purpose to determine program effectiveness (Patton 1980a). It was also within the scope of *formative* evaluation (i.e. research with the purpose to improve the program) and even within that of action research.

The case study approach implies the preliminary identification of one or more broad research questions. In the present study, these questions were the following: were these insurance initiatives successful or not? And why



(or why not)? After this step two possibilities exist (Keen and Packwood 1995): either identify precise questions at the outset of the research and design data collection and analysis procedures directed towards answering them; or start from the broad questions which are then refined and become more specific in the course of the field work and the parallel process of data analysis. Eventual research questions then often emerge *during* the very research process. This second approach has been used here. It is a more inductive approach in which the generation of hypotheses often replaces the testing of hypotheses, explanation replaces measurement, and understanding replaces generalisability (Jones 1995).

A distinctive but not unique feature of case study research is the use of multiple methods and sources of evidence to establish internal validity (Keen and Packwood 1995). Validity is defined as the “*extent to which a measurement truly reflects the phenomenon under scrutiny*” (Pope and Mays 1995). Case studies often use triangulation\* to ensure validity. Triangulation means using several kinds of methods or data, including both quantitative and qualitative approaches (Patton 1980b).

Three types of methods and data were used: (i) an investigation of the health services’ utilisation patterns according to insurance status, (ii) an analysis of the schemes’ financial performance, and (iii) inquiries into the social perceptions of the insurance scheme (Table 9).

Table 9: Data and methods used in triangulation in the three case studies

	Utilisation studies	Financial analysis	Inquiries into the perception by:	
			Beneficiary population	Managers
Bwamanda scheme	+++	+++	+++	+
Masisi scheme	+++	+	±	±
Murunda scheme	++	++	±	±

In all three case studies quantitative methods and data are prominent;

\* There are four types of triangulation: *data triangulation* — the use of a variety of data sources in a study — ; *investigator triangulation* — the use of different researchers or evaluators — ; *theory triangulation* — the use of multiple perspectives to interpret a single set of data — ; and *methodological triangulation* — the use of multiple methods to study a single program (Denzin 1997). The present case studies use data and methodological triangulation.

it is only in the case of Bwamanda that a more structured qualitative investigation took place. Quantitative information was complemented with personal perceptions of key actors who, in the past, had been involved in the operation of the Masisi and Murunda schemes. These perceptions were however not recorded and analysed in a formal and systematised way. There are two reasons for this. A first, and very practical, reason is the fact that the evaluations of the Masisi and Murunda schemes took place in the periods 1992-93 and 1994-95 respectively, i.e. at a time when both experiences already had stopped. This chronological sequence allowed to learn from previous work but limited the scope of possible fieldwork. Hence, the main source of data was the routine health information system as it functioned during the respective periods of activity of these two insurance schemes. A second reason is of a more methodological nature. The focus groups that were organised in Bwamanda at the occasion of a field visit in March-April 1996 constituted a major learning opportunity and 'eye-opener'. It was only then that the relevance of more systematised qualitative investigations of social perception and interpretation of health care insurance — in contexts where such mechanisms are new — was fully recognised.

### *The Bwamanda scheme*

Even taking into account the specific features of the privileged environment in which the experiment took place, Bwamanda has the merit of illustrating the feasibility of health insurance — at least for hospital-based inpatient care — at rural district level in sub-Saharan Africa. It supports Arhin's position not to dismiss rural health insurance in Africa as impractical or unfeasible (Arhin 1995a). At the same time it illustrates the managerial and social complexity of such financing mechanisms. The need to proceed with caution is apparent. In Bwamanda there was enough time and room for manoeuvre to do so. In many other places the (financial) situation may be much more acute and may require more rapid — and less well-prepared — decision-making.

The high subscription rates (about two thirds of the population from the third year of operation on) indicate the social acceptability of this voluntary hospital insurance scheme. The scheme succeeded in generating reliable and stable resources for the functioning of the hospital. Financial data pertaining to the scheme's first years of functioning (period 1986-89) show that the Bwamanda hospital has become less dependent on external funding sources. In addition, the scheme dramatically improved the access

to justified hospital care, even for patients living in remote areas. It succeeded in doing so without jeopardising the overall health system's efficiency. In absolute terms, it was shown that the bulk of the increment in hospital utilisation for non urgent problems is mainly concentrated in the populations living relatively close to the hospital but in relative terms it is fairly similar for remote communities. The impact of the scheme on efficiency of hospital use needs further study, and its impact on possible patient delay before hospital utilisation needs to be explored.

The Bwamanda case study illustrates that health insurance can constitute a substantial contribution to the performance of district-based health care delivery systems in the context of rural sub-Saharan Africa. The insurance scheme also constituted an opportunity to improve the overall coherence of district health service systems because it contributed to further strengthening of the gate-keeping function of the health centre network.

The focus group discussions clearly indicate that, despite the frustrations expressed, there was a strong demand and willingness to discuss the *mutuelle* — as the Bwamanda hospital insurance scheme is called. People felt concerned. The focus groups highlighted the tension that exists between the *mutuelle* and existing family solidarity systems guided by a different, and sometimes conflicting, logic. The *mutuelle* is efficient from the technical point of view precisely because it is rigorously managed. If it were not it would be in danger of rapidly getting into financial difficulties. Organising a system of this kind is, and is bound to be, a complex and perilous operation—all the more so in a country plagued for several years with galloping inflation and with great difficulty to safeguard the capital generated by contributions from subscribing families. The relatively large scale on which the scheme has developed is necessary to allow a sufficient pooling of resources: the nature of the risks covered — hospital care — makes it necessary to mobilise sufficient resources to cover the risk of hospitalisation for the subscribers.

The health team's decision to limit the coverage of risks to hospitalisation and exclude care at health centre level thus seems legitimate from the technical point of view (even if people did not always understand the underlying rationale). It is at the hospital level that the financial barrier to access is greatest and it is at the health centre level that family solidarity systems could most easily operate, in view of the relatively small expenditure involved. Although minor health incidents present no particular problems, satisfactory insurance against major but less frequent catastrophes cannot be provided as easily through these family-based mutual aid mechanisms. The demand for including first level health care in the benefit pack-

age is probably more the expression of the expectation of greater reciprocity than of a problem of financial accessibility at this level of care. The use of the health centre being a much more frequent event than the use of the hospital, subscribers would more easily perceive a 'return' on their investment.

The Bwamanda *mutuelle* gradually institutionalised as a result of the evident success of its early years: the logic of the health service appears to have concentrated on an ambition to achieve the highest possible number of subscribers. The staff of the health service—including the author when he was still working in Bwamanda—sometimes adopted (and still do) an attitude in which non-subscribers are regarded as guilty. They are discriminated against, although their failure to subscribe is often due to genuine financial constraints and not to lack of interest. The fact that the health centre team has a (admittedly small) financial interest in getting as many people as possible to subscribe to the *mutuelle* may perhaps have influenced such an attitude at their level. In this sense it may perhaps be preferable to consider fixed rates of pay for health centre staff: a measure which has the advantage of not discriminating against the staff of health centres in economically disadvantaged health areas.

The need for rigour does not mean that there is no case for changing the attitude of the health service. It seems possible, and indeed essential, to achieve greater involvement of the population in the management of the *mutuelle*. Further involvement of the population in the management of the scheme does not, however, mean that the population should immediately start taking all the decisions. Such an attitude would not only compromise the success of the scheme but would also mean that the health service abdicates from its responsibilities. A failure to understand all the technical details does not necessarily involve abandoning management rigour. Care should be taken at the outset to give adequate explanations; for the view expressed in many focus groups that "*the mutuelle is a good thing, but...*" indicates clearly the stock of goodwill on which the health service can build. The fact that the *mutuelle* was developed at district level ought to facilitate the necessary dialogue. The organisation of a more structured dialogue with the Bwamanda population on the *mutuelle* cannot be entirely delegated to the health centre nurses. Inputs from the executive team are necessary because the health centre nurses do not sufficiently master all the conceptual and organisational aspects of such a financing system.

The conflict between the need to achieve economies of scale in order to increase the level of risk-sharing on the one hand and the fact that this larger scale implies more 'distance' in terms of inter-personal relationships

on the other is not immutable. The conflict can be resolved if we bear in mind that “*there are stages in the creation of a system of solidarity and that the apprenticeship of the organisation and the level of confidence develop gradually*” (Dumoulin and Kaddar 1993). In that perspective a common management structure in which negotiations and decisions take place could be established on relatively short term. This would provide a forum for discussing a manual of policies and procedures, mechanisms for exempting the poorest members of the community from the payment of contributions, or alternative means of organising the subscription process. Clearly such a change implies a cost in terms of time and may indeed make management more complex.

Nevertheless, there is no alternative if the Bwamanda health service wants the district inhabitants to be more than mere consumers of care. On the longer term, one could even consider to further organise the design of the scheme in such a way that a split between fund-holder and provider takes place. The members of the *mutuelle* would then actually become the scheme’s fund-holder and be in a position to negotiate with the provider the different terms of an agreement concerning the design and organisation of the insurance scheme. This would imply a dramatic change in terms of management that should not be decided upon overnight. One of the most likely resistance factors that could reasonably be expected would be a reluctance of the Bwamanda health team to engage in such a split between purchaser and provider function. The CDI project (*Centre de Développement Integral*) in general, and the District Health Team in particular, may fear that the overall performance of the scheme might be jeopardised. The Bwamanda *mutuelle* has indeed gained national, and even international, recognition. The team is hesitant to give in the kingpin of its image and quality label: this attitude is understandable but not necessarily correct.

Two tracks can be explored to strengthen the balance between equity and sustainability. First, the distance gradients observed in hospital utilisation make a case for a policy where remote communities would be positively discriminated. Such discrimination could be implemented through a system of sliding scales where remote communities would pay lower subscription premiums or lower co-payments than nearby communities. The main users of the hospital (but who have the lowest cost to reach it) would then subsidise the hospital use for patients living far from the hospital who face substantial ‘indirect’ costs in case of hospitalisation (transport, food, lodging for family members, etc.). In a rural setting like Bwamanda, these indirect costs often outweigh the direct cost (i.e. the fee) of an admission. Such a sliding scale system is a means to channel benefits to a well-defined population, in

this case according to the geographical area where people live. This is called characteristic targeting, in contrast to direct targeting (Glewwe and van der Gaag 1988). A system of sliding scales in co-payments was tested in Bwamanda in 1987 but was stopped shortly after its inception because of managerial problems\* and because it did not have any measurable effect on hospital utilisation. However, similar systems of positive discrimination could in the future be tested in Bwamanda during a sufficiently long period.

Another option would be based on the consideration that it is not efficient, given the scarcity of the resources available in Bwamanda, to consider all health problems as equally important. One could consider the establishment of different levels of coverage by the insurance scheme according to the priority degree of the health problem. For instance, no co-payments for health problems classified as priority justified care (e.g. admission for a caesarean section or for a strangulated hernia); a modest co-payment for health problems classified as non priority justified care (e.g. admission for an uncomplicated hernia); and a higher co-payment for health problems classified as unjustified hospital care (e.g. admission for a minor upper respiratory tract infection). Such a distinction in the hospital fee structure was implemented in the Kasongo hospital in eastern Zaire, albeit in a context without hospital insurance (see Chapter 1). A discrimination of this kind can obviously only be considered if the system of referrals from health centre to hospital is functioning in a rational way, which is the case in Bwamanda. The social acceptability of such a distinction would need to be investigated.

### *The Masisi scheme*

The Masisi hospital insurance scheme did not go far beyond the experimental stage. In 1987, it was implemented for a small part of the district in the population covered by the semi-urban Masisi health centre area, less than 10 km from the district hospital.

In a first phase about 7% of the population of that area joined the scheme. The hospital admission rate of the insured population increased dramatically, to a level five times higher than that of the non-insured sub-population within the same community. The analysis of this first experience clearly indicates the existence of substantial adverse selection of pregnant women. Deficiencies in terms of design were obvious (individual subscriptions, no waiting period) and were acknowledged by the District

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\* Control was more complex: the patient's residence had to be checked systematically.

Health Team.

A different design reduced adverse selection in 1988. The subscription rate increased to about 27% in the same Masisi health centre community. The hospital admission rate among the insured was still very high: i.e. a level four times higher than the rate for the non-insured. This second experiment then unfortunately needed to be stopped because of major social and political problems not related to the insurance scheme.

Neither experiment achieved a sound financial balance. In both cases, the deficit was covered by the health district pharmacy. Given the small scale of the experiment, the effect of this deficit on subsequent changes in the drug pricing structure remained relatively marginal.

In Masisi the increase in hospital use among insured was largely due to an increase in hospital deliveries. It is *a priori* not to be expected that all these deliveries really needed to take place in a hospital environment. Moral hazard is possible. This remains uncertain. On the one hand, one can argue that not all deliveries need to take place in the hospital in a context where home deliveries are part of the local medical culture, where geographical access to hospital-based maternity care is fairly easy, where traditional birth attendants were being trained to properly manage home deliveries for uncomplicated cases and to identify complicated cases for referral. Hospital deliveries in Masisi did not have major disruptive effects on workload and quality of care at the hospital maternity ward, but this was only because the eligible population was limited and the subscription rate was so low. At the end of the eighties, the hospital maternity had 12 beds and one labour ward. Not more than one or two midwives were continuously present. During the second insurance experience about eight out of ten insured pregnant women delivered in the hospital maternity. In the non-insured population this proportion was (only) one out of five. It is unlikely that the hospital maternity would have been able to cope with the substantial increase in workload that would follow extension of insurance coverage. Quality of the care would suffer, especially for those complicated cases needing special attention.

On the other hand, the use of the hospital maternity corresponded to a clear choice of this population. The Masisi scheme responded to a real demand. This may indicate low acceptability of home deliveries, reflect the quest for a basic level of 'comfort' at the time of delivery, or even be the result of a supply driven demand. Within the limits of the data available, it is unfortunately not possible to explore these questions further.

From a more general perspective, this experience suggests that health insurance with a selective package of benefits — for instance, coverage

limited to obstetrical problems — is a socially acceptable design. The choice of services to be included in the package obviously needs to take into account local priorities identified by the community itself. Several countries in sub-Saharan Africa are exploring the feasibility and acceptability of schemes covering emergency referrals from first line to hospital\*. Selective insurance schemes have the obvious advantage that the subscription premium will be substantially lower than in a design where any hospital admission is included in the package of benefits.

The Masisi scheme not only led to an increase in hospital deliveries but also to an increase in hospital use for other problems that are less 'predictable'. The admission rate for unpredictable health problems was about 3 times higher in the insured population of Masisi town. Unlike in Bwamanda, the available data are not detailed enough to appreciate to what extent this increase is due to moral hazard.

The Masisi experiment illustrates the need to carefully design the package of benefits covered by insurance, and the need to control adverse selection and moral hazard if one wants to keep the scheme sustainable.

### *The Murunda scheme*

On the whole, the Murunda insurance scheme did not achieve its objectives. It has improved the accessibility of health care for certain population groups. It is difficult to establish how much of the increase in the use of health services was due to health problems that really required the intervention of the health services. Moreover, the improvement in accessibility was unevenly and inequitably distributed over the target population. The functioning of the insurance was subsidised by the Murunda hospital from its other sources of income. The system was kept in operation through the hospital fees of non-members. Since non-members were more likely to belong to at-risk groups disadvantaged in terms both of purchasing power and of accessibility of care, the system benefited from a flow of resources from the poor to the better off. Finally, the *Mutualité* turned out not to be a means of strengthening the dynamic of participation of the population in the decision-making processes in the field of health care. The extent to which the population became involved in the system and the degree of so-

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\* In Mali for instance, such a system is currently being tested in the Kolokani district. This scheme is not based on an insurance mechanism but on a common health centres and hospital fund that finances the operating costs of the ambulance. Preliminary results after 4 months of functioning are encouraging and do not indicate acceptability problems (Tangara *et al.* 1997).



cial control it exercised over its management remained, on the whole, very limited, even after six years of operation.

The following factors were major limitations on the harmonious development of the Murunda health insurance system and should be avoided in the introduction of schemes of this kind.

The Murunda insurance scheme remained in essence the affair of people living near the hospital. This is not surprising, since the initiative came from the hospital (the insurance having been conceived to deal with a hospital problem) and the coverage of first line health care was limited to care provided by the hospital dispensary. The management of the hospital and its dispensary was largely dissociated from the management of the peripheral network of first level health services. The hospital dispensary provided the same services as the health centres. This put the hospital in a *de facto* position of competition with the peripheral first level services, at a time when it was having difficulty in performing its function as a support for these centres.

Access to hospital treatment was much easier for the population of the administrative districts round the hospital than for people living in the rest of the Murunda area. The lack of rationalisation in admission policy and in diagnostic and therapeutic procedures for patients admitted to the Murunda hospital were factors limiting the efficiency of the care offered. The easy access to institutional care, as was the case here, probably contributed to the over-consumption of care that was observed. The willingness of a community to join an insurance system obviously is influenced by its perception of the quality of care offered. It is quite understandable that people living at a greater distance would be unwilling to participate in an insurance system for services offered by a hospital which, after all, did not adequately perform its function as a centre for referral. In such a context, it is not surprising that the demand for the services of the *Mutualité* and, at the end of the day, its acceptance by the population of Murunda was limited to the five administrative areas nearest to the hospital.

The dialogue between the health services and population, in particular on the issue of the insurance plan, has remained weak. A greater involvement of the staff of the first line health services — crucial structures for interaction between the health services and the population — could promote such a dialogue. The Bwamanda case shows that active involvement of health centre staff in the organisation of such financing mechanisms is possible.

Somewhere halfway the course of its 6-year existence, a radical change was introduced, with the creation of a management committee, initially

appointed, later elected. The hospital director was automatically member of this committee. This change from a direct pattern of insurance to an indirect one was a step in the process of separating fund-holder and provider functions. It formalised the involvement of local populations in the management of the system. Rational decision-making, however, was considerably hampered by the lack of managerial skills within that committee and by its poor representativity of the committee. This was compounded by the lack of insight of both committee members and hospital director in the financial and technical aspects of the scheme's functioning (poor monitoring of the insurance's impact on utilisation and of its financial performance). The structure was there but correct and understandable technical information was patchy and incomplete. Moreover, the medical director of the hospital, who always remained a key person in the *Mutualité's* management, had few contacts with the realities of first line health services in the Murunda area and had no authority over their organisation and functioning.

It is questionable whether the option to include curative consultations at the hospital dispensary in the package of benefits was a sound one. Most of the expenditure – and most of the deficit – was incurred at this level, but the management committee was not aware of this. This is even more unfortunate since it is at this level of care that the costs can most easily be met through family solidarity mechanisms – certainly if the amount to be paid for a consultation is known in advance. There was a strong demand from members for the insurance scheme to cover care at the dispensary level, but this demand was clearly incompatible with the financial situation of the insurance scheme. Nobody, however, challenged it.

### *Design features of the Bwamanda, Masisi and Murunda health insurance schemes*

The design and management features of the three experiences are similar in many aspects: two are quite specific for district-based health insurance and distinguish them from the historical examples of mutualistic associations. First, there is the prominent role of the health services that initiated the schemes and continued to play an important role in their operation. In Bwamanda and Masisi a direct pattern of insurance prevailed, implying two partners: the health services and the general population. This was also the case during the first years of functioning of the Murunda scheme. Second, the scale of these district based insurance systems was much larger than that of mutualistic associations. Even if the Masisi and Murunda schemes never succeeded in reaching that point, they were expected to eventually

cover the entire district population, not merely a self-selected sub-population.

But there were also some differences in terms of organisation of subscription, benefit package, measures to control for moral hazard, etc. (Table 10). If the managerial basis – the role of the health services, the scale – and objectives were similar, in terms of performance, there were huge differences. The Bwamanda scheme is the most ancient and also the most successful. The circumstances that contributed to its success are described in detail in part 2. The following seem particularly important: the quality of care at hospital level, the rationalisation of health care delivery, the effective gate-keeping function of the health centre network, the reputation of the District Health Team, and last but not least the financial and institutional support by the CDI. The results are summarised in the following tables. The five dimensions of evaluation described in Chapter 1 are reviewed: net revenue generating ability, ease of use, system effects, effects on community participation, and, finally, the effects on equity.

*Table 10. Design and management features*

	<i>Bwamanda</i>	<i>Masisi</i>	<i>Murunda</i>
Main actor(s)	District health team	District health team	Hospital team
Fund-holder	Health services	Health services	Initially health services, later NGO without legal status
Relationship between fund-holder and provider	Overlap	Overlap	Initially overlap, later no-competition split without active purchasing role
Subscription basis	Voluntary, per household	Voluntary/individual, later per household	Voluntary per household
Enrolment period	Limited to 4-6 weeks per year	Limited 1 month per year	Initially no limitation, later 3-5 months / yr
Nature of premium	Cash/unique flat rate/ annual basis	Cash/unique flat rate/ annual basis	Cash/variable flat rates/ annual basis
Exemptions	None	None	Yes
Waiting period	Overlap with enrolment period	Initially none, later overlap with enrolment period	Initially none, later 1 week for outpatient, 1 month for inpatient care
Provider payment	Fee per case payment to facility	Fee-for-service payment to facility	Fee-for-service payment to facility
Relationship provider remuneration & volume of	None	Part of hospital revenue used as incentive payment for doctors	Staff wages function of hospital revenue

services			
Benefit package	Inpatient hospital care	Inpatient hospital care	Inpatient & outpatient hospital care
Other specific measures for control of adverse selection	None	None	None
Specific measures for control of moral hazard	Referral mandatory/co-payments	None	Co-payments for inpatient and later also for outpatient care
Explicit 'back-up' in case of financial overrun	Yes (the CDI project)	Yes (the district pharmacy)	No (the hospital <i>de facto</i> played that role)

Table 11. Impact on net revenue generating ability

	<i>Bwamanda</i>	<i>Masisi</i>	<i>Murunda</i>
Level and stability of funding	High: the local revenue generated doubled between 1985 and 1989	Poor: a financial deficit in the two years of functioning	Poor: a financial deficit in the period 1992-94 when subscription rates were peaking
Administrative efficiency	Good	Precise data lack, but probably fairly good	Reasonable
Displacement effects	Yes	Unknown, but probably none, given the small scale of the experiment	Yes: hospital revenue was used to subsidise the Mutualité

Table 12: Ease of use

	<i>Bwamanda</i>	<i>Masisi</i>	<i>Murunda</i>
Technical feasibility	Relatively complex management procedures	Id.	Id.
Social acceptability (proxy: the level of membership)	High, notwithstanding a certain number of frustrations concerning the design and operation of the scheme	Reasonable for the urban Masisi population but far lower for more remote communities	Reasonable for the urban Murunda population using the hospital dispensary for first line health care; very low for rest of the population
Political acceptability	High	Id.	Id.
Flexibility of management	Extensive local autonomy	Id.	Id.

Financial equilibrium remained fragile in the three cases. In Bwamanda, there was a financial deficit in (only) two of its 11 years of functioning. On both occasions the funds necessary to cover the deficit were found through the mediation of the CDI. Internal subsidy to the insurance plan, as was the case in Murunda (general revenue from the hospital) and Masisi (deficit filled by the district pharmacy) was thus avoided.

All three schemes were well accepted and encouraged politically. The lack of government funding was the main incentive to launch local insurance-based health care financing mechanisms. Their implementation actually relieved the State from its responsibility to finance health services.

Table 13: System effects

	<i>Bwamanda</i>	<i>Masisi</i>	<i>Murunda</i>
Impact on demand	No evidence of important moral hazard	Moral hazard likely at level of the hospital maternity, but difficult to assess for other departments	Moral hazard likely at the inpatient departments
Impact on utilisation	Significant increase in useful hospital inpatient care, important equalising utilisation patterns; impact on patient delay unknown	Significant increase in hospital inpatient care mainly for women in reproductive age living in urban township; impact on patient delay unknown	Significant increase in both outpatient and inpatient hospital care; impact on patient delay unknown
Impact on supply	No negative effects observed	Increase in workload at level of hospital maternity; possibly negative impact on credibility of TBA's	Probably weakening of credibility of peripheral health centre network (hospital dispensary in situation of competition)
Impact on quality of care	Technical quality of care: impact unknown. Quality of patient reception indicates problems for non-insured	Unknown	Unknown

In none of the schemes it was possible to measure the impact on patient delay or on the technical quality of care. In Bwamanda the scheme dramatically increased access to useful care. There are no reasons to believe that the technical quality of hospital care was different — better or worse — for the insured. The focus groups however suggested problems in terms of quality of reception of patients. The 'victim-blaming' attitude of staff towards non-insured probably played an important role in this situation.

Effects of financing systems on community participation are amongst the most difficult to measure. The different communities were actively involved in the initial phase of the three insurance schemes. Only Murunda had a management structure different than the District Health Team. Management was often done on an *ad hoc* basis without a clear insight of the technicians in the financial and system effects of the insurance. Rational decision-making was therefore considerably hampered.

Table 14: Impact on community participation

	<i>Bwamanda</i>	<i>Masisi</i>	<i>Murunda</i>
Participation in decision-making	Significant in the initial phase of design and implementation; much less in the later stages	Significant in the practical organisation, but not in the management of the scheme	A management committee facilitated the community's involvement
Public accountability of insurance managers	Limited	Limited	Over-representation of the urban community in the management committee

Table 15: Equity effects

	BWAMANDA	MASISI	MURUNDA
Horizontal equity	Community rating system of premiums	Id.	Id.
Vertical equity	None, except for the one year experiment with sliding scales in co-payments	None	Differential premiums for single parent households, widows and widowers, exemption of the destitute

In Bwamanda the focus groups yielded more insight in the impact of the insurance on local community-based mutual aid schemes. In a number of cases the eligibility of people to join these schemes was conditioned by the subscription to the hospital insurance. This indicates that such schemes may have a non-negligible impact on local existing mechanisms designed to cope with social risks. It is important for District Health Teams to be aware of these unexpected and harmful effects. The case of Kissidougou, Guinea, confirms this concern.

*The case of Kissidougou in Guinea-Conakry:  
Is health insurance an answer to the problem of exclusion?*

In a situation of temporary financial exclusion, as is the case in about half of the Kissidougou population, the main problem people face is uncertainty concerning the question of when to pay. An insurance mechanism may then seem an adequate answer. It carries the added advantage that the health care providers face less problems of 'solvency' from the side of their

clients\*.

The problem of people in a situation of permanent exclusion (about 5% of the Kissidougou population) is more complex. A pure insurance mechanism may not be a feasible option in a context where people permanently lack the necessary financial resources for the payment of the subscription premiums. In these situations an element of income-solidarity needs to be introduced to reduce the uncertainty of these population sub-groups. Insurance then needs to be combined with solidarity.

Solidarity with people who are not only economically but also socially marginalised is not obvious. This discussion definitely goes beyond the mere technicalities of health insurance: it raises the issue of values a society stands for and, consequently, of its choices concerning the destitute. In the three experiences previously discussed only the Murunda scheme attempted to address this problem.

Kissidougou illustrates the potential, but also the limits, of financing health care through an insurance mechanism. Only some of the important constraints that transform temporary lack of cash in insurmountable barriers to hospital utilisation, specifically for the rural dwellers, are vulnerable to a health care insurance scheme. The strong urban/rural differential observed in the utilisation of hospital services throughout the year (indicative of a deficit in hospital utilisation by the rural dwellers) is only to some extent due to a lack of financial resources to pay the fee(s) charged. Several other elements influence utilisation of the hospital.

What are the most relevant ones? Are they vulnerable through an insurance mechanism? If not, what other mechanisms could be considered?

PHYSICAL ACCESSIBILITY. The issue of transport costs — a bigger barrier than the fees — to the hospital is important. These costs could theoretically be tackled in the frame of a local insurance scheme. For instance, one could consider a design where the package of benefits includes (or is even restricted to) the payment of a lump sum of money to insured patients as (partial or total) compensation for the indirect costs incurred by a hospital admission. Such a design, however, would not address the scarcity of means of transport in remote areas, certainly in case of an emergency situation during the night. There are less complex, and probably more effective

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\* For instance, in Guéckédou hospital in Guinea-Conakry, up to 1/4 of the hospital bills could not (or only partially) be honoured during the second half of the year (when little cash is available) (Criel 1996a). This was far less a problem during the first half of the year.



strategies, which may serve the same purpose\*.

The general condition of the local road network is more problematic in the second semester, with the start of the rainy season. This is obviously not vulnerable to an insurance system. One may argue that investing more local resources in the development of communication and transport infrastructure – rather than in an insurance plan – would have a greater impact on the accessibility of hospital based health care. In theory this is correct, but in practice the levels of investment that are needed would be of a much higher magnitude.

The opportunity cost of an admission is higher in the second half of the year because it is a period of intense land labour activity, at least for these (rural) households living from agriculture. It is then more difficult to find relatives who can accompany the patient. Again, this is a constraint that is not vulnerable through an insurance mechanism.

People from rural areas with no relatives in town seem reluctant to undertake a trip to the hospital. This barrier to hospital utilisation – which does not exist for health centre utilisation – again does not seem vulnerable through an insurance scheme. Other strategies would need to be designed for that purpose. One of them could be to provide a place to stay next to the hospital for patients and their companions<sup>†</sup>. Such a 'hostel' could double as a 'self-care' unit. Such solutions were already advocated by Maurice King in the sixties (King 1966).

FINANCIAL ACCESS AND SOCIAL CONFLICTS. There is the generalised behaviour of over-billing leading to uncertainty for patients concerning the amount of the fee(s) to be paid. To some extent, this issue could be tackled

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\* Earlier reference was made to the case of Mali where currently experiments take place with the operation of schemes for the payment of emergency referrals by ambulance from first to second level of care. A local radio system between health centres and hospital makes communication possible. The payment is not based on an insurance mechanism with individualised premiums but on a system where both health centre and hospital create a common fund that finances the operating cost of the ambulance trip. The patient needing evacuation also pays in the fund.

<sup>†</sup> In the neighbourhood of different Belgian central hospitals, similar initiatives were developed in the 80s (Poullet 1991). In Antwerp for instance, within walking distance of the University Teaching Hospital, a guesthouse (*Ter Weyde*) was created to accommodate up to 20 people whose relatives are admitted. The guesthouse is staffed by twenty-five people, all volunteers. A contribution of about U.S.\$15 (covering bed and breakfast) is asked from each guest. Local cooking and laundry facilities are available. Maintenance of the guesthouse is supported by the Teaching Hospital. *Ter Weyde* is a convenient option for people who have no relatives in town, who live far away, or who cannot afford a hotel.

by an insurance system\*. An insurance system would clarify to patients and health care providers that no fee — except perhaps for the co-payment — is to be paid by the insured patients. The fact that such an arrangement potentially leads to conflict (health care providers would lose part of their revenue) definitely merits close consideration in the preparation, design and organisation of the insurance scheme†. A locally managed insurance scheme, however, possibly with a split between provider and purchaser functions, may boost local social organisation and eventually constitute a stronger leverage in the quest for more accountability of the health service. An insurance-based mechanism has, in that respect, a higher potential than a simplification of the current flat rate where only the sick pay. This precisely is one of the hypotheses the *PRIMA* project intends to test in the future. *A priori* this social and political potential seems greater for first line health care than for hospital care, because of the smaller scale and because the technical elements in the decision-making process are less complex.

The eventual introduction of an insurance mechanism for health care may affect (possibly even disturb) local social organisation patterns. The prevailing interactions between different social categories — in terms of money raising strategies — were illustrated by the Touffoudou investigation. These strategies seem reasonably effective, at least in the case of Touffoudou, since no single household in that particular community was excluded on the basis of economic or social characteristics. ‘Genuine’ solidarity may be at the basis of the existing mutual aid mechanism mobilised in case of exclusion. But another logic, perhaps a less generous one, may also underlie this aid mechanism: for instance, the creation of sustained allegiance from the poor to the rich, or the desire for profit. It is reasonable to assume that these strategies are not mobilised exclusively for health care utilisation, but also for a variety of other problems that would remain unchanged in the event of the introduction of a health insurance scheme. These are the availability of food or the availability of financial resources for school fees, clothing, housing, etc. It seems reasonable to anticipate that health insurance would interfere with this ‘community-help’ dynamic — for the worse or for the better.

ABILITY TO PAY. From a technical point of view, insurance may constitute a

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\* Other payment methods, however, could solve this problem just as well: a single lump sum payment, for instance, irrespective of the health problem’s nature and of the patient’s characteristics.

† Practically, one could consider payment of an allowance from the revenue generated by the premium collection to the local health workers.

partial answer to people's problems in the exclusion period, certainly when the households' capacity to mobilise resources is limited or when they cannot (or insufficiently) rely on existing social mutual aid mechanisms. However, a major issue in the design of such a scheme would be to set affordable premiums for the ones who would most benefit from joining it. The absence of any arrangements for those who cannot afford the premium implies that the poor will still have to pay the (regressive) fees instead. Hence the effectiveness of insurance in reducing genuine exclusion, returns to the question of effectiveness of exemption mechanisms. The option of having progressive premiums could also be considered: the locally established classification could be used for that purpose. The strong urban/rural differentials that were observed in hospital utilisation patterns make a case for considering lower premiums (and lower co-payments if any are implemented) when distance from the hospital increases. The social acceptability of such a measure, its effects on existing social mutual aid mechanisms, definitely need to be explored and monitored.

A crucial issue is the question whether a health insurance scheme would be more effective than what is already there. There would be no point indeed in replacing reasonably effective existing mutual aid mechanisms by a technical fix. The *PRIMA* research so far succeeded in developing awareness that health insurance is not a socially neutral phenomenon. It did this among health planners at district, but also at national level. Health insurance is much more than merely a matter of administrative technique where financial transfers are organised between individual households or between different population groups.

## *Conclusion*

The three case studies contributed to a better insight in the complexity of district-based health insurance. The Kissidougou research certainly benefited from this better understanding. It is important to crystallise this knowledge so that it becomes accessible to District Medical Officers considering the implementation of health insurance. Chapter 7 attempts to do so. It presents some recommendations in terms of design of health insurance and proposes a framework for the monitoring of its effects. The Bwamanda experience and the Kissidougou research illustrate that it is important to consider the social perception and repercussion of exclusion and insurance, in addition to financial and utilisation considerations.



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## 7. Design and monitoring of district based insurance schemes

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The case studies show the importance of a coherent design. Many of the design recommendations one can derive from that experience may seem obvious; they clearly are not for many of the people who experiment with voluntary insurance schemes at local level\*. Hence, they need to be clearly stated. Furthermore, monitoring was clearly inappropriate in these three experiences. The routinely available data were strikingly under-utilised. Readily available data can be transformed into meaningful indicators for monitoring.

### *Design matters*

In terms of recommendations, one can distinguish design features that seem conditions *sine qua non* and features that can be implemented, when applicable and possible, at a stage when the scheme in operation reaches a reasonable level of functioning. The feasibility to implement the latter will largely depend on the managerial and administrative capacity of the body that runs the scheme. These different design features are summarised in Table 16.

Measures to control for adverse selection are quite straightforward. Choosing the household as unit of membership, rather than the individual, reduces the risk of adverse selection. It does not entirely eliminate it, since high-risk households may be more attracted to voluntary insurance schemes (for instance, households with several under-fives, or with chronic conditions that make future health service utilisation highly probable). Other useful measures are to limit the time of the enrolment period (for instance to one month per year) and the entitlement to the package of benefits *after* the expiration of the enrolment period. These design features reduce the likelihood of subscription at a time when one of the family members falls sick. Finally, there is the implementation of an additional waiting period following the subscription; or even the stipulation that a threshold proportion of households needs to subscribe before the village is allowed to enter the scheme.

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\* See for instance the Masisi and Murunda cases, but also the Kongolo scheme in the Democratic Republic of Congo (Criel 1993), and the Nkoranza scheme in Ghana (Somkang *et al.* 1994; Moens 1995).

One of the most feared problems of insurance-based systems is moral hazard. Financial counters exist, the most common being the use of co-payments\*. If we extrapolate from the Bwamanda case, it is very unlikely that co-payments (which, moreover, are regressive) act as a deterrent to hospital utilisation for the more remote populations in rural areas. The cost of the co-payment is marginal compared to the substantial indirect costs patients incur during a hospital admission. Co-payments are not really useful methods to control for moral hazard in hospital use — at least in rural settings. On the other hand, they are more appropriate for insurance systems covering care at the first line. Policy responses to moral hazard do however not have to be (should not be) only financial. *Organisational responses are important, even crucial.* One of the common traditional measures to prevent overuse of hospital services in many developed countries has involved the use of general practitioners as ‘gate-keepers’. The feasibility of such a policy in developing countries largely depends on the existence of a well-functioning network of accessible first line health services offering health care of a reasonable quality.

Other provider remuneration mechanisms than fee-for-service payments can reduce the risk of provider moral hazard: fixed salaries, capitation payment, or even a mix of remuneration systems (World Health Organisation 1993; Bennett 1996). Less specific, but nevertheless relevant, organisational measures relate to the overall rationalisation process of health care delivery: use of clinical decision-making guidelines and essential drugs, rationalisation of hospital admission and discharge criteria, etc.

A community rating system is a means to increase horizontal equity, even if such a financing system remains regressive in terms of vertical equity (Goldman *et al.* 1997). A positive discrimination of high-risk groups (like elderly, under-fives, women at reproductive age, etc.) through the implementation of differential premiums is yet another way to increase horizontal equity. In practice this requires more complex management procedures. Vertical equity can be improved through mechanisms of targeting. Characteristic targeting is easier to organise than direct targeting† because the latter requires individual means testing. A system of geographic targeting may constitute a reasonably acceptable answer in rural settings where indirect

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\*Another potential (financial) method of controlling consumer moral hazard is to place a limit on the financial obligations of the insurer; i.e. a maximum financial benefit for the insured. This is commonly called *fixed indemnity* (Donaldson and Gerard 1993).

† A more complex mechanism for the promotion of vertical equity is the use of progressive (i.e. income related) premiums, like in European social insurance systems.

costs of health services' utilisation are substantial. In addition, one may consider a compensation for these indirect costs in the benefit package. This is actually under consideration in Kissidougou.

Consumer participation may be strengthened by the involvement of first line health workers (nurses of health centres for instance) in the design and organisation of the insurance scheme, to the extent that these are engaged in a continuous dialogue with the community. The social proximity of first line health workers, and their integration in the local communities, may facilitate the community voicing its concerns, questions, and possible misunderstandings. A joint management structure of the insurance scheme, and perhaps a purchaser/provider split, may further enhance consumer participation and promote a process of accountability of the health services to the community.

The introduction of competitive forces in health care delivery systems is fashionable, but evidence that it is working in developing countries is scanty at best (Mills 1997b). Proponents of provider markets argue that they will increase efficiency as well as consumer choice and influence over health services. In Bwamanda efficiency was not a major problem (there are indications that it was in Masisi and Murunda). A case can nevertheless be made for a gradual replacement of the health services' direct management of the insurance scheme by a contractual relationship. This would improve transparency of financial accounts, quantity and quality of care offered, as well as managerial decentralisation. A purchaser-provider split obviously implies a minimal managerial capacity of the purchaser. This capacity is still poor in many cases of mutualistic insurance schemes. In situations where reasonably effective district-based insurance schemes exist, this process should be adequately planned in order not to jeopardise former achievements. The Bwamanda district, like most rural areas in developing countries, is characterised by a monopoly position of the hospital. In addition, difficulties of physical access further limit hospital services available within a specific geographical area. The lack of competition leaves little room for contracting for clinical care. Nevertheless, a contracting arrangement could still be considered between a local community association or organisation and the existing facility. Such an arrangement could, according to Mills, involve a management contract for the existing facility where prices and services are negotiated (Mills 1997a). She further argues that "*given the paucity of institutions that could act as competing purchasers in many developing countries, it may be that the most desirable and feasible option is to have monopoly purchasers*". These would then be responsible for assessing the needs of their local population and then contract with one facility (or several, if ap-

plicable), either selectively for particular services or for the whole range of required services.

Finally, there is the need to develop an investment strategy of the revenue collected. This is imperative in contexts of high inflation. A financial back-up, especially at the early stages of the scheme's life, may help the scheme's managers to overcome initial financial deficits and allow them to introduce the necessary corrective measures without having to stop altogether the insurance programme. This back-up may come from a local community organisation, from a non governmental organisation\*, or even from the State — if it has the resources to do so.

Table 16: Recommendations for design

	<i>a minima measures</i>	<i>additional measures</i>
Measures against moral hazard	If the benefit package includes hospital care, make referral from first line mandatory	Positively discriminate justified priority care through differential co-payment scales
Promote horizontal equity	Introduce co-payments Implement community rating	Positively discriminate high-risk groups
Promote vertical equity	Introduce characteristic targeting in rural areas	Introduce progressive premiums with compensation for indirect costs
Promote consumer participation and accountability of health services	Involve first line health workers in organisation Create a joint management structure	Split purchaser and provider functions
Promote financial sustainability	Develop investment strategy to control for erosion of funds through inflation Ensure financial back-up in early stage of the scheme	

\* For instance, in the case of the hospital insurance scheme implemented in the Nkoranza district in Ghana, *Memisa-Medicus Mundi Netherlands* played that role during the first years of operation of the scheme. The NGO accepted to cover losses up to a certain amount during the first three years (Somkang *et al.* 1994).



## *Monitoring is critical*

Identification of relevant corrective measures to improve the general functioning of insurance schemes and to reduce undesirable effects occurring in the course of the programme requires correct and meaningful information. This is what Sandiford calls an “*action-led*” approach to health information systems, opposed to a “*data-led*” approach (Sandiford *et al.* 1992). Insurance schemes run over many years. The monitoring devices need to take this long time perspective into account and they should not be too cumbersome. The trade-off between the cost to introduce and operate such devices in a reliable way and their relevance for decision-making is a difficult one. Ideally, the different constitutive elements of the monitoring system should be grafted on what is easily collected routine-wise in order to keep the marginal costs as limited as possible.

In the three schemes studied in this study only two indicators were regularly monitored. First, there was the *coverage* of the insurance scheme, i.e. the yearly membership rate. This rate was measured on a yearly basis in Bwamanda and Masisi (since the subscription was on a yearly basis). In Bwamanda, this rate was available for each single health centre area. In Murunda only the numerator was monitored. Second, there was the *financial balance* of the scheme. In Bwamanda, this balance was calculated on a monthly basis; in the two other schemes once per year. In Bwamanda, the administration costs of the insurance scheme were also calculated on a yearly basis.

More data were nevertheless available in all the three settings. The detailed case studies presented in the second part of the study are largely based on data that had been collected routine-wise. The local teams had not used these data themselves for in-depth evaluation. Why were readily available data not transformed into meaningful information and exploited by the respective teams\*? There are three main reasons for this state of affairs. The first one is not specifically related to the insurance scheme, the two others are. First, there is the fact that — throughout the continent — hospital reports focus much more on *what* is actually done in the facility (in terms of disease patterns and general workload) than on the question *for whom* all this is done. A district perspective often lacks. This was one of the most significant findings in an analysis of hospital reports of 52 non-governmental organisations supported district hospitals in six anglophone Afri-

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\* An exception is the case of Masisi where the district team’s observation of the monthly decrease of admissions in the first experiment triggered its attention to the possibility of adverse selection (Noterman *et al.* 1995).

can countries for the period 1989-92 (Van Lerberghe *et al.* 1994). Second, success of insurance schemes was largely equated with high membership rates. This is correct in as far as subscription rates constitute an indicator of the scheme's social acceptability — but it obviously only provides a limited perspective. Third, the different district and hospital teams that introduced the schemes were primarily interested in generating stable financial resources for the hospital functioning. Hence, monitoring of the scheme's financial performance was a major concern.

Table 17 presents a grid for the monitoring and evaluation of district insurance schemes along 3 main axes:

- (i) Impact of insurance on utilisation of services: crude utilisation, specific utilisation, appropriateness of hospital utilisation and patient delay.
- (ii) Impact of insurance on finances and costs.
- (iii) Impact of insurance on provider and consumer perception and behaviour.

This grid focuses on schemes where the package of benefits concerns inpatient hospital care. Most of these indicators and methods proposed are relevant for schemes where first line health care constitutes a part (or the totality) of the package of benefits, even if their application would sometimes raise difficulties. The measurement of the appropriateness of health centre utilisation, for instance, would be complex and would require specific data collection tools.

Eventually, it is expected that the introduction of insurance will improve health status. In this monitoring framework we do not consider measurements of health status. Why? It is technically difficult (and costly) to measure health status. In addition, it would be very tricky indeed because of the existence of numerous confounding factors (Criel and Dujardin 1992). A final reason is that measurement of health status only makes sense after a sufficiently long time. Managers do need indicators that enable them to react relatively quickly so that readjustments in design and organisation of the insurance scheme can be carried out in time.

Monitoring of utilisation according to income group is not considered either. In the context of developing countries (even in some industrialised countries) it is very difficult to measure income in a reliable and cheap way. Such an exercise would require a highly effective administration that is not existing in the majority of the sub-Sahara African countries. The classification of the total district population according to income would not only be

a costly exercise, it would also need to be regularly revised.

These indicators\* should be interpreted with due caution. Indicators must be *valid* (there should be agreement that they really do relate to the performance of the system) and *reliable* (defined in such a way that it is measured in the same way on different occasions or by different observers). Crude and specific utilisation of hospital services are reliable indicators but their validity is not constant. Validity implies indeed that a variation in the indicator is proportional to a simultaneous variation in quality. This linear relationship only holds to a certain limit. Crude utilisation measures the extent to which health problems in the district present at the health services. They measure what Donabedian calls the *intake* in the health services system (Donabedian 1992), without however telling us whether the health services' offer was effective or even adequate. Hence, an increase in utilisation indicates an increasing performance of the district health system — but only up to a certain level of utilisation. Utilisation of health care is not an objective *per se* and health services utilisation should thus be optimised rather than maximised (Chapter 1).

From a certain level onwards increase in utilisation does not reflect better performance. A level of utilisation may be reached where the marginal benefit becomes very small, i.e. a point where only a minor fraction of the incremental utilisation concerns health problems for which an intervention by the health services is potentially useful†. Eventually, the benefit may even be nil or even turn into a cost (for instance, inappropriate utilisation, excessive medicalisation, iatrogenesis, reduction of quality of care offered to critical patients because of high overall workload, etc.). It is dangerous to confuse the indicator with the problem to be solved (Mercenier 1971). The indicator is then perverted and becomes the objective. Hence the need for a constant questioning of the validity of indicators used in monitoring.

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\* Indicators are defined as “*measurable elements of practice performance for which there is evidence or consensus that it can be used to assess the quality, and hence change in quality, of care provided*” (Lawrence and Olesen 1997).

† An international survey on utilisation of health services, carried out in twelve study areas, showed that 10-35% of people with perceived morbidity of high severity wanted, but did not succeed, to obtain physician contact despite the very high overall utilisation rates in the areas surveyed (4-8 contacts/inhabitant/year). Strikingly, the proportion of unmet demand was not correlated to the volume of utilisation (Martin 1976).

Table 17. Evaluation grid for district-based health insurance for inpatient hospital care.

<i>Volume of utilisation</i>		<i>Distribution of Utilisation</i>
What?	General and specific (per department) admission rates per insurance status	Spatial and temporal analysis of utilisation per insurance status
Frequency?	Annually	Id.
By whom?	District Health Team	Id.
Requirements?	Reliable HIS and correct denominators	Id.
Cost?	Limited	Limited
<i>Appropriateness of utilisation</i>		<i>Patient delays</i>
What?	a) Admission rates for tracers b) Average lengths of stay c) Bed census	Survey investigating the average time span before utilisation <sup>a</sup>
Frequency?	Annually for a and b; <i>Ad hoc</i> for c.	<i>Ad hoc</i>
By whom?	District Health Team	District Health Team
Requirements?	Reliable HIS and correct denominators Appropriateness Evaluation Protocol for bed census	Possibly external methodological support
Cost?	Limited for a and b Relatively high for c	Relatively high
<sup>a</sup> The incidence of complications in certain health problems can be used as a 'proxy' for patient delay: for instance, incidence of bowel resection in the patient population admitted for strangulated inguinal hernias.		
<i>Financial balance</i>		<i>Cost of care</i>
What?	Assess revenue and expenditure of insurance scheme	Assess cost of care per insurance status
Frequency?	Monthly	<i>Ad hoc</i>
By whom?	District Health Team	District Health Team
Requirements?	Reliable accounting procedures	Possibly external methodological support
Cost?	Limited	Relatively high
<i>Impact on perception and behaviour of providers, patients and community</i>		
What?	Qualitative investigations of perception and behaviour	
Frequency?	<i>Ad hoc</i>	
By whom?	District Health Team	
Requirements?	External methodological support	
Cost?	High	

A correct design and an appropriate monitoring system of district-based insurance schemes are within reach of most District Health Teams. The suggestions formulated in this chapter, coupled with flexibility and common sense can help them to go a long way. However, in real life these teams are often confronted to a variety of existing systems of health insurance — mutualistic schemes, social health insurance for the few wage earners that live in the district, possibly even a private insurance scheme. What is then the place of a district-based insurance in this mosaic? What would be their added value to what is already in place? How to conceive the relationships between these different systems? These questions are addressed in Chapter 8.



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## 8. District health insurance: makeshift or optimum?

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### *Between 'smallness' and 'largeness'*

A dynamic of small-scaled insurance initiatives exists in sub-Saharan Africa; witness the movement of mutualistic initiatives that currently receives important support from European organisations\*. This dynamic is crucial because universal insurance coverage can not be achieved *ex nihilo*. But it (still) is relatively weak and, by and large, insurance still remains a new concept for most African households. Moreover, the institutional and administrative constraints to support and upgrade this movement are substantial. The short and even middle term prospects to scale these systems up to mandatory health care insurance for all African citizens are limited.

One may argue that it is appropriate to wait for bottom-up solutions to gradually expand, the way European social insurance systems developed. It is of course an illusion to believe that a given historical development can occur along the same lines in a completely different environment at a different time of history. Even if this were possible, there would be ethical objections. It took more than fifty years for the European dynamic of mutualistic movements to go to mandatory social insurance. Can we really afford, in Africa, to wait for such a long time? The current situation of health care delivery in many African countries is such that the price of such a conservative option, in terms of human suffering, would very high. Is there a way out?

District-based insurance schemes may offer a shortcut — perhaps even an acceptable end-point — for the transformation of local bottom-up initiatives to formal mandatory social health insurance. District-based health insurance schemes are conceptually similar to mutualistic initiatives in many respects. They share same objectives and values: solidarity, democratic functioning, community participation, and social dynamisation. As

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\* For instance, Belgian non-governmental organisations like *World Solidarity*, the Belgian *National Alliance of Christian Mutualities*, or international organisations like the *International Labour Office* in Geneva. *World Solidarity* currently provides important support to the mutualistic dynamic a.o. in the Democratic Republic of Congo. Recently, a survey was carried out in Kinshasa that identified thirty mutualistic associations. A training programme was launched at the end of 1997. Institutional and technical support is also organised for the *Mutualités Chrésiennes du Congo*, the *mutuelle* of the Idjwi island (Kivu province) and the *Bokoro Mutualité* (Bandundu province).

highlighted in Chapter 6, they however differ in two important ways.

First, the role of the health services in the planning, design and management is much more prominent — implying more top-down planning than is the case in mutualistic schemes. Second, the population targeted is larger but, at the same time, less selective. Districts Health Teams are responsible for the health care of a well-defined population living within the boundaries of a given area. This responsibility is not confined to specific social or professional groups but encompasses the entire population of that area; be it poor or rich, wage earners or self-employed farmers, women or men, etc. Are these two specific features conflicting with the social and political rationale that guides mutualistic movements? No, if one considers the following arguments.

First, the role of health districts is not only technical — delivery of effective, efficient and equitable health care — but also political. The entry point to this political role is the process of health care delivery itself. Developing an insurance system forces health districts to play a pro-active role in the development of an ongoing dialogue with the community for which they have taken explicit responsibility. Such a dialogue should, preferentially, be developed at the level of the health centre network under supervision of the District Health Team. From there on, the team can actively promote community participation in technical decision-making on the basis of correct and understandable information, enhance social solidarity and increase self-reliance. The organisation of district insurance systems can, under these conditions, constitute a significant contribution to overall development.

Second, the health district constitutes a manageable compromise between 'smallness' and 'largeness'. It is, in most instances, sufficiently large\* to achieve economies of scale and to pool enough resources to cover more expensive events. Yet, at the same time, the district is sufficiently small-sized for its population to share a certain number of cultural, social, demographic, and economical features. Its management body is — or ought to be — sufficiently close to the population to enable people to voice their demands and expectations and to engage in a negotiation process regarding the design and organisation of the insurance scheme.

The social nearness of the district health services, and their situation at the junction between top-down planning and bottom-up planning, are considerable assets which large-scale and centrally managed insurance systems do not have. The district allows to reconcile the need to cover a sufficiently

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\* Half of the 88 hospitals in the *Medicus Mundi Internationalis* mail survey had a population between 70,000 and 300,000 inhabitants (Van Lerberghe *et al.* 1992).



large scale whilst, at the same time, enabling adaptations to local realities and specific needs. Properly functioning health districts can combine the reliability of social insurance with the transparency of mutualistic associations. This privileged position of the districts is perfectly consistent with the prevailing paradigm of decentralisation and strengthening of district health systems.

There definitely is a need for more technical inputs in the process of design, management and monitoring of local health insurance schemes. District Health Teams can contribute to this process, for as long as they have the necessary managerial skills. The experience of mutualistic schemes (fraught with moral hazard, adverse selection, and limited financial sustainability) has shown that more top-down planning is rational and justified. People's demands and expectations need to be balanced with technical requirements and precautions. Optimisation of patient behaviour cannot do without organisational measures that require some level of authority on the functioning of the district health services.

Voluntary district-based health insurance, however, will probably never succeed to cover the entire district population. The Bwamanda case illustrates that it is extremely unlikely for the coverage to increase much, at least not within the current design. During the last 10 years of its operation the subscription rate stagnated at about two thirds of the district population. This population is composed mainly of "middle-class" households; the poor and the rich are underrepresented. From a purely economical perspective this is appropriate — but at odds with the concern for equity. It is important during the first years of the functioning of an insurance system to create the necessary financial basis so as to ensure the scheme's financial viability and gain credibility amongst better-off, and thus influential, population groups. Once this is achieved, strategies could (and indeed should) be designed to include low-income populations. A system of mandatory subscription would be extremely difficult — virtually impossible — to put in practice in the present situation of many African countries. Such a policy would also, on short term, be perceived as arbitrary and probably meet considerable social resistance. Building the 'social consciousness' to which de Swaan referred requires time (de Swaan 1988a). Prospects for more equity and solidarity in district-based schemes rather lie in the introduction of a range of creative arrangements for more progressive insurance contributions, mechanisms of characteristic targeting, and perhaps even exemptions for poor and destitute. Whatever the mechanism, it needs to be adapted to the local reality and must be negotiated with the local populations. Again, the comparative advantage of the district in such a process is plain.

## *Health insurance and the district movement: an international perspective*

in the developing world there are two models of social insurance (Ron *et al.* 1990): the classical *Bismarckian* model of social health insurance as it was implemented in Latin America and in North Africa after World War II; and a mix of health insurance systems, with an increasing role for locally developed schemes.

### OLD WINE IN NEW BOTTLES

The classical *Bismarckian* model of insurance is “*an acquired or imported (European) concept, rather than an expression of the traditional national culture*” (Ron *et al.* 1990). In Latin America health insurance institutions began to build facilities for insured persons, leading to the creation of a distinct, and often autonomous, health care sub-system. Later, coverage was gradually expanded. Large population groups, however, are still not covered today, even in developing countries with a long tradition of compulsory health insurance. In the sixties and seventies, the inequities prevailing in Latin American countries that had developed this social insurance model were considered as a mere temporary phenomenon. Social insurance was seen as a virtually inevitable stage in the political and economic process of attaining effective distribution of personal health services to a total population (Roemer 1971). The fact that certain social groups were privileged was viewed as part of the very nature of social progress\*.

A recent (unpublished) study critically analyses the approach used in Egypt for the coverage extension of the existing social health insurance system (currently covering roughly 30% of the population). This *nation-wide approach* consists of a gradual coverage increase through a step-by-step extension per segment or category of population. This was done for pensioners and widowers in 1988, and more recently for schoolchildren (Nandakumar and Swelam 1995). This centrally led strategy is conceptually similar to the classical approach used in Latin America in the fifties and sixties. The report points to a set of limitations of the approach.

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\* Presently, the free and direct provision of care in Latin America to insured persons through the health insurance's own facilities and staff is no longer the prevailing type of organisation found in these countries. Diversification of delivery patterns has taken place and subcontracting has become much more frequent. For example, there is considerable interest in parts of Latin America in replacing centralised social insurance agencies by competing Health Maintenance Organisations (Tollman *et al.* 1990 in Mills 1997b).

It is slow — witness the fact that the idea to expand health insurance to schoolchildren dates from the mid-1970s. The different *governorates* (covering several hundred thousands of people) do not have a homogeneous institutional capacity to properly manage such an extension. A top-down approach would result in a same arrangement being launched in different environments. The very different levels of functioning of the *governorates* health systems do not guarantee value for money. And finally, all *governorates* need to join in at the same stage precluding the possibility to build on earlier experiences.

The report suggests an alternative approach (called *population-based approach*) which would largely be led by the demand of individual *governorates*. This approach is more flexible (and hence facilitates targeting of poor population groups), allows for experimentation; and can be paced with managerial capacity building and improvements in the level of quality of health care provision in the different *governorates*.

The Egypt study is symptomatic of the growing consensus regarding the limited feasibility — at least on the short and middle term — of the classical strategy of gradual extension of centrally managed social security systems to larger and larger population groups. This strategy's success largely depends on the extension of the formal sector composed of wage earners. Currently, the proportion of formal sector employees in sub-Saharan Africa does not, even in the best of cases, exceed 15% of the general population (Kaddar 1997)\*. Not only does the proportion of wage earners need to expand dramatically, but their level of salaries should also increase. The current implementation of structural adjustment plans in the continent rather predicts an opposite trend, whereby the numbers of wage earners actually will be reduced. It is undeniable that social insurance, when it exists in sub-Saharan Africa, only benefits a minority of people which are already privileged because of regular revenues and other institutional advantages. The International Labour Office, which in the past actively promoted this model, now recognises its limits and advocates radically different axis of thinking if African non-wage earners are to be covered by some level of social security in general, and social health insurance in particular (Gruat 1990; Mouton and Gruat 1988).

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\* The Republic of South Africa, with a socio-economic status comparable to the middle-income countries of Asia and Latin America, had less than 20% of its population covered by health insurance in the beginning of the nineties (Bachmann 1994).

#### A MIX OF INSURANCE SYSTEMS: THE WAY OUT?

Over the last decade, an alternative way of thinking seems indeed to have emerged. It built on the recognition of the limited feasibility, in Africa, of the classical Bismarckian model of social insurance but was also influenced by the Primary Health Care movement. *“Health insurance policy-makers are conceptually now in a far better position than their predecessors”* (Ron *et al.* 1990). Ministries of Health now look for better co-ordination and complementarity between different health insurance systems and existing health services. This new model is less linear in its concept and tends to build much more strongly upon existing, and more or less decentralised, health care systems. The case of Thailand in South East Asia is illustrative of this new dynamic where local and national efforts are joined. In the Thai health card scheme initial momentum came from national government but local schemes were allowed to develop their own rules on operation, benefits offered and premiums collected (Ensor 1997). This scheme is one of the rare examples of countries that made substantial progress in developing local schemes into a national system (Abel-Smith 1991).

A recent feasibility study of the possibility to introduce social health insurance in Zimbabwe marks this new thinking (KPMG Management Consultants 1996). The study recommends to build upon a network of local organisations (like district or even health centre development committees) and to have a monitoring and quality control role under the auspices of a central co-ordinating body. The challenges ahead concern the organisation pattern of these organisations and the nature of the relationships between these different bodies and the existing private Medical Aid Societies rather than to the possibilities for expansion of the coverage of the present system. The option of expanding existing Medical Aid Societies is simply considered as impractical (even if this proportion is currently by no means insignificant). Hence, both systems are seen as potentially complementing each other. The report states that *“whilst delivery by the Medical Aid Societies should not be ruled out, in view of the existing expertise and experience within these organisations, the membership base would be fundamentally different and the modus operandi would also be different, because of the need to work closely in support of, rather than essentially outside, the Government’s policy on health services”*.

Recent work done in Zambia and Mozambique point in the same direction (Ron 1993b; Soeters 1997). The recommendations advocate ‘pluralism’ in design and implementation. For instance, a national compulsory scheme covering the formal labour sector, mainly located in urban areas, complemented by the creation of local health insurance schemes. The latter are

considered more fit to accommodate differences in economy, infrastructure and culture of each region and allow design and testing of local methodologies for premium setting and collection. Ensor stresses that “*the worst scheme is one that is conceptualised at the national level but then given to (or forced on) local people to run and ensure funds revolve*” (Ensor 1997).

Other examples of insurance schemes that have not built on the classical model of social health insurance are the *Carte d'Assurance Maladie* (CAM) in Burundi and the *Abota* scheme in Guinea-Bissau. The CAM is a voluntary national health insurance scheme implemented by the government of Burundi as early as 1984. Evaluations of the CAM indicate that it would benefit from more managerial autonomy at the peripheral levels of the health system (McPake *et al.* 1993b; Baza *et al.* 1993; Arhin 1994) and make a case for District Management Teams to play a more important role. The *Abota* scheme covers a narrow range of services (drugs at the first line), but seems to work at village level. Collective control, although sometimes time-consuming, is sufficiently strong to guarantee that more than 75% of adults participate (Chabot *et al.* 1991).

The future seems to lie in a *mix* of systems with possibly different models for wage earners\* and for self-employed farmers or urban dwellers working in the informal sector. A number of crucial questions, however, remain. If district insurance schemes have a place in this mosaic and deserve to be developed, should they eventually remain district-based or should they gradually expand to neighbouring districts? How should this process take place? And what would be the role of the higher levels in the health system? These questions will be tackled with regard to the specific case of Bwamanda in the Democratic Republic of Congo.

### *Scaling-up:*

#### *One large Bwamanda or many small ones?*

The Bwamanda scheme has proven reasonably successful. The specific environment in which it thrived was extensively described earlier on. The Bwamanda scheme targets the population living within the administrative district boundaries, i.e. some 160,000 people in a sub-province (or *sous-région*) of about one million of people. In the nineties, the Bwamanda hospital insurance scheme increasingly faced a situation where people living in neighbouring districts claimed to live within the Bwamanda district

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\* The fact that they currently cover only a small proportion of the population does not mean that there is no place for them. Attempts to dismantle them would anyway meet strong resistance from the present beneficiaries.

boundaries in order to be eligible to subscribe to the scheme. These people had their names added on the family file of a 'host' family that often included relatives or friends. It was not the insurance *per se* that attracted people from outside Bwamanda, but insurance for qualitatively good hospital care. Increasing proportions of inpatients came from other districts (one patient out of five in 1995).

Health planners at sub-provincial, provincial, and central level of the health system have some unanswered questions. How to phase the extension of insurance coverage? And what would be their roles in this process? Two scenarios can be considered: the diffusion model and the chessboard model (Figure 14). The case of Bwamanda, represented by district 9 in Figure 14, is taken as example.

#### THE DIFFUSION MODEL

In the diffusion model, the possibility to purchase hospital insurance is immediately expanded to the populations of the other districts of the *sous-région*. The administrative apparatus, organisational know how\* and credibility of the existing Bwamanda scheme would be tapped for its transformation into a central (in this case sub-provincial) insurance fund. One single administration would be in charge and one single financial investment strategy designed. Two diffusion options exist.

In the first option inpatient care for the insured from the other districts is offered at the Bwamanda hospital†. In this case there would be no introduction of the insurance's benefit package at the level of the other district hospitals (*non-operational diffusion*). This situation is *de facto* taking place in Bwamanda now — although on a small scale and not as the result of an explicit policy.

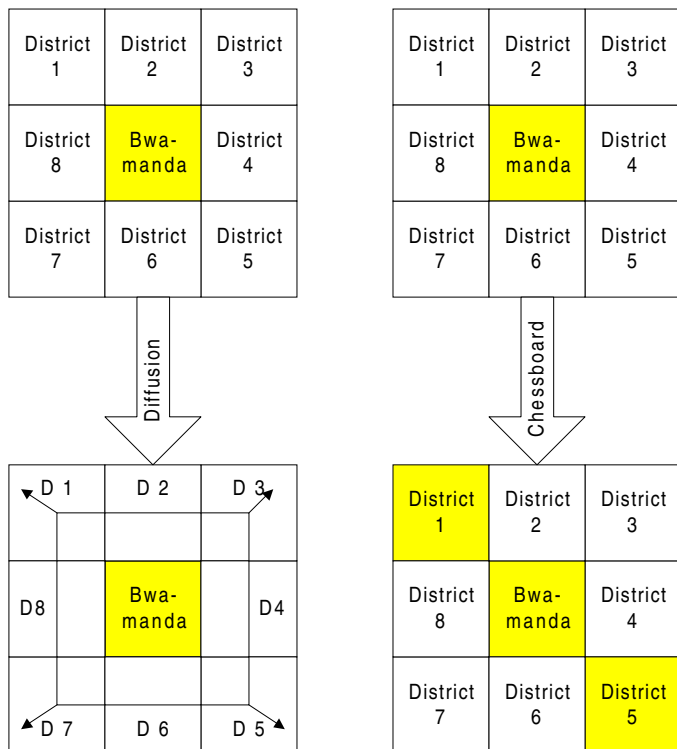
In the second option inpatient care for the insured from other districts is offered at the level of various district hospitals themselves (*operational diffusion*). The central administration of the sub-provincial scheme would nevertheless remain in charge and reimburse the different hospitals (including the Bwamanda hospital) for care provided to insured patients living in the respective districts. The sub-provincial fund would then act as a purchaser for the provision of health care in the districts surrounding Bwamanda.

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\* For instance, technical support for the premium collection and the registration of insured households.

† Possibly with lower levels of co-payment to compensate for higher travel costs.

Figure 14: Diffusion and chessboard model or how to scale-up district-based health insurance



#### THE CHESSBOARD MODEL

In the chessboard option, autonomous insurance schemes are launched in other districts once they have reasonably met the 'conditions' for such an operation to be a realistic exercise. The administrative staff of these districts would be in charge of the management their 'own' scheme, individual financial investment strategies are designed and the package of benefits covers inpatient care provided at the various district hospitals concerned. In this case the different insurance schemes would be administratively and operationally autonomous.

What would be the comparative advantages of each model? Non-operational diffusion can readily be excluded from this analysis. The Bwa-manda hospital would not be in a position (nor would any other district

hospital in any country) to cope with the workload. The accessibility of the Bwamanda hospital would be problematic for the communities living at the edges of the different surrounding districts. The surrounding district health systems would be weakened because their hospitals would gradually lose their credibility; these health districts would, eventually, disintegrate. At the end of the day, one would have a two-speed health care system where the better-off population groups are able to finance the trip to Bwamanda but where the hospitals of the surrounding districts are the only option for the poor.

It is more relevant to compare the merits of 'operational diffusion' and 'chessboard' extension. The advantages and disadvantages of each model are summarised in Tables 18 and 19.

Table 18: Advantages and disadvantages of the operational diffusion model

<i>Advantages</i>	<i>Disadvantages</i>
Possibility to achieve economies of scale (e.g. single administration and single investment strategy for funds collected)	The 'central' administration becomes more complex
Possibility to build on existing expertise and credibility	A local adaptation of the scheme to local district realities is more difficult
Extension of coverage is rapidly enlarged (equity)	Accountability of the scheme's management to the respective district populations is more problematic
The operational integration of the scheme in the different surrounding districts may constitute a significant boost of the performance of these district health systems <sup>a</sup>	The level of rationalisation of health services and quality of hospital care offered in the surrounding districts may not be adequate (yet) <sup>b</sup>
	Requires high short-term investments in terms of technical support and training (e.g. for developing adequate monitoring systems)
	Administrative responsibilities of the surrounding districts are unclear (lack of ownership)

<sup>a</sup> The strategic gamble is that the introduction of insurance may contribute to the development of effective and efficient health care organisation, provision and utilisation. <sup>b</sup> A number of cross-cutting policy measures are probably needed to resolve some of the major bottlenecks existing in neighbouring districts (drug provision, staffing, logistic and financial support, etc.).

The answer to the question of which model is to be favoured remains open, even if the chessboard model seems *a priori* more attractive. The dif-



fusion model may be more appropriate in a country where the basic functioning of the district health services is relatively satisfactory and where individual disparities between districts are limited. This would be the case, for instance, in a country like Zimbabwe. On the other hand, in a country like the Democratic Republic of Congo, with large differences between districts in one same sub-province, the chessboard model seems more adequate.

*Table 19. Advantages and disadvantages of the chessboard model*

<i>Advantages</i>	<i>Disadvantages</i>
Health insurance is launched when the district system is 'ready' for it (in terms of motivation of staff and in terms of the system's performance) <sup>a</sup> ; hence, there is a higher potential for success	Duplication of administrations and need for individualised financial investment strategies
Flexible approach where adaptation of each scheme to the district realities is possible (future districts can build on the experience of the earlier ones)	Temporary inequity in terms of coverage (with possibly problems in terms of acceptability for the populations not yet covered)
Administrative responsibilities are clear	Slow process
Accountability of management clear	
More tailored support in terms of capacity building is possible	
High potential to strengthen the overall performance and consistency of the local district health systems	

<sup>a</sup> Criteria of eligibility for extension need to be defined.

One may question the usefulness, in the diffusion model, of going through an initial stage of an isolated district insurance experience rather than organising a sub-regional or regional insurance scheme from the start on? There is a strong case for the first option. The development stage constitutes a crucial learning opportunity. The design problems that characterise many of the insurance initiatives launched in Africa illustrate the relevance of an initial 'test phase'. If the scheme fails, then at least the damage remains limited.

A final question concerns the role of provincial or central levels in the insurance system\*.

\* See the community based health insurance schemes in the Philippines (Ron and Kupferman 1996).

ADMINISTRATIVE, TECHNICAL AND METHODOLOGICAL SUPPORT. Provincial levels can develop a framework for formal accreditation of district-based schemes. They can also function as an umbrella organisation, centralising information on insurance schemes that exist in the province or that operate in other provinces or countries in a similar environment with similar constraints. This information — design guidelines, monitoring systems — needs to be disseminated. Regular assistance could be provided to the district teams considering health insurance, certainly at the initial implementation stage but also at the monitoring and evaluation stages. Provincial staff may also provide support, possibly be even involved themselves, in *ad hoc* inquiries (like for instance, a costing exercise or a bed census).

FINANCIAL SUPPORT. The ability to pay the insurance premiums may obviously differ from one district to another. The province could, and indeed should, compensate for such inequalities via a mechanism of intra-province cross-subsidies. This mechanism of perequation is not specific for the case of district insurance schemes, but is also valid for any cost-recovery system that is considered.

CO-ORDINATION. Different types of insurance may co-exist in the province: employer-organised schemes, private health insurance and locally managed insurance schemes for the self-employed. The province has a role as co-ordinator of these different systems in order to increase their complementarity and guarantee an equitable use of general tax revenue. Hence, efforts should be made to harmonise the different packages of benefits and to regulate hidden subsidy flows of tax money to schemes that cover the more wealthy population groups. Without such co-ordinating effort, the creation of a two-speed (insurance) system becomes a real threat.

The development of district-based health care insurance schemes — along the lines of the diffusion or chessboard model — can become part of a broader approach where support (financial, institutional, or managerial) to districts considering their introduction is conditioned by a set of changes in terms of organisation of health care delivery. These *conditionalities* could, amongst other things, relate to a strengthening of the district's first line health services gate-keeping function or to a rationalisation of hospital admission criteria. Two birds could then be struck with one stone: the general organisation pattern of the district health care delivery system would be improved, resulting in a more efficient use of scarce resources; and the risk of moral hazard, once the insurance system is in place, would be reduced.

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## Conclusion

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So-called *horizontal* research on health services (Van Lerberghe 1990) has to take a system's view and look for optimisation rather than for standard recipes. This is the case for this study of the organisation of health care insurance schemes at district level. Optimisation implies a balance between expectations, needs and efficiency. It also requires reference to a value-determined model of organisation of the health care delivery system. Without such a reference frame, there is no yardstick; and without yardstick decision-making becomes haphazard and assessments of success or failure arbitrary. The yardstick used in this study is the integrated district health system model where technical concerns of effectiveness, efficiency and equity are balanced with value loaded issues like solidarity, autonomy and participation.

Health systems research, in order to be fully productive and useful "should be rooted in the field and provide insight in how things work and how they could work better, not only in what works badly" (Van Lerberghe and Kegels 1997). This work attempts to do so. The presentation of three case studies of district-based insurance schemes helps to gain more insight in, and understanding of, the complexity of health care insurance. The Bwamanda 'success story' illustrates that district-based insurance can work in Africa. Its analysis provides insight in how it works, why it works, and even how it could be made to work better. The two other cases – Masisi and Murunda – show how important it is to start from a careful design in a 'conducive' organisational environment.

### *Exogenous character and level of appropriation*

Locally developed insurance schemes have resulted, in a vast majority of cases, from an initiative led by district and/or hospital management teams. In the three cases studied, the initiative was with the expatriate members of the respective teams. In mutualistic schemes these initiatives are of a less technocratic nature, with more attention for bottom-up planning and community involvement in design, organisation and management. They, nevertheless, also largely result from the introduction of exogenous concepts and ideas and many of the schemes that exist in Africa today were initiated through external leadership. It is undeniable that this model is largely inspired by European history, and by occidental values.

Obviously, it is not because these systems (and the values underlying

them) are exogenous that they would not be relevant, or even, on the longer term, could not be 'interiorised' by local populations. Formal health care delivery systems in sub-Saharan Africa, as they stand now, are to a large extent shaped by modern medicine introduced in colonial times. This exogenous character of medicine did not constitute an obstacle to its appropriation by society. Appropriation, however, requires "*a recognition of the fact that it concerns more than a mere transfer of science and technology, but also of values and traditions; links need therefore to be established with the social domain*" (Van Dormael 1997). Exogenous is not necessarily synonymous of bad, nor does it mean that appropriation is impossible.

The Bwamanda case shows that health insurance can significantly contribute to more effective and equitable health care delivery without jeopardising the system's efficiency. Bwamanda also illustrates that an exogenous model of insurance can be appropriated, despite many misunderstandings and frustrations. District systems are important in this acculturation process. Their social proximity constitutes a major asset in a creative incorporation of 'western' insurance schemes, and part of their underlying values, in African society, so as to satisfy specific needs. This is possible if District Health Teams are fully aware of the transfer of values, and if they are sufficiently competent and flexible so as to adapt the scheme to local needs and expectations.

### *Insurance or only insurance?*

District-based insurance is useful in situations where the financial cost of health care is a barrier to useful utilisation. But rarely is this barrier the only one, and the potential impact of insurance as *an isolated measure* will therefore be necessarily limited. Insurance is not a magic bullet. The preliminary data on the Guinea project clearly illustrate not only that *other* important barriers exist, but also that these other obstacles are substantial, perhaps even more difficult to overcome.

Health care insurance is but one input in the system, and its impact will largely be influenced by the extent to which other (concomitant) changes are introduced in the system. The relationship between input and output is not linear (Mercenier 1992). The effect of an intervention targeted at one single element of the system may be reduced, annulled, or produce unexpected (even outright harmful) effects because of its interactions with other elements. Hence, a local *mix* of interventions is necessary. This statement is all but revolutionary; nevertheless, it is important to re-state it clearly given the tremendous, and sometimes frightening current interest in health care insurance in developing countries, and particularly in sub-Saharan Africa.

## *Feasibility of district-based insurance in Africa*

The need for a coherent design and adequate monitoring systems has been extensively highlighted in this study. They are necessary indeed, but certainly not sufficient. *A minimum level of rational organisation and functioning of the district health system is also needed before the introduction of insurance is to be considered.* The answer to the question 'what exactly is this minimum level?' is difficult. Empirical evidence is flimsy. Few insurance schemes currently operate in sub-Saharan Africa, and still less function in a reasonably effective way. Common sense complements our lack of experience. The following features of the organisational environment in which hospital care insurance is considered, seem of paramount importance: (i) a reasonably well-functioning network of first line health services - not only in terms of technical quality of care but also in terms of dialogue with the community; (ii) a reasonably well-functioning 'gate-keeping function' of this primary network; (iii) a reasonable level of rationalisation of hospital care; and (iv) last but not least, a sufficiently stable and competent District Health Team.

It obviously takes time to create an environment where all these 'conditions' are met. In the case of Bwamanda, it took about 20 years to do so\*, with substantial external support in terms of staff and financial resources.

This creates a dilemma. It generally is in a situation of poor performance of the district health system that accessibility to useful care is the most problematic; and it is in a situation where the general level of performance is best that the problem is less acute. Insurance schemes, however, are much more likely to fail in a poorly performing district. Failure of an insurance scheme does not have the same implications as, for instance, the failure of a given program to achieve a high coverage. It may jeopardise the credibility of the district health team to organise alternative financing mechanisms, or create (sometimes irrational) expectations that cannot be fulfilled. *A badly functioning system of health care insurance is probably worse than no insurance scheme at all.* Drawbacks of failure will probably be more painful in settings where the overall functioning is already poor.

Between the two extreme situations, poorly functioning and well-functioning district health systems, there is a large 'grey zone' of districts where some, but by no means all, of the 'requirements' or 'conditions' are met. More experience is needed in order to identify the circumstances that make the difference.

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\* In terms of *direct* health care financing, the Bwamanda hospital gradually evolved over that time span from fee-for-service payments, over a flat rate per episode, to an insurance system.

## *Learn by doing*

Sensible experiments with health insurance can be launched even if the district has not reached the level of performance Bwamanda had when it started experimenting with the *mutuelle*. Otherwise very few African districts would be eligible. Satisfying one, or a few, requirements may very well be sufficient as a starting basis. The introduction of health care insurance may actually constitute a boost for the development process of the entire district health system and thus become a policy instrument in the promotion of integrated districts.

There is need to investigate, in a variety of situations, the nature of organisational measures that contribute to a successful development of health care insurance at district level. Conversely, it would be extremely useful to know *under which conditions the introduction of insurance-based financing mechanisms can contribute to strengthen the performance of the district health system*. This issue is particularly important with regard to the many districts situated in between the two extremes. The different experiences discussed in this study identify a number of hypotheses\*.

The optimisation of provider behaviour requires a more critical look at the influence of different remuneration methods. The expatriate medical doctors who worked in the Bwamanda district were paid by the Belgian cooperation, and the national doctors received (and still receive) salary supplements in foreign currency *from other sources than the hospital revenue*. This is unlikely to be the case in most African districts where medical and paramedical staff often have no choice but to complement their meagre salaries with revenue generated by local user fees, be it at the first line or at the hospital. Under these circumstances, it is much more difficult to control for provider moral hazard. A case can be made for the introduction of a *mix* of provider remuneration systems where salary, capitation, fee-for-service, and payments of additional incentives for well-done work will be combined. Mills referred to the provider payment issue as one of the priorities in health economics research (Mills 1997b). It certainly is so with regard to health care insurance.

The problems linked to a successful development in Africa of district-based health care insurance are galore. If it is to work, then consumer and provider behaviour need to be optimised. A mix of interventions is needed. People's priorities need to be taken into account. Health services managers must point at possible perverse effects of insurance. Whatever the nature of

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\* Respectively organisational/managerial, economic/financial, social, and political factors (see Bwamanda case study in part 2).

the problem, it is crucial that local field actors are involved in the process. Research on insurance should therefore be framed in an action-research setting. This is a matter of both relevance and ethics.

### *Insurance for what? Who decides?*

A district health system is typically composed of two tiers. What is then the most appropriate level for the introduction of health care insurance? Insurance for first level health care? Insurance for hospital care? Or for both? A number of good reasons to favour — at least in a first phase — the introduction of insurance at the level of the hospital were developed in this study. At hospital level, the direct costs of utilisation are by far the highest. Local solidarity mechanisms often will not be able, or even willing, to cope with these high expenses for events that occur only rarely. Consumer moral hazard is also more manageable when second line health care is concerned because the flow of patients through the system can be rationalised through a variety of *organisational* measures (that can even make co-payments superfluous). In the case of insurance of first line health care, *financial* measures countering moral hazard in a context of huge demand and limited supply are probably unavoidable. Last but not least, the premium for insurance of first line health care would be significantly higher than the one for insurance of hospital care because the probability of first line utilisation is much higher\*.

One can make a case for insurance schemes at the first level of the health system in settings where consumer organisation and participation is desperately lacking. In the situation of Guinea health centre users are almost systematically over-billed on an arbitrary basis. Local community associations, along the lines of the mutualistic model, may then constitute an adequate platform for the negotiation with health care providers of transparent prices and more value for money. The existing Health Centre Management Committees are often not fulfilling that role, and have frequently lost their credibility in the eyes of the population. Eventually, insurance may become an instrument for strengthening the community's position in the process of dialogue and negotiation with health services. Social and political objectives rather than technical ones, then dominate the agenda.

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\* Tentative simulations carried out in the frame of the *PRIMA* project in Guinea indicated that, given the actual situation of central subsidies (largely favouring hospital-based inpatient care), the premium for coverage of health centre care would be almost ten times higher than the premium for coverage of hospital inpatient care.

In the three experiences presented, the package of benefits included comprehensive hospital in-patient care, whatever the nature, severity and social perception of the health problem. There is no reason why this should always be the case. One could consider more selective, but less complex, schemes where one particular problem is targeted by the insurance: for example, insurance systems that cover the costs of hospital care for pregnant women. Moral hazard seems more manageable, obstetrical problems score high on people's priority list; and the potential impact on individual health status may be considerable. The disadvantage is obvious: risk sharing only takes place among a well defined, but limited, population group.

Eventually, it is up to people to decide. The same holds for the level of solidarity within these schemes: the issue of targeting and exemption of payments cannot be decided by the managers alone. There is no such thing as a *blanket* design that fits all situations. Local priorities, which of course may change, need to be taken into account. This is only possible if and when the health services are aware of these local priorities. The role of the health services is not to impose a choice but to develop channels of dialogue with the community and make informed decision-making possible. For that purpose, the health services need to provide the community with correct, complete and understandable information on the technical and financial implications of local solutions. The potential of the health district in such a process is clear.



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