

Health Microinsurance Schemes: **Monitoring and Evaluation Guide**

Volume 1: Methodology



The “Strategies and Tools against social Exclusion and Poverty” (STEP) global programme of the International Labour Organization (ILO) is active in two interdependent thematic areas: the extension of social protection to the excluded and integrated approaches to social inclusion.

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List of abbreviations

ACOPAM	Cooperative and Organizational Support to Grassroots Initiatives
ANMC	Alliance Nationale des Mutualités Chrésiennes
BoD	Board of Directors
BRAC	Bangladesh Rural Advancement Committee
CBO	Community-Based Organization
CIDR	Centre International de Développement et de Recherche
DHC	District Health Centre
GA	General Assembly
GEFONT	General Federation of Nepalese Trade Unions
HMIS	Health Microinsurance Scheme
IBNR	Incurred But Not Reported
ILO	International Labour Organization, International Labour Office
INN	International Non-Proprietary Name
I/S	Income Statement
MIS	Management Information System
MUs	Monetary Units
NGO	Non-Governmental Organization
NHIP	National Health Insurance Program
NRs	Nepali Rupees
PAHO	Pan American Health Organization
PREM	People's Rural Education Movement
RBNP	Reported But Not Paid
RO	Responsible Organization
Rs	Rupees
SDC	Swiss Agency for Development and Cooperation
SEWA	Self-Employed Women's Association
STEP	Strategies and Tools against social Exclusion and Poverty
TPA	Third-Party Administrator
UPR	Unearned Premium Reserve
VDRC	Vijay Development Resource Centre
WHO	World Health Organization
WSM	World Solidarity

Introduction

How did the Guide come about?

In recent decades, the growing trend towards the recovery of health services costs has heightened the need to protect individuals from the financial risks related to illness. In most developing countries, social security systems cover only formal economy workers. Persons outside the scope of statutory schemes, most of whom work in the informal economy, generally have no protection against social risks, particularly in the area of health. In low-income countries – especially in Sub-Saharan Africa and Southern Asia – more than 90 per cent of the population generally has no coverage, while in middle-income countries this figure tends to range between 20 and 60 per cent. Large parts of the population in developing countries are thus unable to defend themselves against the financial impact of illness.

These days, social security systems face major financial and administrative constraints. They are rarely capable of extending their coverage to a broader section of the population, particularly to the poor. That is why, in recent years and in countries with low levels of coverage (particularly in Asia and Africa), an increasing number of new schemes designed to reach the poor has emerged. These schemes are being set up by a variety of actors, including private insurers, States (at the local and national level), community-based organizations (CBOs), health care providers, non-governmental organizations (NGOs) and trade unions.

Falling under the general heading of microinsurance – or, more specifically, health microinsurance, when they offer a health plan – these schemes present a diversity of characteristics. Their organizational structures usually vary widely, depending on the actors involved. They can, for example, take the form of a financial service offered by a health care provider to guarantee their income, or they can be part of a multi-service organization, such as a workers' union, that offers new services to its members. Less frequently, schemes such as those found in India and the Philippines can bring together both public and private actors in order to provide coverage to the poor and to those excluded from statutory schemes.

What all health microinsurance schemes have in common is that they operate on the basis of the insurance mechanism, which entails the prior payment of premiums, the sharing of risks and the notion of a guarantee. The premiums of insured persons are pooled and used to cover the expenses of only those persons affected by the occurrence of a certain number of specifically defined risks. In exchange for their premiums, insured persons receive the insurer's guarantee that it will provide this financial compensation. They renounce ownership of the premiums they pay and thus any claim to them.

Although these schemes still cover relatively few people worldwide, the number of schemes is rising and the enrolled population ranges from a hundred to several million people depending on the scheme concerned. And while they may not be the ultimate solution for reaching the poor, there is growing recognition of the fact that health microinsurance schemes constitute a complementary and valuable strategy for extending social security to all.

The idea of producing a monitoring and evaluation guide for health microinsurance schemes grew out of the following observations:

- The shortage of tools available to HMIS managers and support structures for monitoring and evaluating the viability of health microinsurance schemes;
- The need for scheme operators to share their experiences and to possess qualitative, comparable and readily available information;
- The lack of evaluation data concerning health microinsurance schemes needed to assist States and cooperation agencies in defining their policies and operations in this sector.

This Guide was produced for English-speaking countries by the “Strategies and Tools against social Exclusion and Poverty” (STEP) programme of the International Labour Office (ILO). It is based on a similar tool, produced jointly with the *Centre International de Développement et de Recherche* (CIDR) for French-speaking countries entitled *Guide de suivi et d'évaluation des systèmes de micro-assurance santé* (ILO-STEP and CIDR, 2001). ILO-STEP and CIDR have been working for several years to develop knowledge concerning the extension of social protection, in particular, through their support of local initiatives.

What are the objectives and scope of this Guide?

Objectives

The Guide has two objectives:

Objective 1. To strengthen the capacity of managers to monitor and evaluate their HMIS.

The Guide helps managers to acquire the techniques and tools they need to monitor the activities of their organization and to evaluate its operation. Such an evaluation is not aimed exclusively at assessing the scheme's viability; it can also lead to changes in the organization and operation of the HMIS, improve its relations with third parties and increase the efficiency of its management information system.

Objective 2. To strengthen the capacity of technical and financial support agencies and private insurers to assess the viability and performance of the HMIS.

By analysing the viability of the HMIS with which they are working, insurers and support agencies can identify weaknesses and needs more precisely. This exercise also makes it possible to evaluate the results of past activities, as well as to plan future activities more effectively. In addition, the Guide provides some indications for measuring the effectiveness, efficiency and impact of health microinsurance schemes.

By contributing to the systematization and standardization of information, the Guide also encourages the development of a common language, and thus a better basis for communication between the various actors involved in the management and promotion of these schemes.

Scope

The subject of monitoring is not covered exhaustively in this Guide. In order to carry out a proper evaluation of an HMIS, it is essential to collect reliable information. In practice, however, most schemes have a less-than-perfect management information system. For that reason, the monitoring components included in this Guide are designed to give managers and operators some basic tools for producing the information they need. The monitoring tools described are those that may be applied directly when following the method of evaluation proposed in the Guide. It should be noted, however, that this evaluation methodology focuses primarily on the HMIS itself (except for Part V), rather than on its impact. This is intentional, given that the Guide is not aimed at assessing the ability of health microinsurance schemes to

ensure access to health care and financial protection, but rather – as mentioned in the objectives – at strengthening the capacity of actors to manage and support an HMIS.

The Guide is not suited to the evaluation of activities other than those related to health insurance. Some of the activities associated with risk-coping mechanisms, such as savings/credit schemes, the installation and management of a health centre or pharmacy, and education programmes are mentioned in the Guide, but are not evaluated as such. The evaluation methodology focuses primarily on the HMIS itself, without paying much attention to the institutional, economic, historical, social and political context in which such schemes operate. Although a change in that context can considerably weaken the viability of an HMIS, it exceeds the scope of this Guide to propose a methodology that can take such changes into account. For that purpose, some helpful information may be found in another guide produced by ILO-STEP (2005) entitled *Health Micro-Insurance Schemes: Feasibility Study Guide*. Notwithstanding the foregoing, any evaluation to be undertaken should first assess the environment of the HMIS before applying the methodology proposed in the present Guide.

The Guide does not provide an analysis of the profitability of insurance products by type of benefit, nor does it describe the type of benefits package that should be offered. It suggests a methodology designed to analyse and ensure the viability of health microinsurance schemes, especially in terms of their risk portfolio, in order to improve their product design and administration. The Guide is not intended to assess whether or not a scheme's benefits package is cost-effective. That would require the mastery and application of cost accounting methods, which, in the current context, is rarely an option for an HMIS.

Regulatory authorities, ministries of health and cooperation agencies often attach particular importance to the impact that microinsurance schemes have on access to care by the poorest segments of the population or on improving the quality of health care services. This Guide offers some indications as to how to measure that impact, but does not propose a method of analysing it. An impact study calls for a more in-depth procedure and one that exceeds the scope of the indications proposed in this Guide. It requires distancing oneself from the scheme's operation and collecting data (by means of surveys) directly from the health services and the population.

To whom is the Guide addressed?

The Guide is addressed to several kinds of users:

- *HMIS managers and officials in charge.* These may include community-based operators, NGOs or social movements that administer a scheme; private insurers that use an agent to offer insurance products to the poor (partner-agent model¹); or public authorities wishing to improve their social programmes. Depending on their functions and level of knowledge, managers and officials in charge will be interested in all or part of the Guide.
- *Support agencies.* These may include NGOs; management centres; projects; unions or associations of mutual organizations; and trade unions that provide technical, administrative or financial assistance to health microinsurance schemes.

¹ In a partner-agent model, the financial aspects of insurance (premium collection, pooling of resources and purchasing of services) are divided among various actors. An insurer (public or private) uses a community-based organization (CBO), whether member-based or not, to sell an insurance product and to bear fully the financial risks involved. The CBO acts as an agent for the insurer, and may assume various roles, such as assessing the "clientele's" needs, collecting and managing premiums, marketing the products, etc.

By contributing to the systematization of information and to increasing knowledge concerning health microinsurance schemes, the Guide will also help *scientific researchers and decision-makers* to determine the capacity of such schemes to reduce exclusion from social protection.

What kind of health microinsurance schemes does the Guide target? How does it take their diversity into account?

This Guide was conceived primarily for local organizations that manage or support health microinsurance. Schemes operated by health care providers and private insurers will also find it useful.

It is not suited to centralized health insurance schemes, such as those run by social security systems, which are generally characterized by compulsory membership, national coverage (or coverage of an entire socio-professional category) and management under the responsibility of public or semi-public agencies.

It will no doubt be necessary to make modifications for employer-operated schemes involving automatic membership.

Although not its primary purpose, this Guide may be useful to managers of prepayment schemes (health savings and/or health credit, subscription, etc.) or aid associations.

Despite their diversity, the schemes covered by this Guide share two common features:

- (a) *They are predicated on the notion of health insurance as a financial instrument based on the pooling of risks among members;*
- (b) *They are operated by an organization responsible for the insurance product, which acts, either alone or in partnership, to distribute or administer that product and to serve insured members.*

The functions of monitoring and evaluating health insurance are dealt with in Parts II and III. There are numerous methods of managing a health insurance scheme. Depending on the HMIS in question, these methods may vary according to the objectives pursued, the membership plans offered, the extent to which members are involved in decision-making, or the level of financial solidarity that exists between members. Despite this diversity, when managing an insurance product, health microinsurance schemes are subject to a number of common operating principles. As with any financial instrument, health insurance must observe technical, financial and management rules.

When viewed as a financial instrument, health insurance can initially be evaluated as such, and thus independently of the organization responsible for its operation. Experience has shown that an insufficient mastery of the factors that make health insurance viable can quickly jeopardize its very existence.

Part IV of the Guide deals with a series of organizational and institutional factors that affect the viability of an HMIS and are largely dependent on the organization responsible for operating the scheme.

The health microinsurance schemes covered by this Guide can therefore be grouped into different categories based on ownership and accountability. In terms of the level of member participation in and ownership of the HMIS, two main categories may be distinguished:

Schemes whose management relies on strong participation of insured persons

Mutual health organizations, which account for the greatest number of schemes in this category, are democratic organizations founded on mutual aid and solidarity. They are set up and managed by and for their members.

The members of mutual organizations participate in management through general assemblies and the election of representatives of the scheme. Mutual organizations are the collective property of their members; the latter are at once the "insurers and the insured". For this reason, no contract is concluded to formalize relations between mutual organizations and their members (since one cannot conclude a contract with oneself). Rather, their relationship is governed by the rights and obligations set forth in the statutes and internal rules of the organization.

Mutual organizations pursue objectives aimed at the promotion of social and individual well-being. They seek to reconcile the achievement of these objectives with the financial viability and competitiveness of the scheme as compared with other forms of risk-management mechanisms.

Schemes with no strong community participation

These include, among others, most of the schemes managed by insurers and health care providers. In most cases, the members of the scheme are merely clients. They are beneficiaries who do not share the risk of managing the financial instrument.

The insurer (or its agent) concludes a contract with the members. The contract has specific terms, is limited in time and can be renewed and terminated. It is the contract that provides entitlement to coverage. Insurers are generally not required to accept all applicants for membership in the scheme.

The schemes may be public, private, not-for-profit or for profit. Not-for-profit microinsurance schemes managed by hospitals, such as those in Africa, are primarily aimed at facilitating access to the services they provide, thereby increasing and then stabilizing their income. The Bwamanda Insurance Scheme (DRC) (Criel, 1998) is one of the oldest not-for-profit microinsurance schemes in Africa.

Insurance companies may take part in offering health microinsurance to disadvantaged groups. While commercial insurance companies generally pursue the objective of financial profitability, in some cases, they may, at their own initiative (or in conformity with legal requirements) pursue social objectives through the provision of specific products that contribute to extending social protection to poor segments of the population. They may be inclined to offer their clients insurance contracts whose cost match as closely as possible the risk that they, as insurers, are required to assume. Consequently, they frequently offer differing levels of coverage to members, since the level of coverage is adjusted to the risks represented by the particular individual or group of individuals concerned.

The distinction made between the various schemes is not a formal one. Aspects that vary from one scheme to another include the methods used to set them up, their financial structure and, in many cases, the conditions relating to their feasibility.²

² It should be noted that some commercial insurance companies are in direct competition with health microinsurance schemes that pursue social objectives. Such companies will seek, for example, to attract a faithful clientele of young people, by offering a level of coverage that is attractive to that category of individuals (i.e. a benefits package provided in exchange for a premium that is adjusted to the estimated risk for that particular population segment). Commercial insurance companies can compete directly with mutual organizations in those instances in which the principles of solidarity prevent mutual organizations from differentiating between "good" and "bad" risks. Although both types of operators offer "insurance products", they pursue very different objectives. Competition can also exist between not-for-profit insurance schemes managed, for instance by hospitals and mutual organizations, the latter pursuing broader human and social objectives.

The organizational structure of the schemes may vary slightly, depending on who is the main promoter of the HMIS. These promoters may be divided into two categories:

- The State, a private insurer or other insurer using a CBO as an agent (partner-agent model);
- CBOs (all types: NGOs, trade unions, communities, etc.) offering their own insurance product.

In short, the method proposed by the Guide deals with an aspect that is common to all schemes: the monitoring and evaluation of the financial instrument that comprises the insurance scheme (Parts II and III). It also deals with a second aspect (Part IV), which involves taking into account differences in organizations responsible for operating health microinsurance schemes.

How is the Guide structured?

The Guide consists of two volumes: Volume 1 is devoted to methodology, and Volume 2 contains practical indications for completing tables and calculating indicators, described in Volume 1.

Structure of Volume 1: Methodology

Volume 1 consists of five parts.

Part I presents the main definitions and basic concepts used in the Guide. These relate to monitoring and evaluation, membership, insurance-related risks, income, expenses and financial statements. Additional definitions are provided in the Glossary, which is included as an annex to Volume 1.

Part I also contains an executive summary of the required capacities and key indicators of a viable HMIS. It serves as an introduction to the elements that are developed in subsequent parts of Volume 1.

Part II deals with the subject of administrative and technical monitoring, as well as with budget and cash flow monitoring. The monitoring tools described are those that may be used directly in the evaluation described in Parts III and IV. The description of administrative and technical monitoring is based on the major functions of insurance management, which include the establishment of insurance contracts, premiums collection, claims processing and risk portfolio monitoring.

Part III deals with evaluating the viability of health insurance viewed as a financial instrument. The proposed method is based on the use of a series of quantitative and qualitative indicators. Viability is evaluated, in turn, from the administrative, technical, functional, financial and economic standpoints. Part III contains numerous explanations whose objective is to facilitate the understanding and effective use of the proposed indicators.

Part IV deals with evaluating the institutional viability of the microinsurance scheme. It complements Part III by taking into account factors of viability that are related to the organization responsible for operating the insurance. It examines, in turn, the distribution of tasks and the management of human resources within the HMIS; the links and complementarities that exist

between the insurance and the other activities conducted by the responsible organization; the links between the HMIS and health care providers; and the legal and regulatory framework in which the HMIS operates.

Part V offers some indications for assessing the effectiveness, efficiency and impact of an HMIS, but does not contain all the elements needed to develop a full-fledged methodology in this area. It merely provides some pointers to users interested in this kind of assessment, as a complement to evaluating the viability of the HMIS. It also introduces the concept of the relevance of the HMIS.

Structure of Volume 2: Practical indications

Volume 2 contains practical indications and examples aimed at facilitating the use of the tables and indicators presented in Volume 1. The tables contained in Part I and the indicators contained in Part II are presented in the order in which they appear in Volume 1.

Indexes provided at the beginning of Volumes 1 and 2 assist users in finding the tables and indicators contained in the two volumes.

How should the Guide be used?

Users should first read through the entire Guide in order to become familiar with the overall method proposed and to gain a better understanding of the usefulness of the information to be collected and the indicators to be produced.

The monitoring and evaluation of an HMIS are fairly complex operations. It is thus preferable to carry out these operations in the context of a team effort in order to benefit from a combination of skills. Even so, it may be necessary to call on external resources for such tasks as preparing financial statements or analysing expenses. It is important to proceed very methodically and to make sure that the indicators contained in the Guide are well understood. For that reason, users may find it helpful to consult the Guide frequently during the monitoring or evaluation process.

The evaluation process will be more productive if it involves all those concerned with the HMIS (officials in charge, managers, contractual health care providers, etc.). Their involvement as from the data-collection stage, the transparency of the methodology followed and their contribution to the process of data analysis will encourage their acceptance of the conclusions and their involvement in post-evaluation activities.

Depending on their objectives and needs, some users may focus on one part of the Guide, as opposed to another, or they may use all the tools, or only a few of them. If the Guide is used to enhance other evaluation methods, it will already have fulfilled one of its purposes. However, care should be taken to ensure the overall consistency of an evaluation, the results of which may be completely altered by a truncated view of the HMIS.

The Guide will be of little value if it is used only in cases in which problems have already been solved and decisions taken. It should be used instead as a tool to systematically identify problems and weaknesses. A lack of information in a particular area is itself an important clue for managing an HMIS. It reveals the existence of a "grey area", which may point to the cause of a particular dysfunction.

Part I. Definitions, basic concepts, required capacities and key indicators

Part I sets out the definitions and basic concepts with which users will need to be familiar in order to use subsequent parts of the Guide. These relate to:

- Monitoring and evaluation;
- Membership;
- Insurance-related risks;
- Income and expenses;
- Financial statements.

Part I also provides a brief introduction to the capacities required and key indicators of a viable HMIS. These aspects are developed further in Parts II, III, and IV of the Guide.

1. Monitoring and evaluation

A distinction is usually made between monitoring and evaluation; in practice, however, the distinction is not always obvious. The two techniques are, in fact, related and complementary, and involve many of the same tools.

Monitoring may be defined as a continuous activity that consists of:

- Overseeing the proper execution of the scheduled programme of activities;
- Providing the timely information needed for sound management and effective decision-making.

Good monitoring is an essential condition for the success of an HMIS. Success, in the case of an HMIS, may be defined as the ability to honour its commitments to its partners – in particular, its beneficiaries and health care providers – on an ongoing and sustainable basis.

A “monitoring system” may be defined as the complete set of procedures, tools, information flows and responsibilities that allow for the collection and processing of data in the monitoring process. Management information systems (MISs) constitute an important tool for information-enabling monitoring.

Evaluation is a periodic activity. It is a stocktaking of actions carried out during, or at the end of, the accounting period.³ Generally speaking, evaluation involves assessing whether stated objectives have been achieved in whole, in part or not at all. The evaluation should reveal the reasons for discrepancies between the actual and forecasted levels of achievement of objectives.

The evaluation may concern the whole entity (e.g. a project), certain actions (e.g. educational activities carried out within the ministry of social affairs) or merely some of its characteristics (e.g. the viability of an enterprise).

³ Evaluations made prior to action also exist. These are referred to as “ex-ante” evaluations and are intended to assess the appropriateness of undertaking a given action.

2. Membership

Membership or enrolment⁴ in an HMIS refers to the act of insuring oneself against the financial risk related to certain diseases. This may involve membership in a commercial health insurance scheme, mutual health organization or other type of scheme.

Definitions are provided below for the following basic concepts:

- Population of the area of operations and target population;
- Forms of membership (individual, family or group);
- Types of membership (voluntary, automatic or compulsory);
- Categories of beneficiaries (member or dependent, contributing or non-contributing).

Practices used in health microinsurance schemes regarding membership vary widely. Only the most common practices are described in the definitions and explanations presented below.

2.1 Population of the area of operations

The population of the area of operations is the total population of the geographical area in which an HMIS operates.

Two cases are possible, depending on whether the HMIS is geographically based (i.e. its activities are confined to a given geographical area) or socio-occupationally based (i.e. its activities are aimed at benefiting a group of individuals who fall into a specific category, such as employees of an enterprise, members of a trade union, etc.):

- *For a geographically based HMIS*, the population of the area of operations is the entire population of the geographical area in which the HMIS operates.
- *For a socio-occupationally based HMIS*, the population of the area of operations is the population of the area in which the members of the socio-occupational category targeted by the HMIS reside. The area of operations may be one or more districts or regions, or even an entire nation.

It is important to identify the size and characteristics of the population, as these may have a decisive impact on the costs, management methods and viability of an HMIS.

Generally speaking, an HMIS does not target the entire population of its area of operations; it concentrates merely on a part of it, i.e. the target population.

2.2 Target population

The target population of an HMIS refers to the whole population who is eligible to become beneficiaries of the scheme. Two cases are possible, depending on whether the HMIS is geographically or socio-occupationally based:

- *For a geographically based HMIS*, the target population is the segment of the population in the scheme's area of operations who are eligible to become beneficiaries. When membership in the HMIS is open to the entire population of the scheme's area of operations, the target population and the population of the area of operations are identical.

⁴ The term "subscription" is also used in some commercial schemes. The term "membership" is more commonly used in existing microinsurance schemes, and for that reason will be the term used in this Guide.

Example. In Nepal, the target population of the Lalitpur medical insurance scheme promoted by United Missions is the entire population of the area covered by the hospital.

An HMIS may impose restrictions on the enrolment of individuals who are members of the population of its area of operations (for example, in the context of a project). In such cases, the target population is not the same as the population of the area of operations.

- For a socio-occupationally based HMIS, the target population consists only of the members of the socio-occupational category who are eligible for membership and, in some cases, their dependents. The target population is therefore distinct from the population of the area of operations.

Example. In India, the HMIS promoted by the Dhan Foundation covers only women who previously participated in self-help groups providing various microfinance services.

A socio-occupationally based HMIS (e.g. members of a cooperative) may, over the years, extend its target population to include the entire population of its area of operations.

2.3 Categories of beneficiaries

There are various categories of beneficiaries. The following definitions will be used in this Guide:

The **member**, also referred to as the “**policyholder**” or “**insured person**”⁵, is any person who has joined the HMIS, i.e. who pays applicable membership fees (or enrolment, registration or initiation fees); agrees to respect the provisions of the contract and/or the rules governing the operation of the HMIS (rights and obligations); and consequently, to pay premiums (or contributions). Members may extend eligibility for the benefits provided by the HMIS to a certain number of persons who rely on them for support, referred to as “**dependents**”. These usually include spouses, children up to a certain age, and other persons dependent on the member as defined by the rules of the HMIS. Members and dependents are the “**beneficiaries**” of the HMIS.

In order to enjoy the services provided by the HMIS, in addition to paying membership fees, members must pay premiums. There are, however, some members who fail to pay their premiums. Consequently, a distinction is made between contributing and non-contributing members.

Contributing members are those who have paid their premiums for the relevant period. They are entitled to receive benefits from the HMIS.

Non-contributing members are members who have paid their membership fees, if applicable, but have not paid their premiums for the relevant period within the time limit stipulated in the contract (and/or the statutes and rules of the HMIS). The HMIS cannot cover the health expenses of these members.

It is the practice of some mutual organizations not to terminate members who have paid membership fees but who have failed to pay premiums. Instead, the organization continues to register information concerning such members in its management information system.

⁵ The term “member” is most commonly used in the microinsurance schemes for which this Guide is intended. In the field of insurance, however, the terms “policyholder” or “insured person” are more frequent, especially in the field of commercial insurance. For the purposes of covering health risks, these terms are equivalent.

2.4 Forms of membership

The basic form of membership, i.e. the smallest unit below which it is not possible to become a member, may vary from one HMIS to another or even within the same HMIS. There are generally considered to be three possible forms of membership, depending on whether membership is based on:

- The **individual**. Each person may join on an individual basis without any obligation to belong to a family or to a community.
- The **family**. All the members of a family must be enrolled and must pay premiums. The criteria defining the family and the status of “dependent” are established in advance.

Example. The Mpango Wa Tiba Kwa Kadi HMIS in Tanzania is based on family membership. The HMIS defines the concept of family in accordance with the local context as follows: “A member and his or her spouse and four children. In the event of polygamy (there is no polyandry in Dar es Salaam), every additional wife is counted as a new household, which means that premiums are doubled or tripled, depending on the number of officially recognized wives.”

- A **group of individuals, a village or an enterprise** (whether or not the individuals are related by kinship). In such cases, the members of the group, village or enterprise must join as a group and not as individuals.

2.5 Types of membership

An individual may enjoy a greater or lesser degree of freedom in joining an HMIS. It is important to analyse the different types of membership that are possible. The three types of membership are:

- **Voluntary membership.** Membership is voluntary when the prospective member is free to join or not to join the HMIS.

Example. In Senegal, the Lalane Diassap mutual organization practises a voluntary type of membership. According to its statutes, those eligible to become members of the mutual organization include “heads of families, individuals from the villages of Lalane and Diassap, and all other persons who express an interest in joining.”

- **Automatic membership.** Membership is automatic when the fact of belonging to a group (cooperative, village, trade union, enterprise, etc.) automatically entails membership in the HMIS. The decision to join the HMIS is taken freely by the group (not the individual) and is not externally imposed.

Example. In the initial years following start-up, more than half the inhabitants of a village in East Africa voluntarily became members of a mutual organization located in the neighbourhood of a hospital. At the general assembly, it was decided that, beginning the next year, all inhabitants would be required to enrol in the scheme. Membership thus became automatic for the inhabitants of the village.

- **Compulsory membership.** Membership is compulsory when individuals, families or groups are required to join a scheme without having made the decision to do so themselves.

Example. Membership in the National Health Insurance Program (NHIP), which is managed by the Philippines Health Insurance Corporation (PhilHealth), is compulsory for all formally employed workers. Premiums are paid by the employee and the employer on the basis of a defined salary scale. All members receive the same benefits package regardless of the premium they pay.

3. Insurance-related risks

There are three types of insurance-related risks:

- **Risk of adverse selection.** This is a phenomenon according to which persons with a high risk of illness join an HMIS in a higher proportion than that represented by their share of the general population. In other words, on the basis of the membership arrangements⁶ and benefits it offers, an HMIS may “attract” persons who are more exposed to health risks (“bad risks”) than the average of the general population.

Example. An HMIS proposes to cover the costs of childbirth. It calculates that the frequency of childbirth among the population is 4.5 per cent (4.5 births per 100 persons). After a year, the HMIS reports considerable losses, noting that 70 per cent of its members are women and that the frequency of births among its members is 45 per cent. This HMIS has been exposed to a high degree of adverse selection.

- **Risk of over-consumption (or moral hazard).** This refers to the phenomenon according to which beneficiaries of an HMIS tend to consume benefits abusively, or more than usual, in order to maximize the value of their premiums.

Example. In Nepal, the Vijay Development Resource Centre (VDRC) scheme found that the probability that the covered population would need basic consultation services was approximately 71 per cent. Premiums were determined accordingly, and the scheme decided not to introduce a co-payment mechanism. In the first months of activity, the utilization rate for consultation services was three times (211 per cent) the original forecast.

- **Risk of over-prescription (or risk of escalating costs).** This refers to the risk that an HMIS will be exposed to a rise in the cost of claims, owing to an unjustifiable increase in the quantity or cost of care delivered by providers.

Health care providers may cause an increase in the cost of claims by prescribing unnecessary treatments or using more expensive techniques, without any objection from the patient, who knows that the insurance scheme will cover the costs involved.

⁶ The choice of membership arrangements is crucial for an HMIS, since the risks it takes differ depending on whether membership is individual or not, and whether it is voluntary or compulsory. The wider the membership base, the lower is the risk of adverse selection.

Example. In Nepal, while carrying out household surveys prior to the establishment of its health microinsurance scheme, the VDRC observed that laboratory tests accounted, on average, for 46 per cent of its consultations. It calculated its premiums according to these findings. However, during the first three months of operation, it discovered that the number of laboratory tests far exceeded that of consultations (139 per cent). This revealed a pattern of over-prescription on the part of the hospital that had been a partner in setting up the scheme.

4. Income and expenses of an HMIS

4.1 Income

Income may be grouped into five categories:

(1) Premiums

The premium⁷ is a defined sum of money paid periodically to the HMIS by members (or by third parties on behalf of members) that entitles members and, in some cases, their dependents, to receive services from the HMIS.

The premiums applied by the HMIS may be characterized as:

- *Flat-rate or related to the member's income (or wages).*
- *Family rate or individual rate.* There are four possible cases:
 - A single premium is paid, regardless of the number of dependents;
 - The member and the dependents pay the same premium;
 - Dependents pay a lower premium than the member;
 - Premiums are applied either on the basis of whether the member does or does not have dependents, or on the basis of the number of his or her dependents.

Example. In Nepal, the HMIS operated by the Vijay Development Resource Centre (VDRC) applies the following scale of premiums:

Family size: 1 to 5 members - NRs 325 per person per year

Family size: 6 to 10 members - NRs 300 per person per year

Family size: more than 11 members - NRs 275 per person per year

- *Dependent on beneficiaries' characteristics or independent of their characteristics.* Four cases are possible:
 - The premium is fixed and is independent of the category of beneficiary;
 - The premium varies according to the personal health risks of beneficiaries (this is the commercial insurance approach, which is the opposite of the social or community rating approach);

⁷ The term "contribution", not "premium", is often used in mutual organizations. For the sake of simplicity, only the term "premium" will be used in this Guide.

- The premium varies according to the beneficiary's status within the scheme (a distinction is made between members and non-members);

Example. In Bangladesh, the scheme set up by Bangladesh Rural Advancement Committee (BRAC) in 2001 recognizes two types of members: The members of its microfinance service (who are required to pay a yearly premium of 100 takas for a family of up to six members) and members who do not participate in its microfinance activities (who are required to pay a yearly premium of 250 takas).

- The premium varies according to other beneficiary characteristics, such as age, sex, income, etc.

For accounting purposes, a distinction is made between:

- **Premiums due** within an accounting period. These are the premiums that the HMIS should, in theory, receive under all contracts in force.
- **Premiums received.** These are the premiums that the HMIS has actually received under all contracts in force.
- **Earned premium** (for the period concerned). This refers to the portion of premiums due allocated to cover benefits for the period corresponding to the relevant accounting period.

Example. In Bangladesh, the BRAC scheme permits enrolment at the start of each month. Thus, when preparing the annual financial statement for 31 December 2006, managers considered 12 out of 12 months' premiums as earned premium for members effective 1 January 2006; 11 out of 12 months' premiums for members effective 1 February 2006; ... 1 out of 12 months' premiums for members effective 1 December 2006. These calculations result in the earned premium for the respective period.

(2) *Subsidies, donations and grants*

These are gifts or subsidies from the State or from external donors (cooperation programmes, NGOs or other sources) that are provided free of charge to the HMIS. Subsidies, donations and grants can be made in cash or in kind.

It is important to identify the nature and purpose of these revenue items in order to record them properly. Permanent contributions are treated as income for the HMIS. Non-permanent contributions are treated as grants or subsidies and are recorded in the lower part of the income statement, after net income. The categories to be identified include:

- Long-term subsidies, such as premium subsidies provided by the State. These are treated as premiums;
- Grants. In most cases, grants are not "permanent" or ongoing in nature, but are provided during a transition period, such as during the start-up of an HMIS;
- Donations.

Example. In India, the HMIS set up by the People's Rural Education Movement (PREM) received a subsidy from an external donor. In order to facilitate operations in the scheme's initial years, the subsidy was intended to cover a declining percentage of costs over a five-year period. This was recorded after net income as a grant.

(3) *Investment income*

Refers to returns on invested assets.

Example. In India, while receiving a yearly declining grant, the HMIS operated by PREM invested its surplus primarily in mutual funds earning accrued interest. The large amounts involved in this investment enabled PREM to choose from among a variety of competitive offers in the financial market for returns on its investment.

(4) *Other income*

An HMIS may have other sources of income, including:

- Ancillary services. These refer to various services, whether fee-based or not, that are provided by the HMIS, in addition to health care coverage. They may be extended to members or non-members and, when fee-based, constitute an additional source of income. Examples include transporting patients, the direct supply of medicines, etc.;
- Services provided and invoiced to external users (hire of rooms or equipment, lodging, etc.);
- Income-generating promotional activities (raffles, cultural events, etc.);
- Membership fees. Also known as enrolment, registration, entry or admission fees, these are the fees paid by members at the time of enrolment in the HMIS. The membership fee may be replaced by the sale of a membership card⁸ or by the issuance of an insurance contract.

The membership fee is usually a one-time payment; however, two exceptions are possible:

- When the membership fee is replaced by a membership card, a fee is paid each time members renew their card.
- When a member fails to pay premiums during a specified period, some schemes require payment of an additional membership fee before the member is allowed to begin making premium payments once more.

The membership fee is not refundable.

(5) *Shares*

In some health microinsurance schemes – for example, those set up as cooperatives – members must make contributions to the scheme’s capital. Such contributions are generally referred to as “shares”. Members retain ownership of the shares they have paid for and recover them when their membership ceases. These shares are usually not treated as income, but rather as direct contributions to capital.

Example. In Nepal, the GEFONT health cooperative in Kathmandu was set up with an initial capital investment of NRs 100,000. Half that amount (NRs 50,000) was put up by the trade union, while 500 shares at NRs 100 each were to be purchased by members wishing to enrol in the HMIS. These were recorded as contributions to the cooperative’s capital.

⁸ These tools are described in Part II, which deals with administrative and technical monitoring.

4.2 Expenses

Expenses have been grouped into three categories:

(1) Claims expenses (expenses relating to services covered)

These include reimbursements to beneficiaries for health expenses, payments to health care providers, allowances, etc. Health benefits coverage represents the main expense of the HMIS. Reinsurance expense (for premiums paid to an insurer providing coverage for a defined liability) may be considered a sub-category of claims expenses.

(2) Operating expenses

Also referred to as management expenses, these are expenses related to the administration, management and marketing of the HMIS. They consist of staff wages, travel costs, rent, office supplies, etc. Operating expenses may be subdivided into:

- Administrative expenses, which include:
 - Fixed administrative expenses, such as staff wages, rent, etc.
 - Variable administrative expenses, such as travel costs, office supplies, etc.
- Distribution and communication expenses. These include promotional expenses, such as leaflets and educational brochures, training workshops, the fees and wages of external trainers, travel costs, etc.

(3) Other Expenses

- **Ancillary health services.** Refers to services other than those relating to health insurance, such as health education courses or patient transport. Expenses included under this item correspond to the direct costs of such services.
- **Miscellaneous expenditures.** Refers to expenditures made by the HMIS that do not fall into any of the above categories – for example, the payment of registration fees to a federation of health microinsurance schemes.

See Volume 2, page 2

Table 1. Simplified income statement

INCOME	
Premiums	A
Change in Unearned Premium Reserve (UPR)	B
Subtotal earned premium	C = A – B
Permanent subsidies and/or grants	D
Investment income	E
Other income * <ul style="list-style-type: none"> ● Membership fees ● Ancillary services & other 	F f1 f2
Total INCOME	R = C + D + E + F
EXPENSES	
Claims expenses	
Claims paid	g1
Change in Incurred But Not Reported claims	g2
Change in Reported But Not Paid claims	g3
Reinsurance expenses	g4
Subtotal incurred claims	G = g1 + g2 + g3 + g4
Operating expenses	
<i>Administrative expenses</i>	
Fixed expenses <ul style="list-style-type: none"> ● Salaries and benefits ● Rental and contractual charges ● Depreciation 	h1 h2 h3
Variable expenses <ul style="list-style-type: none"> ● Travel ● Office supplies ● Miscellaneous 	h4 h5 h6
Subtotal administrative expenses	H = h1 + h2 + h3 + h4 + h5 + h6
<i>Distribution and communication expenses</i> <ul style="list-style-type: none"> ● Promotion ● Distribution 	i1 i2
Subtotal distribution and communication expenses	I = i1 + i2
Subtotal operating expenses	J = H + I
Other expenses **	
Ancillary health services expenses	k1
Miscellaneous	k2
Subtotal other expenses	K = k1 + k2
Total EXPENSES	X = G + H + I + K
NET INCOME (OR LOSS) BEFORE SUBSIDIES AND GRANTS ***	Y = R – X
Subsidies or grants received	S
NET INCOME (OR LOSS) AFTER SUBSIDIES AND GRANTS	Z = Y + S

* Including unearned income from sources other than premiums. ** Including incurred but not reported expenses other than claims.

*** Permanent subsidies and/or grants are included (row D). Occasional subsidies and/or grants are considered separately (row S).

5. Financial statements

The income statement and the balance sheet are of basic importance in analysing the financial viability of an HMIS. A simplified version of these two tools is presented below. Managers should analyse the information contained in these statements so as to gain a better understanding of each item and to make improvements aimed at either increasing revenue or decreasing expenditure. The preparation of the financial statements falls outside the scope of this Guide and is therefore not presented here.

5.1 Income statement

The income statement (I/S) is a summary of the income and expenses of the HMIS during a specified period referred to as the “accounting period” (usually one year). The term “income” refers to the revenue received during an accounting period. The term “expenses” refers to the goods and services actually consumed during the same accounting period. The difference between income and expenses is referred to as the “net income” (or “net loss”) for the period.

Table 1 provides a simplified version of an income statement. It lists all the income received by the HMIS and all the expenditures it has had to make during the accounting period under review. Subtracting total expenses from total income results in net income for the period.

5.1.1 Income

For purposes of simplification, the various items of the HMIS income statement are divided into the following categories:

- **Premiums (A).** Refers to all premiums billed to members during the accounting period, whether or not payments were received.
- **Change in Unearned Premium Reserve (B).** Refers to the change in proportion of unearned premium at the end of the current and previous accounting period which is attributable to a future accounting period.
- **Earned premium (C).** Refers to the total amount of premiums and Change in Unearned Premium Reserve during the given accounting period.
- **Permanent subsidies and/or grants (D).** This category is used to record contributions made by the State or other organizations as part of a long-term commitment to supply funds to the HMIS.
- **Investment income (E).** Refers to yields on invested assets derived from HMIS operations. A partially or fully defaulted investment is recorded under this item as a reduction.
- **Other income (F).** Refers to any other income received in connection with HMIS operations. Examples include membership fees and fees received for administering an insurer’s claims.

5.1.2 Expenses

By way of illustration, expenses have been divided into the categories described below. Health microinsurance schemes may wish either to consolidate or to expand these categories. It is important to list all expenses in order to correctly measure the impact of the scheme’s activities.

- **Claims paid (g1).** Refers to the total amount of claims disbursed to members (excluding reinsurance claims for g1, g2 and g3).
- **Change in Incurred But not Reported claims (IBNR) (g2).** Refers to the difference noted (recorded as an expense) from one accounting period to the next in the estimated amount of claims incurred but not reported during the period.
- **Change in Reported But Not Paid claims (RBNP) (g3).** Refers to the difference noted (recorded as an expense) from one accounting period to the next in the amount of claims reported but not paid during the period.
- **Reinsurance expenses (g4).** An HMIS may purchase reinsurance to cover large claims, such as claims in excess of Rs 10,000. The cost of premiums paid to the reinsurer is recorded under this item. (Claims paid by the reinsurer should be analysed, but are not reflected in this I/S.)
- **Incurred claims (G).** Refers to the total of all claims incurred during the accounting period.
- **Administrative expenses (H).** The items included under this category include:
 - Employee salaries and benefits and/or compensation paid to non-salaried HMIS members working for the scheme (h1);
 - Rental and contractual charges (h2);
 - Depreciation (h3). If an HMIS invests in the purchase of a vehicle, or a computer to monitor its activities, these expenses are not assigned to a single accounting period, since the investment will benefit the scheme over the course of several years. Only the share of depreciation corresponding to the current accounting period is shown on the income statement;
 - Travel (h4);
 - Office supplies (management tools, cards, stationery, etc.) (h5);
 - Miscellaneous, all other administrative expenses (h6).
- **Distribution and communication expenses (I).** This category includes:
 - Promotional expenses (i1). Refers to the expenses for all promotional material and activities;
 - Distribution expenses (i2). Refers to expenses, such as compensation paid to HMIS promoters, training provided to promoters, etc.
- **Operating expenses (J).** This category refers to the total amount of administrative expenses (H) and distribution and communication expenses (I).
- **Other expenses (K).** This category includes:
 - Ancillary health services (k1);
 - Miscellaneous. Refers to all other expenses not related to the ordinary activities of the HMIS (k2).

5.1.3 Net income (profit or loss)

Net income is the difference between income (R) and expenses (X) for a given accounting period $[(Y) = R - X]$. If the result is positive, it means that the HMIS earned a surplus (or profit) for the accounting period. If the result is negative, then the HMIS incurred a deficit (or loss).

For the purposes of financial analysis, it is useful to calculate net income before and after non-permanent operating subsidies and grants (S). If the Government or other organization offers support on an ongoing basis to the HMIS, the corresponding subsidies or grants should be treated as income (D).

Example. In India, in the State of Karnataka, the Yeshasvini HMIS established a partnership with the State to provide health coverage to members of cooperatives. Each enrolled member was required to pay a premium of Rs 60, and the State contributed Rs 30 for each active member. In this case, the contributions made by the State were reported as income and shown as permanent subsidies (D). Had the State made contributions only over the course of one year in an effort to facilitate the start-up of the scheme, such contributions would have been treated as subsidies (S). These two ways of classifying State subsidies have differing impacts on net income.

5.2 Balance sheet

The balance sheet is a “snapshot” of the scheme’s capital position at a particular point in time. It shows how the resources of the HMIS (what it possesses, or its “assets”) were used. It also shows the origin of its resources, or its “liabilities”.

Assets are listed in order of liquidity starting with the most liquid assets. Liabilities are listed according to due date with the shortest-term liabilities at the top and the longest-term liabilities at the bottom.

Table 2. Simplified balance sheet (at the end of the accounting period)

See Volume 2, page 5

Account	Reference number
ASSETS	
Cash and due from banks	1
Accruals and prepayments	2
Short-term investments in market instruments	3
Long-term investments	4
Fixed assets	5
Intangible fixed assets	6
Total ASSETS	7
LIABILITIES	
Claims and other actuarial liabilities	
Incurred But Not Reported Reserves (IBNR)	8
Reported But Not Paid Reserves (RBNP)	9
Unearned Premium Reserve (UPR)	10
Actuarial liabilities	11
Short-term liabilities	12
Long-term liabilities	13
Total	14
Equity	15
Paid-in equity from shareholders	16
Grant funds	17
Retained earnings	18
Total LIABILITIES	19

5.2.1 Assets

Assets may be divided into several categories:

- **Cash and due from banks (1).** Refers to currently available assets, and includes such items as cash on hand, sight deposits, checking accounts and other instruments that pay little or no interest.
- **Accruals and prepayments (2).** At the end of the accounting period, only income and expenses relating to the current accounting period are included in the income statement. However, capturing data in real time creates timing problems. For example, an HMIS may record in one accounting period income that relates to the following period, making it necessary to sort (or adjust) income and expenses. In practice, income and expenses that do not correspond to the current accounting period are not deleted, but their effect on net income is neutralized by placing them in the “accruals and prepayments” account. This procedure is particularly important for recording premiums and liabilities to service providers (see Volume 2).
- **Short-term investments in market instruments (3).** These refer to interest-bearing deposits and investments in financial instruments, the main purpose of which is to provide liquidity.
- **Long-term investments (4).** Refers to stock in other enterprises, or other long-term, illiquid assets that yield returns.
- **Fixed assets (5).** Refers to items that have a resale value, such as land, buildings, furniture, equipment, and vehicles. Such items are recorded net of accumulated depreciation.
- **Intangible fixed assets (6).** These refer to non-physical items that make an economic contribution to the scheme. Examples include set-up costs, lease premiums, patents and commercial funds.

5.2.2 Liabilities

Liabilities may be divided into several categories:

- **Claims and other actuarial liabilities:**
 - **Incurred But Not Reported Reserves (IBNR) (8).** Refers to a scheme’s outstanding claims liability at the end of the accounting period. These are usually estimated by analysing claims reimbursement patterns.
 - **Reported But Not Paid Reserves (RBNP) (9).** Refers to the portion of expenses that are attributable to the next accounting period.
 - **Unearned Premium Reserve (UPR) (10).** Refers to the portion of premiums that are attributable to the next accounting period.
 - **Actuarial liabilities (11).** If an HMIS pays long-term benefits in respect of any portion of the benefits package, it must obtain the services of an actuary to establish a reserve that reflects the value of the long-term benefit. Let us say, for example, that an HMIS provides free coverage to members over the age of 70 who have paid premiums for at least 20 years. The actuarial reserve would reflect the value of the benefit to members over age 70 currently receiving the benefit, as well as the value of the benefit to members under age 70, who will be eligible to receive it in the future.
- **Short-term liabilities (12).** Refers to accounts payable and to accrued interest to be paid on loans, deposits, etc.
- **Long-term liabilities (13).** Refers to such liabilities as property mortgages.

- **Equity (15):**
 - **Paid-in equity (16).** Refers to the amounts members contribute to share capital, investments in the HMIS made by the responsible organization, etc. Decisions regarding this category are made at the start of operations.
 - **Grant funds (17).** Refers to grants made to the HMIS on an occasional basis.
 - **Retained earnings (losses) (18).** Refers to the accumulation of net income (or losses) from the date of the scheme's inception to that of the accounting report.

5.3 Cash flow monitoring

One important step in financial management is the ability to project cash income and expenses. This differs from preparing an income statement in that it takes into account such items as depreciation, capital purchases, and the actual timing of cash inflows and outflows. Cash flow monitoring:

- Ensures that resources are available when needed (asset-liability matching);
- Enables the HMIS to optimize its investment returns.

The HMIS must be able to project the expected cash income and expenses for the next accounting period, and for future periods, if potential liabilities extend beyond one year.

This concept will be developed further in Part II.

Summary of required capacities and key indicators of a viable HMIS

This section goes beyond concepts and definitions to provide an executive summary of the required capacities and key indicators of a viable HMIS. It also provides a quick overview of the HMIS. These concepts will be developed and additional indicators will be provided in subsequent sections of the Guide.

A health microinsurance scheme is set up to achieve two main objectives: to provide financial protection against illness-related expenses and to improve access to health care services. The benefits it provides should correspond to members' needs. In order to achieve this, HMIS managers must possess certain specific skills and knowledge. These are summarized below. Certain management skills are required for "actively" using the monitoring tools described. Moreover, using these tools must help managers to understand the scheme's progress and focus on priorities for improvement. It is not enough merely to produce reports; rather, reports must actively be used to achieve the goals of the HMIS. If such reports are found to be inadequate in terms of allowing for a clear understanding of the HMIS, others should be developed. The basic functions outlined in the Guide nevertheless remain applicable.

The following table lists the capacities expected of an HMIS according to major functions and indicates the part of the Guide in which those subjects will be discussed at greater length.

Table 3. Capacities required of a viable HMIS

Capacity	Description
Distribution and communication	<ul style="list-style-type: none"> ● Information concerning benefits, filing claims, renewing membership and other instructions are clearly communicated to members. ● Clear messages are used to encourage enrolment in the scheme. ● Analyses are conducted to assess client satisfaction and needs. ● Approaches are renewed on an ongoing basis. ● Targets are set for enrolment in the scheme. ● The renewal rate is monitored. <p>Part II, sections 1.1 and 1.2; Part III, section 1.1</p>
Membership monitoring and management	<ul style="list-style-type: none"> ● A membership database is developed for members and dependents that includes a history of coverage, premiums, and claims for each member. Claims history includes claims causes, coded in International Claims Diagnostics Code format, breakdown of charges by benefit category, and transaction details. ● Reports include claims, premiums, membership status, etc., broken down by a variety of parameters. ● Analyses of results focus on understanding how to achieve efficiency and sustainability. <p>Part II, sections 2.1 and 2.2; Part III, sections 1 and 3</p>
Premiums collection	<p>Premiums are collected in an efficient manner so as to encourage enrolment in the scheme.</p> <p>Part II, sections 1.1 and 1.2; Part III, sections 1 and 3; Part V, section 2</p>
Claims processing and health care providers	<ul style="list-style-type: none"> ● The HMIS is able to produce reports that will allow for the detection of patterns in claims experience and claims management. ● Prevention and health education gives priority to emerging diseases that are treated. ● Treatment protocols are developed, followed and reviewed to maintain cost effectiveness. ● Periodic audits of service providers are carried out to ensure that providers are meeting expectations, in terms of complying with contracts, treatment protocols, etc. ● Surveys are conducted to measure client satisfaction. <p>Part II, section 1; Part III, sections 1 and 3; Part V, sections 1 and 3</p>
Management procedures	<ul style="list-style-type: none"> ● Plans are developed and focussed on improving results. This Guide or similar tools are used to actively monitor progress. ● Managers produce and adhere to operational plans and budgets, which, in turn are based on the scheme's five-year business plan. ● Human resource, training, investment and service policies are followed. ● Internal and external audits and actuarial reviews are conducted periodically. <p>Part II, sections 1 and 2; Part IV, sections 1 and 2</p>

Capacity	Description
Quality of the risk portfolio	<ul style="list-style-type: none"> ● Information pertaining to claims experience is retrieved from HMIS and/or industry databases and analysed. ● This information is used to guide management decisions. ● Member satisfaction is measured and taken into account in revising benefits. <p>Part III, section 2</p>
Financial statements	<p>The scheme is able to produce the following for a specified time period, measuring all costs:</p> <ul style="list-style-type: none"> ● Income statement ● Balance sheet ● Cash flow statement <p>Part I, section 5; Part II, section 2; Part III, section 4</p>
Cash flow and investment monitoring	<ul style="list-style-type: none"> ● There is strict adherence to an investment policy. ● The investment portfolio is constantly monitored to ensure that maturities and investment income match the scheme's liability outflows. This requires cash flow projections and portfolio reshuffling in order to match liabilities. ● Investments are diversified. <p>Part II, section 3; Part III, section 4.1.4</p>

The Guide provides a detailed set of indicators that should be used by managers of health microinsurance schemes. These can be summarized in order to provide an overview of the HMIS. Table 4 lists key indicators and includes a description and a benchmark. Included under the description, in italics, is an interpretation of the indicator and the title of the indicator, which will be described in subsequent sections of the Guide.

Table 4. Key indicators of a sustainable HMIS

Indicator	Description	Benchmark
Administrative viability		
Overall quality of monitoring	The HMIS must have established administrative procedures to monitor all aspects of its operations. <i>The ability to monitor various aspects of the HMIS is essential to managing the scheme.</i> Indicator T.9	Increasing over the years to reach 100%
Functional viability		
Renewal rate	The number of members renewing membership in the current period as a percentage of the cohort of members covered in the previous period. Care should be taken to ensure that this percentage is measured accurately. <i>High renewal rates indicate that members value service, are committed to financing their health care needs, find the premiums affordable and consider the services provided to be acceptable.</i> Indicator M.2	80%
Financial viability		
Quick ratio	The HMIS must maintain sufficient liquidity. <i>The quick ratio measures the scheme's ability to meet short-term cash flow needs.</i> Indicator F.1	Greater than 1
Operating expense ratio *	All operating expenses should be measured (as discussed in the Guide). Total operating expenses divided by earned premium results in the expense ratio (F.4.1). <i>A low expense ratio will deliver greater value to clients, which should increase membership and renewal rates. A high expense ratio will require a greater sales effort to maintain the current client base.</i> Indicator F.4.1	Lower than 20% of premium
Claims ratio	Refers to the ratio of claims paid to earned premium. <i>If the level of coverage an HMIS provides is too low, it may have difficulty retaining members.</i> Indicator F.5	Greater than 75%
Investment concentration ratio	Investments of HMIS funds should be diversified. <i>Illiquid or poor asset diversification can lead to bankruptcy.</i> Indicator F.7	No more than 10% of scheme assets held with any one institution

Indicator	Description	Benchmark
Economic viability		
Net income	<p>Net income should be determined after deducting all administrative expenses. Only permanent income from grants and/or subsidies is added to net income. An HMIS may start with a loss in the first year, but this situation should diminish over time.</p> <p><i>A break-even net income is an indication of sustainability. The organization should strive for efficiency and for effective management.</i></p> <p>Income statement, line Z</p>	Break-even or a slightly positive net income
Institutional viability		
Human resources / Net investment in training	<p>Capacity-building of staff is a qualitative measurement; it should be based on assessing staff requirements and providing training to improve skills.</p> <p><i>An organization that continually improves the skills of its staff will be more effective.</i></p> <p>Indicator H.2</p>	More than 3% of operating expenses used for training
Effectiveness		
Utilization rate	<p>Refers to the number of times HMIS beneficiaries use a particular service in relation to the total number of beneficiaries.</p> <p>Indicator E.1</p>	Rate should increase over the years
Penetration rate	<p>Refers to the percentage of the target population covered by the scheme.</p> <p><i>This indicator is used to measure the scheme's effectiveness in reaching the target population.</i></p> <p>Indicator M.5</p>	80%-100%
Impact		
Impoverishment rate	<p>Refers to the percentage of patients who were impoverished (or had experienced a catastrophic health expenditure) at the time of enrolment in the scheme.</p> <p>Part V, sections 3.1.5</p>	Decreasing over the years
Population coverage rate	<p>Refers to the percentage of the total population to whom the HMIS provides services.</p> <p><i>This indicator is useful for measuring the real weight of the HMIS in its area of operations and the scheme's effectiveness in reaching as many people as possible.</i></p> <p>Indicator I.3</p>	Increasing over the years
<p>* This assumes a standard HMIS in which claims are defined as fees paid to health providers, and in which expenses thus consist of the operational expenses related to insurance activities.</p>		

Part II. Monitoring tools and procedures

As in any enterprise, the managers of an HMIS must constantly assess the operation of their organization and ensure the availability of the information they need for decision-making. This requires an appropriate monitoring system, consisting of a series of tools and procedures, otherwise known as a management information system (MIS). Part II will describe the management information system used to carry out:

- Distribution, communication and member satisfaction monitoring;
- Administrative and technical monitoring;
- Budget, cash flow and investment monitoring.

Priority is given to these three aspects of monitoring since they are used directly in the evaluation presented in Parts III and IV. This linkage of the various parts of the Guide has meant including in the evaluation parts certain tools that are used for both monitoring and evaluation (certain financial ratios, for example). Accounts monitoring is not presented as such. Accounting procedures rely on continuous internal controls, which serve to check entries and amounts paid and received. These controls are thus a matter for the accounts department and are not included in the monitoring process described in this Guide. From the accounting standpoint, monitoring is simply a matter of ensuring compliance with accounting procedures. That is an important function, but does not warrant special treatment in this Guide.

Part II is aimed primarily at HMIS managers. Support agencies and evaluators will no doubt also be interested in the descriptions of the monitoring tools and procedures provided in the Guide, which are used in conducting an evaluation.

1. Distribution, communication and member satisfaction monitoring

Among the primary tasks involved in setting up an HMIS are to ensure that new and prospective members are informed of the insurance benefits offered, committed to joining the plan on an ongoing basis and understand how to access benefits. An insurance plan offers intangible advantages in that it promises future benefits in the event of certain contingencies, provided that premiums are paid in advance. It is therefore important to establish effective communication and distribution methods to enrol and retain members.

1.1 Distribution monitoring

Several aspects relating to the scheme's distribution system should be monitored to ensure that the HMIS is reaching its target population. An effective system will ensure that the characteristics of the scheme and the benefit plans it offers are clearly communicated. The specific way in which this is carried out will depend on each organization and whether participation in the

HMIS is voluntary⁹ or automatic / compulsory.¹⁰ In all cases, the HMIS should set targets and monitor the progress made in reaching its target population.

Monitoring should be carried out in order to:

- Ensure that promoters (i.e. persons representing the HMIS and charged with enrolling new members) have been sufficiently trained to understand the HMIS and to develop their communication and selling skills;
- Periodically measure the effectiveness of each insurance promoter;
- Measure the turnover of insurance promoters;
- Review incentive compensation for promoters who reach established objectives;
- Review the messages used to promote and sell the plan;
- Review the tools used to aid insurance promoters, such as street plays, songs, pictorial descriptions, etc.

The overall goal is a cost-effective distribution system. Part III, section 3 and Part V, section 2 will discuss the important role the distribution system can play in contributing to the efficient collection of premiums. Included among the key objectives are measuring the renewal rate and measuring the percentage of the target population reached (penetration rate). The renewal rate measures the number of members who maintain their coverage from one year to the next. The penetration rate measures the success of the HMIS in reaching its target population.

Tables 3 and 4 in Part I can be used to measure the extent to which overall distribution objectives have been met. In addition, the productivity of each promoter should be reviewed by measuring:

- The number of active members for each promoter;
- The percentage of insurance promoters who continue to service the HMIS scheme after one year;
- The percentage of members who renew for each promoter.

If the HMIS is not reaching its designated target population, it may have to review the delivery of its messages, the aids used by insurance promoters (street plays, benefit descriptions), whether benefits are meeting members' needs, whether adequate services are being provided, whether the premium is too high, etc. A low number of members for each promoter may indicate a need for further training, a change in compensation, or some other type of action.

The overall distribution productivity should be measured by calculating the total expenditure for distribution activities as a percentage of earned premiums.

Example. In India, the VimoSEWA HMIS reviews the performance of its insurance promoters (*aagewans*) once a year. The first review indicated the need to train the *aagewans* to communicate better the terms of the benefit plan, information about excluded benefits and how to obtain services. In addition, it was found that some *aagewans* had over 1,000 members, highlighting the need to improve the skills of the other *aagewans* in communicating information concerning the benefit plan.

⁹ In a voluntary system, the insurance promoters selected should be trusted persons with the skills needed to motivate people to join the HMIS.

¹⁰ In an automatic/compulsory scheme, a programme should be set up to clearly describe HMIS benefits and claims processing. Members are often unaware of certain of the benefits to which they are entitled.

1.2 Communication monitoring

Efforts to improve understanding of the benefit plan will enhance the attractiveness of the scheme, help avoid problems and, in some cases, will help members to avoid spending money on services they do not need.

There is no standard communication monitoring tool. However, HMIS managers may wish to check whether their communication policy is being correctly applied by answering the following questions:

- How often are members informed of benefits?
- What form of communication is used?
- Is communication carried out in the local language? Is it oral or written? If written, are pictorial aids used for illiterate persons?
- Are benefits and exclusions explained clearly?
- Are efforts made to promote arrangements according to which members receive benefit payments in their communities?
- When a claim is denied, is this information clearly communicated?
- What percentage of claims is denied?
- What activities are undertaken in the area of health education and promotion?
- Are members educated regarding the appropriate utilization of health services?
- What are the principal means used to enrol members?
- Is social solidarity a key message?
- Are illustrations provided concerning the value of the scheme?
- Are messages aimed at both women and men?
- How often are methods and messages renewed?

An effective and ongoing communication effort on the part of the HMIS will, over time, result in a higher level of participation in the scheme on the part of the community, and hence, contribute to its viability.

If expected participation is below the targeted level, the answers to the above questions should lead to further action.

1.3 Member satisfaction monitoring

Periodic reviews should be undertaken to ensure that benefits are meeting the needs of members. Many health microinsurance schemes establish benefits based on initial surveys of members' needs and ability to pay. Once the HMIS is operational, this information should be reviewed so that it can be taken into account when benefit plans are revised. Such a review also provides an excellent opportunity to measure member satisfaction and to understand complaints. There are several ways to do this, including insured/potential customer surveys, interviews with patients, and focus group discussions with insured persons. Health microinsurance schemes should be able to change certain aspects of their benefit plans based on this type of monitoring.

2. Administrative and technical monitoring

In addition to monitoring their distribution and communication systems, managers must carry out regular administrative and technical monitoring, primarily for the following purposes:

- To know, at any point in time, the name, address and number of members and beneficiaries;
- To collect premiums due;
- To be able to perform the necessary checks concerning beneficiaries' entitlement to claims reimbursement and/or payment of health care providers' invoices;
- To pay claims to beneficiaries and/or to pay health care providers;
- To monitor the risk portfolio.

The last point requires some explanation. One of the characteristics of insurance is that the cost of a particular insurance product cannot be known precisely in advance. It depends, in particular, on the occurrence of unforeseeable events (illness, in this case) whose frequency can only be estimated. It also depends on trends in the cost of claims and the management of health insurance-related risks (for example, the risk that providers will over-prescribe treatments).

Risk portfolio monitoring involves keeping track of changes in the various components that make up the cost of the insurance product. This track-keeping is necessary to anticipate or correct dysfunctions arising from insurance-related risks, such as adverse selection, over-consumption (moral hazard) and over-prescription. It also makes it possible for the HMIS to review¹¹ premium levels as a function of changes in the average cost of claims and beneficiaries' risk frequency.

The aim of this section is to describe the main tools used in administrative and technical monitoring, as well as the activities it entails. The approach taken will describe:

- Management information systems and the documents used in performing administrative and technical monitoring;
- Monitoring the insurance management functions.

2.1 Management information systems and the documents used in performing administrative and technical monitoring

The management information systems (MISs) used by health microinsurance schemes and the tools they comprise vary widely. The tools described in this section are those most commonly employed.

Managers should set up an MIS that is suited to the characteristics of their scheme, rather than simply reproduce the tools presented below, which are provided for the purposes of illustration. However, they must ensure that all the information they need to carry out effective monitoring and thorough evaluation has, in fact, been incorporated into the tools they develop. An MIS can be either manual or computerized, and should enable the scheme to meet the objectives of sustainability and efficiency.

¹¹ This Guide is not intended to provide methods of calculating premiums, which relates more to health insurance management than to monitoring. For more detailed information on these calculations, see ILO-STEP: *Health Micro-Insurance Schemes: Feasibility Study Guide. Volume 1: Procedures; Volume 2: Tools* (Geneva) 2005.

2.1.1 Insurance certificate

The insurance certificate is the member's proof that he or she is covered by the scheme. In a reimbursement system, members are issued a certificate and are given a brief explanation of the benefits offered by the scheme when they subscribe. The certificate contains personal information such as family name, given names, age, address, etc., as well as information concerning the services offered by the HMIS, i.e. benefits, period of coverage, etc.

2.1.2 Membership card

The membership card is the beneficiary's "passport" and certifies that he or she is entitled to the services of the HMIS. The membership card may take various forms:

- *Individual card (one for each beneficiary).* Contains information (identification number, family name, given names, age, address, etc.) that allows the beneficiary to be identified accurately. Individual cards usually contain a record of premium payments (including the stamp and date of payment).
- *Family membership card.* In addition to containing information on the member, the family membership card also contains information on each dependent (spouse, children, etc.).

Other types of membership cards exist. For example, a group may replace individual membership cards with a group membership card. Each patient (or his or her family) must withdraw the group card before obtaining treatment. The card must be accompanied by a guarantee letter to the health care provider containing information on the patient (family name, given names, age, sex, etc.).

In some health microinsurance schemes, the membership card also serves as a health record. In such cases, it contains several blank pages that health care providers can use to record health services and prescriptions. This method is useful for monitoring; however, it is unethical because it fails to protect the confidentiality of medical information. It is better to keep the two types of information in separate documents.

Example. In Bangladesh, the BRAC scheme provides new members with a card listing all beneficiaries covered (including a stamp next to the name of the last beneficiary in order to avoid fraud). The card leaves a space to note the names of persons who have been treated. BRAC also maintains a register with the names of all insured persons and dependents, as well as a claims register that is sufficiently detailed to track claims. The system is entirely paper-based.

2.1.3 Insured and premium file

The insured and premium file is an administrative management and monitoring tool kept by the HMIS. It is used to record transactions concerning each member and his or her dependents, thereby allowing for individual monitoring. The insured and premium file contains:

- Information from the insurance certificate and/or membership card, usually including a personalized identification number for each insured person;
- Amounts of premiums due and membership fees, if any (with due dates);
- Amounts of premiums received and membership fees collected (with dates of payment);
- Amounts outstanding;
- Lists of supporting documents;
- Starting and ending dates of coverage.

The insured and premium file must be updated regularly.

Some health microinsurance schemes do not maintain such records, in which case the relevant information is recorded (in whole or in part) in the insured, premium and membership fee register.

2.1.4 Insured, premium and membership fee register

The insured, premium and membership fee register is an administrative management and monitoring tool that provides an overview of membership, premiums and membership fees (if applicable).

The information contained in the register must also allow managers to prepare regular reports on:

- The number of beneficiaries (members and dependents);
- The number of new members and lapses during a given period;
- Unpaid premiums and membership fees;
- Renewals.

Some schemes use a double register: one pertaining to membership (number of beneficiaries, characteristics, etc.) and the other to the payment of premiums and membership fees. The latter is also called a "premium file".

2.1.5 Guarantee letter

The guarantee letter, or authorization of coverage, is a document used by health microinsurance schemes to check benefit entitlement before beneficiaries receive treatment.

The guarantee letter contains information regarding the patient that authorizes the provider to dispense treatment in accordance with the terms of the contract concluded with the HMIS. Guarantee letters are generally pre-printed and bound in a counterfoil book kept by the HMIS.

The beneficiary must go in person to the HMIS in order to obtain a guarantee letter. He or she must then show the guarantee letter to the provider in order to receive treatment. The guarantee letter is usually attached to the treatment certificate or to the invoice issued by the provider.

2.1.6 Treatment certificate

The treatment certificate, or treatment voucher, is a document issued by the health care provider to the patient, certifying that the latter has been treated, and indicating the amount paid in order to be reimbursed by the HMIS. The patient is usually issued this certificate when leaving the medical facility – on the same day for minor risks, and at a later date for major risks. However, the treatment certificate is issued only after the patient has made his or her co-payment (see Part III, section 2).

The treatment certificate usually contains the following information: name of health care provider, name of HMIS, information from membership card (identification number, name of member, name of dependent(s), etc.), treatment administered to patient, amount invoiced to HMIS, date of treatment (or hospitalization), amount of co-payment paid by patient, signature of health care provider and patient (or, if required, patient's thumb print).

2.1.7 Health care provider's invoice

Invoices are issued by health care providers at intervals – usually monthly or quarterly – agreed upon jointly with the HMIS. The invoice lists the services provided to beneficiaries during the period in question.

The health care provider's invoice usually contains the following information: name of provider, name of HMIS, period covered by the invoice, details relating to items invoiced (i.e. beneficiary identification number; date of admission, discharge or appointment; amount invoiced; etc.), date of invoice issued, and – depending on the terms of the contract concluded with the HMIS – date on which payment is due.

Upon receipt of the invoice, scheme managers will use the information contained in it to check benefit entitlement, verify that the services provided match the treatment certificates (when these are used), record the consumption of benefits and carry out the corresponding monitoring functions, and check that treatment fees are consistent with fees agreed upon by the health provider and the HMIS (in the case of a contractual arrangement).

2.1.8 Claims register

The claims register (or claims monitoring register, claims forms, or “claims paid”) is a document that records all claims paid according to category of treatment. It is prepared from claims submissions (or from health care providers' invoices and treatment certificates after beneficiaries' entitlements have been checked). It may also be used to register claims denied by the HMIS. If denied claims are not recorded in the claims register, they should be recorded elsewhere in order to allow managers to carry out the appropriate monitoring tasks.

The claims register is an essential monitoring tool because it indicates precisely the services consumed by beneficiaries and the claims expense relating to those services.

Example. In India, the VimoSEWA scheme records all submitted claims, regardless of whether the latter were reimbursed or denied. The record of denied claims is used to improve the scheme's communication of information concerning covered benefits.

2.2 Monitoring of insurance management functions

The management tools and supporting documents described in the previous section are useful for carrying out efficient administrative and technical monitoring. Additional tools may also be needed. The tools and monitoring activities presented below concern the following four insurance management functions:

- Establishment and monitoring of the insurance contract or certificate;
- Premium collection;
- Claims processing;
- Risk portfolio monitoring.

2.2.1 **Establishment and monitoring of the insurance contract¹² or certificate**

The **establishment of the insurance contract** or certificate includes all the activities involved in establishing/formalizing the relationship between the HMIS and the member. These include:

- Enrolment of members (recording them in insured registers and files with a personalized ID number for each member);
- Renewal of the contract (if applicable);
- Application of the premium scale;
- Issuance and signature of the contract;
- Preparation of the insurance certificate or receipt, or of the membership card.

The required information is produced and processed on the basis of the insurance certificate (or membership card), the insured and premium file and the insured, premium and membership fee register.

By using these tools, managers should be able at any time to ascertain:

- Identity and number of beneficiaries (members and dependents);
- Periods of coverage of beneficiaries;
- Members in arrears with their premiums;
- Members temporarily or permanently excluded from coverage.

If managers do not have the appropriate tools, they must at least regularly draw up a membership list containing the above-mentioned information.

In order to evaluate the trend of enrolment, managers should also have reliable information concerning the target population, since the number of beneficiaries is closely related to the size and characteristics of the target population.

Managers may wish to create an additional monitoring tool along the lines of Table 5 below and occasionally monitor the information it contains (at least every three to five years). Table 5 describes:

- *The size and density of the population of the scheme's area of operations and that of its target population.* This information is very useful for analysing the viability of the HMIS. There is, in fact, a link between the number of members (a function of the size and characteristics of the target population) and the viability of an HMIS.
- *Income levels of the population of the scheme's area of operations and that of its target population.* This information makes it possible to estimate the ability to pay of the target population and the attraction the HMIS holds for it. In principle, this information should be supplemented by data concerning the average share of household budget allocated to health.
- *The average number of beneficiaries per household.* This information is important for identifying the various categories of HMIS beneficiaries and the most suitable form of membership.

¹² Even though the contract is not formalized in a mutual organization, the approach described here may nevertheless be applied in much the same way.

Table 5. Socio-demographic characteristics of the population of the area of operations and the target population

See Volume 2, page 9

	Data	Reference year	Source of data
Population of the area of operations of the HMIS			
1. Size (X)			
2. Density (Y)			
3. Average annual (total or net) income			
Target population of the HMIS			
4. Size (P)			
5. Size as a percentage of the population of the area of operations			
6. Average number of members per household			
7. Average annual income of the target population			

Managers should revise this table whenever they have access to updated information. (It is not the responsibility of the HMIS to produce these data.) In addition to this basic information, managers and evaluators could also collect other types of information, such as the average age of the population of the area of operations and of the target population, the size of the population according to age group, etc. Such data are required for carrying out actuarial analyses.

The **monitoring of the insurance contract or certificate** is carried out for annually contributing members, using the address listed on the insured file / register to contact members about renewing their contract when the latter is due to expire. A list, drawn up by insurance provider, should be prepared at the end of each month with the names and addresses of members whose contracts are up for renewal. The percentage of members who renew should be recorded each month.

When members pay premiums on a monthly basis (or more frequently than once a year), a similar list may be drawn up for members who have been delinquent in their premium payments for more than two months (or other period chosen by the HMIS).

The purpose of the renewal monitoring sheet is to ensure that a high percentage of members prolong their membership in the HMIS. A low renewal rate should result in changes to the HMIS aimed at better accommodating members' needs and willingness to pay.

Table 6. Renewal monitoring sheet

See Volume 2, page 12

Name of insurance promoter		Renewal list at (month, year)			
Identification number and name of member		Address	End date of contract	Renewed	Date renewed
ID	Member A	Address A		Yes	
ID	Member B	Address B		No	
...	
ID	Member Z	Address Z		Yes	
Total number of renewals					

2.2.2 Premium collection

The next function of insurance management to be considered is the collection of premiums and membership fees (if applicable). It is possible for a member to have joined and been enrolled without having fully paid his or her premiums. This is often the case when premiums are paid on a monthly basis (often involving payment delays), when members have the option to pay in instalments, or in cases in which joining an HMIS requires paying membership fees and premiums at different times. The activities involved in premium collection include:

- Collection of amounts due;
- Monitoring of amounts paid in instalments;
- Debt collection;
- Recording and issuing of supporting documents (receipts, etc.).

The necessary information is collected and organized with the help of the insured, premium and membership fee register, insured and premium files (if applicable) and supporting documents (invoices, receipts, etc.).

If an HMIS has agreed to assume responsibility for the health expenses of beneficiaries, managers must know the precise number of persons entitled to benefits and their characteristics. As indicated previously, this requires distinguishing between the number of members enrolled and the number of "contributing members", i.e. those who have paid their premiums.

An additional monitoring tool - the beneficiaries monitoring sheet - must be developed. The purpose of this sheet (see Table 7) is to enable managers to analyse:

- Trends in the number of beneficiaries, broken down by category and type of membership;
- The level of renewals. If records reveal that many members do not renew their coverage, managers must attempt to understand the reasons for this and take corrective measures;
- Other irregularities, particularly with regard to the average number of beneficiaries per contributing member.

The model sheet shows monitoring that is conducted on a monthly basis. The frequency should be adapted to the situation and characteristics of the HMIS:

- In health microinsurance schemes in which the enrolment period is not time-bound (those with an open enrolment period) and in which premiums are paid in instalments, monthly monitoring is advisable.
- In health microinsurance schemes in which the enrolment period is time-bound (schemes with a closed enrolment period) and premiums are paid in a single payment, monitoring may be carried out less frequently. It is nevertheless still necessary, given that the number of beneficiaries may change during the course of the year (deaths, births, lapses, etc.).

The sheet may be maintained manually on the basis of the insured register or files. It should emphasize that for schemes with an open enrolment period, keeping track of the number of members will be greatly facilitated by the use of a computerized system.

The model sheet presented on the opposite page may be used to perform monthly monitoring of the number of beneficiaries over three years. The annual averages produced will allow for comparisons from one year to the next.

2.2.3. Claims processing

The next insurance management function subject to administrative monitoring is the processing of claims (reimbursement of members and/or payment of health care providers). In either case, payment has to be made promptly. Poor service will result in a greater number of lapses or in non-cooperation on the part of health care providers. Depending on the scheme's procedures and type of arrangement with members and health providers, good claims management requires that several of the following activities be carried out by the HMIS:

- Verification of entitlement to benefits;
- Issuance of guarantee letters (when applicable);
- Checking health care providers' invoices (third-party payment / cashless mechanism);
- Ordering of reimbursement and/or payment, and payment execution.

One of the activities of claims management must be carried out by the health care provider. This is the issuance of treatment certificates or invoices, depending on whether the HMIS reimburses members or pays providers directly.

In processing claims, information is collected and processed with the help of several of the following tools, as applicable:

- Membership cards;
- Insurance certificates;
- Insured files and/or insured, premium and membership fee register, or, in some cases, a list of beneficiaries entitled to benefit (or excluded from benefit);
- Health care providers' invoices;
- Guarantee letters;
- Treatment certificates;
- Fee schedules on which health care providers' invoices are based;
- Claims registers.

Additional information concerning a number of activities related to claims processing is provided below.

(a) Verification of entitlement to benefits and issuance of guarantee letters (if applicable)

Members' claims for reimbursement and/or the payment of providers must be checked at two levels:

- *By the HMIS.* The act of regularly updating the insured register and/or files provides an opportunity to withdraw expired membership cards. The activities to be carried out are:
 - Updating of insured files or register;
 - Regular withdrawal of expired membership cards or insurance certificates (if applicable);
 - Regular preparation, if necessary, of a list of beneficiaries entitled to benefits (or a list of beneficiaries excluded from benefits).

As part of the checks performed prior to the delivery of treatment, members are required to go to the HMIS before visiting one of the health care providers. The HMIS must check that:

- The patient's name appears on the insured file or register;
- The member is up-to-date with his or her premium payments.

If these two conditions have been met,¹³ the HMIS will issue a guarantee letter and, in some cases, direct the person to the appropriate health care provider.

- *By the health care provider.* The check is performed on the basis of membership cards, guarantee letters or, failing these, a list of beneficiaries entitled to benefits (or a list of those excluded from entitlement to benefits). It is in the interest of the health care provider to perform this check if payment of its invoices by the HMIS is contingent upon it.

(b) Checking health care providers' invoices

The second type of activity to be carried out by managers in monitoring claims is checking health care providers' invoices. Such checks may be carried out in a variety of ways:

- Health care providers' invoices, with details of care, are compared with treatment certificates issued to beneficiaries (if applicable);
- Fee schedules used to prepare health care providers' invoices are checked.

These activities must be complemented by a rigorous administrative filing system. This is essential to prevent abuses by health care providers that could lead to escalating costs. Such checks are greatly facilitated by the use of pre-printed forms; in particular, treatment certificates, standardized invoices, etc.

(c) Ordering of reimbursement and/or payment, and payment execution

After verifying entitlement to benefits and checking health care providers' invoices, managers must:

- Authorize the payment of providers and/or the reimbursement of health expenses to members, if services provided match defined benefits;
- Execute payment and/or reimbursement;
- Check that payment was made using bank statements and/or accounting tools (supporting documents, cash books, bank books).

2.2.4 Risk portfolio monitoring

The risk portfolio consists of all current contracts, whether in writing or otherwise. Each contract covers one or more persons against a certain number of risks, which correspond to the health services covered. In order to analyse the portfolio, it is first necessary to list the various benefits offered to each beneficiary, with each benefit corresponding to a particular risk. In short, a portfolio consists of a set of contracts, which, in turn, are composed of a set of benefits or covered risks.

In order to monitor the risk portfolio, a suitable management information system is required. At a minimum, managers must possess information on the number, amount, frequency and average cost of claims. To obtain this information, they must use various types of tools (or monitoring sheets) similar to those presented below. If the portfolio is large, this monitoring can be carried out manually using a representative sample of the portfolio. This monitoring will be carried out using the entire portfolio, if a computerized system is available.

Monitoring sheets are tools that enable managers to follow, over time, trends relating to claims, as well as to detect irregularities. These irregularities often have a variety of causes, and

¹³ In cases in which a maximum benefit (capping) applies for a given period, the HMIS must also check that this maximum has not been reached for the person concerned.

additional studies must be undertaken in order to identify the necessary corrective measures (cost surveys, relationships with health care providers, etc.).

Four monitoring sheets are presented in this Guide.¹⁴ These concern:

- The number and amount of claims by provider;
- The number and cost of claims by service category;
- The average costs of claims;
- Beneficiaries' risk frequency (or service utilization frequency).¹⁵

One of the objectives of risk portfolio monitoring is to ensure that all benefits offered by the scheme are technically viable (costs and frequencies are either stable, or kept under control). If cost slippages occur, managers should determine the best way to take corrective measures and, if necessary, the adjustment of premium calculations.

(a) Claims listings by provider

Managers must assemble in a claims listing for each provider, the number and cost of claims broken down by the category of service covered. Table 8 shows the listings compiled by the HMIS for three providers during a given year (based on monthly monitoring). In the case of annual premium payments, a single listing can be prepared (based on yearly, instead of monthly monitoring). The breakdown by category will depend on the services covered by the HMIS. Managers may use the reference list of services covered (Table 16) as an example.

(b) Number and cost of claims monitoring sheet

Table 9 was prepared on the basis of the above-mentioned listings and is particularly useful for schemes that rely on monthly premium payments. It may be used to merge the data concerning the number and amount of the various claims and to calculate their relative size.

This monitoring sheet may be prepared less frequently than the claims listing by provider; for example, each quarter, if the claims listings (Table 8) are monthly. This monitoring sheet may also be broken down according to health care provider.

It provides managers with an overview of the services most frequently used by beneficiaries and those that involve the highest costs to the HMIS. Knowledge of these two components is particularly useful for:

- Taking members' demand (need) for services into account in modifying benefit plans;
- Setting priorities and defining cost-reduction measures.

(c) Average claims cost monitoring sheet

This monitoring sheet (Table 10) is prepared on the basis of the claims listings presented in Table 8 and shows the average costs of claims covered by the HMIS.

It enables managers to:

- Verify that the average costs of the benefits used in calculating premiums are realistic (especially for an HMIS in the start-up phase).

¹⁴ It should be noted that the monitoring sheets described below are included for purposes of illustration. HMIS managers will need to adapt their format and the frequency of the monitoring they perform to the characteristics of their particular scheme (organization and structure of the HMIS, services covered).

¹⁵ For the sake of simplicity, risk frequency and service utilization frequency are not distinguished in this Guide. For more details on these issues, see ILO-STEP: *Health Micro-Insurance Schemes: Feasibility Study Guide*. Volume 1: Procedures, Volume 2: Tools (Geneva) 2005.

- Identify any cost slippages. HMIS managers must look for the causes of any rise in average costs. They may need to call in the services of a medical adviser, in particular to analyse the practices and possible abuses committed by health care providers.

This monitoring sheet is particularly useful when benefits are not invoiced at a flat rate, but on the basis of each individual health service (see Part III, section 2.1.2).

An increase in the average cost of a benefit does not necessarily point to the existence of over-prescription. The increase may, for example, be due to:

- A fee increase, which the HMIS has been informed about;
- The use of more specialized diagnostic or therapeutic means (such as the purchase of an ultrasound scanner or the opening of an intensive care unit);
- The onset of an epidemic calling for particularly costly treatments.

If cost slippages occur, it may be necessary to compare the average cost of a claim for beneficiaries with that for non-beneficiaries to determine whether or not the slippages are due to over-prescription.

(d) Beneficiaries' risk frequency (or service utilization frequency) monitoring sheet

The claims listings (Table 8) and the beneficiaries monitoring sheet (Table 7) may be used to monitor the risk frequency of beneficiaries, i.e. the number of times beneficiaries use the various services covered by the HMIS. The comparison of these figures over several periods (i.e. months, years) or with risk frequencies for the total population allow for the detection of irregularities.

This monitoring sheet may be used to verify whether the frequencies used in the calculation of premiums are realistic (especially for an HMIS in the start-up phase).

It is also useful for identifying abuses committed by:

- Beneficiaries, such as abuses related to the risk of over-consumption and/or adverse selection; for example, a sharp rise in the number of maternity benefits granted to beneficiaries, or a much higher percentage than that attributable to the population as a whole;
- Health care providers. For example, providers may seek to:
 - Amortize the cost of expensive new equipment;
 - Transfer a patient to a higher level because of an agreed fee schedule that it finds disadvantageous.

3. Budget, cash flow and investment monitoring

The proper financial management of an HMIS calls for detailed forecasting and planning of the future income, expenses and investment maturities of the HMIS. This involves preparing a budget and a cash flow plan.

Budget, cash flow and investment monitoring is necessary to:

- Identify any discrepancies between income and expenses during the period;
- Make appropriate adjustments to forecasted income and expenses in order to ensure a balanced budget in the future;
- To manage cash properly, i.e. to ensure that the HMIS is in a position to meet its short-term expenses without keeping excess cash, as well as to optimize investment returns, while protecting itself from asset defaults;
- To ensure a prudent investment strategy and make adjustments (if necessary) to an investment policy, or establish one if none exists.

Budget, cash flow and investment monitoring is particularly important in the start-up phase of an HMIS when forecasted income and expenses are more uncertain because there is no past experience to serve as a basis for comparison.

The approach used in this section is to describe the recommended monitoring activities corresponding to three management tools,¹⁶ namely the budget, the cash flow plan and the list of investments.

3.1 Budget monitoring

The budget is the financial translation of a programme of actions. It is based on a forecast of the income and expenses necessary to carry out the activities of the HMIS for a given period (usually an accounting period).

The budget must balance income and expenses. Its preparation involves making decisions at the beginning of the period and respecting those decisions when carrying out the scheme's operations. The budget indicates the expenditure limits the scheme must not exceed in terms of its expected income.

Budget monitoring consists of comparing the estimates made at the beginning of the period with the actual income and expense transactions recorded during the period. Differences between the estimated and actual figures indicate the need to adjust the programme of activities, or, in some cases, prepare a new budget.

The recommended activities include (at a minimum):

- Preparation of the budget (generally at the beginning of the period);
- Comparison of actual income and expenses with estimates (Table 12);
- Implementation of corrective measures (including, if necessary, preparation of a new budget).

The table below shows a budget monitoring sheet for one quarter.

¹⁶ It is assumed that managers are familiar with these tools. This section does not deal with their preparation, but rather with the monitoring activities managers are recommended to carry out.

Table 12. Budget monitoring sheet

See Volume 2, page 24

Headings	Annual estimates	1st Quarter			
		Budgeted (MUs*)	Actual (MUs*)	Variance (MUs*)	Variance (%)
A) Income					
Premiums					
Subsidies/grants					
Investment income					
Other income					
Total A					
B) Expenses					
Claims expenses					
Reinsurance expenses					
Administrative expenses					
Distribution and communication expenses					
Other expenses					
Total B					
Difference A – B					

* MUs = monetary units

3.2 Cash flow monitoring

Managers must also monitor cash flow¹⁷ so that the HMIS is able to meet its commitments, in particular to beneficiaries and health care providers, without having to hold excessively large amounts of cash.

The **cash flow plan** (or asset-liability matching) is a table containing estimated inflows and outflows of cash over a given period. It is an essential tool for efficient investment management, and enables managers to:

- Forecast the amount of cash the HMIS needs to hold in order to meet its immediate commitments at any time;
- Avoid keeping on hand excessively large amounts of cash. Thanks to forecasts, only funds needed for use in the short term are kept in cash. The remaining funds are invested to generate interest, thereby increasing net income for the period.

In the event of an unforeseen cash shortage, the cash flow plan will also be very useful for the purposes of negotiating loans or extending payment deadlines with creditors.

The cash flow plan is prepared for a period ranging from one month to a year or longer, as the case may be. It consists of estimated amounts and dates of cash receipts and disbursements over the course of the period.

¹⁷ Cash flow monitoring is also called asset-liability matching. Most health microinsurance schemes will project cash flows over no more than one year. If premiums can be guaranteed beyond one year, the projections will cover the period of expected income and expenses.

Table 13. Cash flow monitoring sheet

See Volume 2, page 24

Headings	Annual estimates	January			
		Budgeted (MUs*)	Actual (MUs*)	Variance (MUs*)	Variance (%)
A) Receipts					
Balance brought forward from previous month					
Premiums					
Subsidies/grants					
Investment income					
Other income					
Maturity of securities					
Total A					
B) Disbursements					
Claims paid					
Reinsurance					
Administration					
Distribution and communication					
Other					
Investment in securities					
Total B					
Balance carried forward					

* MUs = monetary units

Cash flow monitoring involves comparing the forecasted inflows and outflows of funds with actual transactions, thereby enabling managers to make periodic adjustments to the scheme's investment portfolio and programmes of activities. Discrepancies between cash inflows and outflows could obligate the HMIS to take out loans not originally foreseen.

The activities recommended include (at a minimum):

- Preparation of cash flow plans;
- Comparison of actual and budgeted cash receipts and disbursements (Table 13);
- Adjustment of the cash flow plan, as needed, and implementation of specific actions (loans, investment, etc.).

The table above is an example of a cash flow monitoring sheet (for the month of January).

3.3 Investment policy monitoring

If an HMIS has surplus funds in excess of its projected annual expenses, an investment policy should be established. The policy should provide for the diversification of the scheme’s investments and should describe the nature of allowable investments. The failure of many insurance companies can be traced primarily to an excessive amount of illiquid assets and overexposure to certain asset classes. Real estate, for example, is a very non-liquid asset – one that the scheme may find it difficult to divest itself of in time of need.

The scheme’s investments should be monitored on a yearly basis to ensure their compliance with the investment policy.

The tools in table 14 may be used to conduct investment policy monitoring:

Managers should compare the figures for the scheme’s actual investments with their expected distribution by asset class. They should also determine if the scheme is over-exposed in terms of having placed too large a share of its investments with one particular institution.

Table 14. List of investments

See Volume 2, page 25

Asset class	Book value	Market value	Percent of TOTAL	Yield
Government treasury bills and bonds				
List all investments				
Certificates of deposit				
List all investments				
Real estate				
List all investments				
Other asset classes				
List all investments				
TOTAL				

3.4 Summary

The various tools and documents required for managing and monitoring an HMIS are shown in table 15. The existence of these documents, and their use and maintenance, will enable managers to identify which functions are being carried out properly and which are not.

Table 15. List of management and monitoring tools

See Volume 2, page 25

List of tools	Available yes/no	Evaluation of tool use
Administrative and technical monitoring tools		
Distribution monitoring		
Communication monitoring		
Insurance certificate		
Membership card		
Insured and premium file		
Insured, premium and membership fee register		
Guarantee letter (if applicable)		
Treatment certificate (if applicable)		
Health care providers' invoice		
Claims register		
List of beneficiaries (or those excluded)		
Administration / Contract filing system		
Fee schedules applied by health care providers		
Additional administrative and technical monitoring tools		
Socio-demographic characteristics of the population of the area of operations and the target population		
Renewal monitoring sheet		
Beneficiaries monitoring sheet		
Claims listings by provider		
Number and cost of claims monitoring sheet		
Average claims cost monitoring sheet		
Risk frequency monitoring sheet		
Management accounting tools		
Financial management tools		
Budget		
Cash flow plan		
List of investments		
Financial monitoring tools		
Budget monitoring sheet		
Cash flow monitoring sheet		
List of investments		

Part III. Evaluating the viability of the health microinsurance scheme

Part III is aimed at individuals and organizations wishing to carry out an evaluation. They may be insurers, support agencies, independent evaluators or HMIS managers.

Part III contains numerous explanations. These, in turn, are complemented by the practical indications found in Volume 2, which are aimed at facilitating the understanding and proper utilization of the indicators presented. It should be noted, however, that evaluations call for a higher level of knowledge and technical expertise than that required for monitoring.

Many factors influence the viability of an HMIS, and it would be too difficult to consider them all. In order to preserve the practical and accessible nature of the Guide, only the main factors will be considered. These factors have a direct impact on the viability of a health microinsurance scheme. This viability will be evaluated on four different levels:

- *Administrative.* Evaluation of the quality of monitoring carried out by the HMIS;
- *Technical.* Evaluation of the ability of the HMIS to manage insurance-related risks, such as adverse selection, over-consumption (moral hazard) and over-prescription. This evaluation relates to the quality of the risk portfolio;
- *Functional.* Evaluation of the ability of the HMIS to respect the basic insurance principle, i.e. to provide benefits in return for premiums;
- *Financial and economic.* Evaluation of the ability of the HMIS to rely on its income to cover expenses over the long term.

The organization responsible for the HMIS may engage in other activities or provide other services besides health insurance. It may provide allowances for temporary or permanent incapacity for work, manage a health facility that is open to members and non-members, or offer a financial service aimed at enhancing members' solvency. For this reason, it is important to clarify that Part III deals exclusively with health insurance. Part IV will complete the evaluation of the viability of the health microinsurance scheme by taking into account the organizational and institutional framework in which such insurance operates.

Part III will describe a series of quantitative and qualitative indicators for each of the four levels to be analysed. Certain sources of information used in calculating these indicators were introduced in Part II (monitoring sheets and management tools). If other sources of information are required, they will be indicated as needed.

Volume I presents the indicators in numbered boxes (T.1, T.2, G.1, G.2, F.1, etc.). The methods used to calculate these indicators are described in detail in Volume 2, and are referenced by means of the same numbers.

The fact that an indicator has a low score does not mean that the health insurance scheme under consideration is not viable. The viability of an HMIS is evaluated over the long term and, in many cases, calls for a certain level of autonomy in terms of its management. Achieving such autonomy is a process that takes time and is carried out in stages. The indicators presented in Part III have been selected to assist HMIS managers in identifying the measures they need to take in order to strengthen the financial instrument comprising the scheme and to progress towards autonomy.

When drawing up an evaluation report intended for distribution, it is advisable to present it with a cover sheet providing a descriptive summary of the HMIS under consideration (see example, Annex 1). This will help readers to understand and analyse the information contained in the evaluation report.

1. Evaluation of administrative viability

The aim of this section is to evaluate the monitoring system set up by the managers of an HMIS. This evaluation will help to reveal certain management weaknesses and to measure the administrative viability of the HMIS.

It is suggested that evaluators assess the quality of monitoring by referring to the insurance management functions and by examining the extent to which the main tools that correspond to these functions have been utilized.¹⁸

The initial functions to be considered are those that were dealt with in the section on monitoring tools and procedures, namely:

- Distribution and communication
- Membership (establishment of the insurance contract);
- Premium collection;
- Claims processing;
- Monitoring the risk portfolio.

In addition to these functions, the accounting function and the budget and cash flow management functions will also be examined.

An evaluation of administrative viability is carried out on the basis of indicators with dual components. The scores for different indicators are obtained by simply adding together the various components of the indicator. It is therefore important to weight the scores obtained. For example, a score of 4 out of 4 for an indicator does not mean that the HMIS is twice as efficient as it would be with an indicator of 2 out of 4. The score obtained must be interpreted as a unit of measurement, which should tend towards an optimal level, and not as an arithmetic value.

1.1 Evaluation of distribution and communication monitoring

The following indicator will serve to evaluate the way in which managers monitor this function.

Indicator T.1. Distribution and communication monitoring

See Volume 2, page 39

Indicator T.1.1: Communication strategy

The HMIS must develop methods for informing individuals about the benefits provided by the scheme. These may take the form of written or illustrated materials or of oral communication (such as street theatre, public meetings, etc.). Such materials should contain enough information to describe the benefits offered by the scheme, explain how to subscribe, how to access health services and how to submit a claim for reimbursement (if applicable). This indicator measures the existence and quality of the distribution and communication tools developed by scheme managers.

¹⁸ The evaluation focuses primarily on management and monitoring tools, and does not evaluate the management methods used by the HMIS.

Indicator T.1. *(cont.)**See Volume 2, page 39***Indicator T.1.2: Promoters**

This indicator measures the existence of training materials for insurance promoters, the timeliness of training, and the way HMIS managers supervise insurance promoters (in terms of effectiveness and turnover).

Indicator T.1.3: Member satisfaction

This indicator measures how often the HMIS surveys members in order to assess their needs and concerns.

1.2 Evaluation of membership monitoring

The following indicator serves to evaluate the effectiveness of managers in monitoring membership.

Indicator T.2. Membership monitoring*See Volume 2, page 41***Indicator T.2.1: Membership management and monitoring tools**

The HMIS must have the necessary tools for monitoring the scheme's membership (insurance certificates and/or insured and premium files). These tools provide the HMIS with basic information concerning its beneficiaries: name of member and/or identification number, starting and ending dates of coverage, etc. The indicator measures the existence and quality of management and monitoring tools developed by scheme managers.

Indicator T.2.2: Use of membership management and monitoring tools

This indicator measures the scheme's use of tools relating to membership. Effective monitoring in this area calls for regularly updating and retrieving information relating, in particular, to the number of beneficiaries entitled to coverage by the HMIS, the number of persons temporarily or permanently excluded from coverage, and the average number of beneficiaries for each contributing member.

1.3 Evaluation of premium collection monitoring

Premium collection is of particular importance to the HMIS because it constitutes the scheme's main source of income. Indicator T.3 may be used to evaluate the quality of premium collection monitoring.

Indicator T.3. Premium collection monitoring*See Volume 2, page 42*

This indicator measures the existence and quality of tools used to monitor premium collection. In order to carry out this monitoring, the HMIS must use specific tools (Insured and premium file and/or Insured, premium and membership fee register) to obtain the key information it needs: amount of premiums due, amount of premiums received, amount of membership fees paid, etc. The methods used to calculate this indicator may vary, depending on whether premiums are paid in a single payment or in instalments over the course of the accounting period.

This indicator is particularly useful to be monitored when:

- It is possible to enrol in the scheme at various times of the year;
- It is possible to pay premiums in instalments;
- The period covered by the premium corresponds to the current accounting period.

1.4 Evaluation of claims processing

The processing of claims is an important management function because it is necessary in order to grant beneficiaries entitlement to benefit. Managing claims in an HMIS involves three main activities:

- Verification of entitlement to benefits;
- Checking health care providers' invoices;
- Ordering of reimbursement and/or payment.

For the sake of simplicity, the evaluation presented below concerns only the verification of benefit entitlement.

Indicator T.4. Verification of benefit entitlement *See Volume 2, page 43*

This indicator measures the existence of procedures to verify entitlement to benefit, which are carried out by health care providers and the HMIS. HMIS managers may find it useful to know whether such procedures need to be strengthened.

1.5 Evaluation of risk portfolio monitoring

Risk portfolio monitoring is an important technical management operation because it serves to identify problems and, consequently, the necessary corrective action to be taken. Two indicators are presented below. The first indicator (T.5) may be used to evaluate whether the tools needed for claims monitoring (i.e. claims listings) have been developed and to assess the quality of those tools. The second indicator (T.6) evaluates the extent to which managers have developed the analytical tools (i.e. monitoring sheets) required for regular monitoring of the risk portfolio.

Indicator T.5. Claims monitoring

See Volume 2, page 44

Indicator T.5.1: Claims monitoring by service and provider

This indicator considers the existence of tools for monitoring claims and the quality of the information they contain. It is applied in cases in which monitoring is carried out by provider, and should be considered in conjunction with Table 8.

Indicator T.5.2: Claims management information system

This indicator is comparable to the previous one and refers to the existence of consolidated data and tools (for all providers) concerning claims monitoring. It should be considered in conjunction with Table 9.

Indicator T.5 is particularly important because it concerns the existence and the quality of the scheme's management information system relating to the risk portfolio. Indicator T.6 determines whether monitoring of the risk portfolio has been carried out.

Indicator T.6. Risk portfolio monitoring*See Volume 2, page 46*

This indicator may be used to evaluate the extent to which the risk portfolio has been monitored using the appropriate tools. It determines whether the monitoring sheets, which indicate the frequency and average costs of claims by provider, are available and are regularly updated.

The indicator for risk portfolio monitoring complements the indicator for claims monitoring (Indicator T.5). It takes into account the frequency with which the risk portfolio is analysed and data is updated.

1.6 Evaluation of accounting records monitoring

As in any enterprise, the HMIS must have an accounting system. For the purposes of this evaluation, it is assumed that such an accounting system exists. Indicator T.7 concerns the monitoring of accounting records.

Indicator T.7. Accounting records monitoring*See Volume 2, page 47*

This indicator may be used to assess the three main activities involved in monitoring accounting records:

- Collection and sorting of accounting information;
- Control of accounting records;
- Control of the income statement and balance sheet.

The proposed indicator may be used to evaluate whether the basic operations necessary for maintaining accounting records have been carried out. This is a simple synthetic indicator (with six dual indexes). It is up to the evaluator to form a more qualitative judgement on the accounting function and on the quality of accounts monitoring.

1.7 Evaluation of budget, cash flow and investment monitoring

Budget, cash flow and investment monitoring is an important exercise because it allows managers to:

- Anticipate financial discrepancies;
- Formulate new income and expense projections;
- Implement corrective measures.

It is thus essential to evaluate the quality of this type of monitoring.

Indicator T.8. Financial monitoring*See Volume 2, page 48*

This indicator assesses the extent to which managers have developed a system for forecasting and monitoring financial flows. The development of this indicator is based on the availability of budget, cash flow and investment monitoring tools and the regular updating of the information they contain.

1.8 Overall evaluation of monitoring

To conclude the evaluation of monitoring by scheme managers, a summary indicator may be used to indicate which monitoring functions have been handled successfully and which ones require improvement.

Indicator T.9 concerns the overall quality of monitoring and is developed on the basis of the previous indicators. In calculating this indicator, all the monitoring functions (relating to distribution, membership, premium collection, claims, risk portfolio, accounting records and finance) are deemed to be of equal importance in ensuring the administrative viability of the HMIS.

Indicator T.9. Overall quality of monitoring*See Volume 2, page 49*

This indicator combines all the different elements involved in evaluating the quality of monitoring.

A low score in this indicator should prompt HMIS evaluators and managers to consider whether to introduce new management and monitoring tools and procedures, or whether to improve existing ones. As for the previous indicators, the value of this indicator must be interpreted as a score on a rising scale, and not as an arithmetic value.

2. Evaluation of technical viability

The evaluation of technical viability involves an analysis of the scheme's risk portfolio – in particular, the extent to which the HMIS manages the three health insurance-related risks:

- Adverse selection;
- Over-consumption (moral hazard);
- Over-prescription.

It is important to define the terms used in this section. The term "risk" in the expression "risk portfolio" refers to the benefits provided to members under their membership contract. In the expression "insurance-related risks", it refers to the potentially negative consequences of insurance operations – namely, adverse selection, over-consumption (moral hazard) and over-prescription – to which the HMIS is exposed.

This section begins by presenting twelve key parameters that influence the quality of the risk portfolio. Subsequently, it discusses the evaluation process itself, based on an analysis

of these parameters. This is crucial for both evaluators and managers. Even if the HMIS has taken appropriate measures to limit adverse selection, over-consumption and over-prescription, it should nevertheless be capable of checking the effectiveness of those measures. The indicators for evaluating the management of the risk portfolio will assist managers in carrying out this task.¹⁹

2.1 Parameters that measure the quality of the risk portfolio

The first five parameters concern the scheme's membership conditions. Generally speaking, these parameters measure the influence of membership conditions on the risk of adverse selection. They include:

- Membership arrangements (forms and types) (parameter a.1);
- Enrolment period (parameter a.2);
- Existence of a waiting period or probationary period (parameter a.3);
- Average number of beneficiaries per contributing member and observance of basic membership unit (parameter a.4);
- Packaging of health insurance with other types of insurance (parameter a.5).

The second type of parameter relates to claims management and may be used to judge the ability of the HMIS to deal with over-consumption and over-prescription. The seven parameters relating to claims management include:

- Type of health services offered (parameter b.1);
- Existence of co-payments (parameter b.2);
- Prior agreement or authorization of coverage (parameter b.3);
- Compulsory referral (parameter b.4);
- Mechanisms for payment of providers (parameter b.5);
- Rationalization of benefits (parameter b.6);
- Selection of providers (parameter b.7).

2.1.1 Parameters used to analyse conditions of membership

(a) Parameter a.1: Membership arrangements

Membership arrangements (forms and types) vary from one HMIS to another, and, in some cases, within the same HMIS. The basic membership unit (see Part 1, section 2.4) may be the individual, the family and/or a group of individuals (village, company, group, etc.). The types of membership (see Part I, section 2.5) are voluntary, automatic and/or compulsory.

An HMIS will be more viable if its membership arrangements do not expose it to the risk of adverse selection. This risk will be lower if membership in the scheme involves some degree of obligation (i.e. automatic or compulsory, as opposed to voluntary membership) and a broad membership base (family, as opposed to individual, membership).

¹⁹ Evaluators or managers may develop additional tools, depending on the characteristics of the HMIS under consideration.

In some health microinsurance schemes (i.e. mutual organizations, cooperatives, unions, etc.), membership arrangements reflect the level of solidarity desired by the members, and it is not always possible to change them. However, when the financial situation of an HMIS with individual voluntary membership is in peril – particularly as a result of a high degree of adverse selection – consideration should be given to establishing new membership arrangements. Members may be willing to accept changes if the viability of the HMIS is at stake.

(b) Parameter a.2: Enrolment period

The second parameter that has an influence on the risks inherent in health insurance, especially adverse selection, is the enrolment period used by the HMIS. If each year, enrolment is possible only during a limited period (schemes with a closed enrolment period), the risk of adverse selection is reduced. Since potential members cannot choose when to join, the risk of adverse selection is lower than if they are able to join the scheme whenever they fall ill. Management is also simplified: firstly, because the task of collecting premiums can be concentrated within a shorter time period, and, secondly, because the work involved in monitoring membership and controlling claims is less complicated. This solution has worked well in rural areas in which membership payments have coincided with harvest time. A closed enrolment period reduces the need to apply a waiting period. It should be noted, however, that even if the enrolment period is closed, schemes may still use a system in which premiums are paid in instalments.

Other health microinsurance schemes allow members to join at any time of the year (schemes with an open enrolment period), which increases the risk of adverse selection and makes management more complicated.

The choice of enrolment period should take into account the characteristics of the target population and the scheme's management capacity. However, this does not change the fact that as the length of the enrolment period increases, so does the scheme's exposure to the risk of adverse selection.

(c) Parameter a.3: Waiting period

The waiting period, also known as the probationary period, is the period during which a new member who has paid his or her premiums is not yet entitled to the services of the HMIS.

The waiting period is designed to limit adverse selection and, to some extent, allow the HMIS to establish a working capital fund during the start-up phase. This period is necessary to prevent certain people joining only when they need treatment (for example, joining the scheme in anticipation of giving birth) and withdrawing once that need has been met.

There is no standard length for the waiting period; it depends on the type of services provided by the HMIS and the extent to which members are willing to accept it. An excessively long waiting period may discourage the target population from joining the scheme.

The waiting period generally ranges from one month – in the case of outpatient treatment – to several months – in the case of “foreseeable or programmed” benefits (such as those relating to births), or high-cost benefits (such as those relating to chronic diseases).

The introduction of a waiting period is also linked to other characteristics of the HMIS. When the enrolment period is time-bound and the scheme covers only unforeseeable illnesses, there is less need for a waiting period. When membership is open (members may join at any time during the year) and/or the scheme covers foreseeable risks (e.g. births), the absence of a waiting period is a factor that may threaten the scheme's viability.

(d) Parameter a.4: Average number of beneficiaries per contributing member and observance of the basic membership unit

When membership in the scheme grants dependents entitlement to benefits, and when the premium is not directly proportional to the number of beneficiaries, there is a risk that the contributing member will seek to enrol as many dependents as possible. Consequently, schemes will strengthen their viability to the extent that they limit the number of beneficiaries for each contributing member.

Conversely, when premiums are determined on an individual basis, there is a high risk that contributing members will make a selection among their dependents and pay premiums only for those they consider to have a higher risk of illness. This arrangement encourages the development of adverse selection and misrepresentation regarding the identity of beneficiaries.

The average number of beneficiaries for each contributing member is an important factor in calculating the premium amount. An increase in this number may lead to an increase in costs, which could justify an increase in the premium, the introduction of measures to reduce the coverage of dependents, or a change in the basic membership unit (e.g. the family).

(e) Parameter a.5: Packaging of health insurance with other types of insurance

The provision of a benefits package that includes life insurance, assets insurance and other types of insurance, in addition to health insurance, reduces the risk of adverse selection. Another advantage of packaged benefits is that they tend to reduce administrative and distribution costs. The disadvantage is that some members may not need the additional benefits, leading to some level of dissatisfaction.

2.1.2 Parameters for analysing claims management

The second type of parameter that influences the risk portfolio is related to claims management. The primary objective of claims management is to control over-consumption, over-prescription and, to a lesser extent, adverse selection (in particular, parameter "Types of health services offered").

(a) Parameter b.1: Types of health services offered

The HMIS is, to a greater or lesser extent, exposed to over-consumption and adverse selection, depending on the type of health services offered. Three categories of services can be distinguished in terms of their exposure to these risks:

Category 1	Health services not subject to the risks of over-consumption and adverse selection. These primarily concern non-programmed, acute medical and surgical interventions. They involve emergency treatment and are easily controlled.
Category 2	Health services with some exposure to the risk of over-consumption and adverse selection. For the most part, these involve outpatient treatment.
Category 3	Health services highly exposed to the risk of over-consumption and adverse selection, in particular: <ul style="list-style-type: none"> • Programmed surgical operations, such as simple hernia or removal of a goitre; • Chronic diseases, such as tuberculosis or HIV/AIDS, requiring expensive drugs for a prolonged period.

Managers and evaluators may divide the health services provided by the HMIS into these three categories. The greater the number of covered services that fall into categories 2 and 3, the tighter must be the scheme's control over their consumption.

After analysing its claims, an HMIS may need to take corrective measures in order to limit its exposure to risk. The following measures restrict over-consumption:

- Existence of co-payments (parameter b.2);
- Prior agreement or authorization of coverage (parameter b.3);
- Compulsory referral (parameter b.4).

The factors that may be adjusted in order to limit adverse selection include:

- Membership arrangements (parameter a.1);
- Enrolment period (parameter a.2);
- Waiting period (parameter a.3);
- Average number of beneficiaries for each contributing member and observance of basic membership unit (parameter a.4);
- Packaging of health insurance with other types of insurance (parameter a. 5)

(b) Parameter b.2: The existence of co-payments

The **co-payment** is a mechanism according to which risks and costs are shared by the insured person and the insurer. Various types of co-payments are used in health microinsurance schemes:²⁰

- The **deductible**. This is a fixed amount²¹ to be paid by the insured person for services provided by the HMIS. The HMIS covers, either in whole or in part, amounts in excess of this predetermined amount. Deductibles are usually established for each benefit covered.²²
- The **percentage co-payment**²³ is a percentage of health expenses charged to the insured person for services covered by the HMIS.
- A **maximum benefit** is a predetermined amount²⁴ of health expenses (or number of benefits per year) beyond which the HMIS does not provide coverage. Any expense in excess of this amount is payable by the insured person.

The table on the opposite page shows the type of co-payments most frequently used in health microinsurance schemes for the various categories of service.

²⁰ Variants of these three types of co-payment exist; however, for the sake of simplicity, they will not be described in this Guide (payment indemnities, catastrophic insurance, exclusion of entitlement to certain "comfort" benefits, etc.).

²¹ Example: In Bangladesh, the BRAC scheme introduced a deductible of 2 takas per visit and covers 100 per cent of costs above that amount.

²² One variant of the deductible is a flat-rate fee to be paid by insured persons when a referral system is used (see parameter b.4). According to this system, beneficiaries who consult a higher-level health care provider directly, without going through the lower level, are required to pay a deductible that would not have applied if they had observed the referral system.

²³ Example: HMIS X covers 80 per cent of expenses for members using Hospital Y. Given a hospital bill of 10,000 MUs, the HMIS would reimburse $10,000 \times 80$ per cent = 8,000 MUs.

²⁴ Example: NOVADECI in the Philippines uses a maximum benefit of 10,000 pesos a year for members and 2,500 pesos a year for dependents. Given a bill of 25,000 pesos, the member would be charged for $25,000 - 10,000 = 15,000$ pesos. It should be noted that a deductible, or a percentage co-payment, may also be added to this co-payment for the same treatment.

	Outpatient care	Hospital care	Medicines	Specialist care
Deductible	Per visit	Per visit or stay	Per item or prescription	Per item or prescription
Percentage co-payment	Of fee	Of fee	Of price	Of price
Maximum benefit	Level set by HMIS	Level set by HMIS	Level set by HMIS	Level set by HMIS

Source: Cichon et al., 1999

The introduction of a co-payment may be an important technical factor in reducing the effects of:

- Over-consumption (percentage co-payment and maximum benefit), when an HMIS covers benefits in categories 2 and 3. It should be stressed that the introduction of a deductible may, depending on the amount, have an effect that is the opposite of what is expected on limiting over-consumption;
- Over-prescription (maximum benefit).

On the other hand, the introduction of a co-payment may adversely affect the enrolment trend. Managers must take care to set co-payments at the correct level in order to have a positive impact on risks, without undermining the attractiveness of the benefits.

(c) Parameter b.3: Prior agreement or authorization of coverage

Prior agreement is a mechanism according to which the insured person or the provider must, in order to activate coverage, obtain an authorization of coverage from the HMIS before health services are dispensed.

This third parameter for evaluating claims management is to limit over-consumption and over-prescription. The prior agreement mechanism is particularly useful for maintaining the scheme's viability when the HMIS covers expensive benefits. The HMIS will need to call on the services of a medical adviser to analyse members' requests requiring medical expertise.

(d) Parameter b.4: Compulsory referral

The compulsory referral mechanism requires beneficiaries to consult a health care provider at one level before utilizing the services of a health care provider at a higher level (for example, consulting a general practitioner before consulting a specialist).

This mechanism for guiding beneficiaries contributes to the viability of an HMIS in that it limits the risk of over-consumption, in particular. However, since it reduces the members' choice of health care provider, it is not always readily accepted by members. It is also difficult to introduce a compulsory referral mechanism in a functioning HMIS.

Example. In Bicao Carmen Bohol in the Philippines, the HMIS checks to make sure that reimbursements or payments for hospitalization are issued to members only if they have obtained a referral form from the community health centre. This prevents the unnecessary use of services and reduces costs for the HMIS and the Government, which spends a considerable amount on specialized care.

(e) *Parameter b.5: Mechanisms for the payment of providers*

The mechanisms for the payment of providers refer to the various methods used by insurers to “buy” medical services from health care providers. The medical services may be provided either by external service providers or by the insurer’s own health facilities.²⁵ The following list²⁶ sets out the principal payment mechanisms used by health microinsurance schemes, arranged in order from the most detailed to the most general breakdown of charges.

- **Fee-for-service** is a method that consists of paying the health care provider for each service it delivers, provided it is covered by the HMIS.
- **Payment per Diagnostic Related Group** (or payment per episode of illness) is a flat-rate method of fee-setting. The provider agrees to receive a fixed payment for all or part of the services to be provided in connection with a given benefit. This is determined on the basis of a list of diagnoses, which correspond to the health services provided in the specific treatment of various illnesses. The flat-rate payment is partial²⁷ if certain services are invoiced in addition to the flat-rate payment. It is comprehensive²⁸ if the service provider invoices only a flat-rate payment for a given benefit.
- **Fixed daily rate per hospitalization day** is a fee-setting method used by insurers that provide hospital benefits. It consists of paying a fixed, flat-rate fee to the provider for a complete package of benefits, or for a reduced package of benefits accompanied by an invoice for each additional health service.
- **Capitation** is a method of payment that consists of paying a flat-rate fee to the health care provider, not on the basis of each episode of illness, but on the basis of each person covered by the HMIS over a defined period. This flat-rate payment may make a distinction between categories of beneficiaries (according to sex, age, morbidity risk, etc.). This method is used for primary health care, in particular.

Each mechanism for the payment of providers has its advantages and disadvantages in managing insurance-related risks. In addition, the methods used will vary in terms of the extent to which they encourage providers to control the cost and quality of the services they dispense.

The table on the opposite page describes the effects of the different payment mechanisms on insurance-related risks and on the quality of care provided.

The choice of the provider payment mechanism may have a significant impact on the viability of an HMIS since it determines how costs are shared between an HMIS (and, consequently, the members) and the health care providers.

Flat-rate payment mechanisms (per-case, daily rate or capitation) are techniques that transfer to providers a large share of the risks related to illness. Furthermore, these mechanisms limit over-prescription, since any increase in the cost of prescriptions (medicines, diagnostic procedures or other services) included in the flat-rate fee are borne by the providers.

²⁵ In principle, an HMIS that also functions as a health care provider should establish separate technical and financial systems for each activity, and thus “buy” its own services. It can then make rational choices concerning the parallel use of its own services and those of external service providers.

²⁶ M. Cichon et al., *op. cit.*, pp. 25-26.

²⁷ Example of a partial flat-rate fee: For treatment of a strangulated hernia, a hospital invoices a flat-rate surgical operation. The patient’s hospital stay is invoiced separately in proportion to the exact number of days. Some expensive antibiotics are also not included in the flat-rate fee.

²⁸ Example of a comprehensive flat-rate fee: A hospital invoices a single amount for the medical hospitalization of a child, regardless of the pathology treated, the type of care provided or the length of treatment required.

	Over-consumption	Adverse selection	Over-prescription	Quality of services
Fee-for-service	+	0	+	+
Payment per Diagnostic Related Group (flat-rate fee per case)	0	0	–	–
Daily rate (flat-rate per-diem fee)	0	0	–	–
Capitation (flat-rate fee per member)	0*	0	–	–

“+” increases the risk (or quality); “–” reduces the risk (or quality); “0” is neutral. * It should be noted that providers will tend to moderate members’ demand for care, given that any additional consumption will reduce their profit.

On the other hand, flat-rate payment methods may prompt providers to limit the quality of care they provide out of a concern for profitability. The HMIS must, with the help of medical advisers, set up procedures to control the quality of the health services provided. The existence of competition between providers will also have an impact on the quality of care they provide.

From the administrative perspective, the more general the breakdown of charges (ranging from fee-for-service to capitation), the more difficult it will be for HMIS managers to control the care provided. The application of flat-rate fees facilitates control by non-professionals. Moreover, it simplifies accounting operations and the payment or reimbursement of claims.

In conclusion, provided that quality controls are applied to the services offered, the payment of flat-rate fees to the provider may be considered a factor in promoting the viability of the HMIS.

(f) Parameter b.6: Rationalization of benefits

The rationalization of benefits is a mechanism set up between an HMIS and its health care providers to control the costs of the HMIS. The mechanism may be used to “standardize” the health services delivered by providers and “regulate” the price of those services.

This sixth parameter for analysing the management of the risk portfolio concerns limiting abuses on the part of service providers. The latter generally seek to maximize their profits and to satisfy their patients. As the following table indicates, depending on the payment mechanism adopted by the HMIS, the provider may be tempted to increase prescriptions (health services, medicines, care, etc.), attract the largest possible number of patients (canvassing HMIS beneficiaries), request that patients return for treatment several times, or use expensive equipment needlessly in order to amortize their costs more rapidly.

	Fee-for-service	Flat-rate payment
Number of prescriptions	+	–
Number of patients	+	+
Frequency of benefits	+	–
Equipment utilization frequency	+	+

“+” increases (the number or frequency); “–” decreases (the number or frequency).

There are a number of measures that may be used to rationalize benefits so as to limit abuses. These are based on controlling the quantity of care (health services) provided and the fees applied by providers. These rationalization measures may include:

- **A contract between an HMIS and a health provider.** Such contracts may limit the health services covered or the conditions according to which they will be covered. They may also contain provisions relating to the terms for renegotiating fees, establish procedures for the medical and financial audit of the provider by an agent commissioned by the HMIS, etc.
- **Treatment protocols.** Treatment protocols are standardized treatment procedures. They define, by type of pathology, the diagnostic procedures (laboratory, X-ray, etc.), medical treatment and medicines to be prescribed. If followed, treatment protocols make it possible to treat patients in the most cost-effective manner. They also make it easier to estimate the cost of benefits.

Neither the HMIS manager nor the patient (because they possess asymmetrical information)²⁹ can know whether all the treatments provided are justified by the patient's state of health. Moreover, there is no single way to treat an illness, given that all practitioners do not use the same methods. The HMIS must call on the services of a medical adviser, whose role is to determine on the basis of "good practices" whether the patient's condition, in fact, required the care administered. The medical adviser's work will be greatly facilitated by the existence of treatment protocols.

(g) Parameter b.7: Selection of health care providers

The selection of health care providers is a mechanism according to which the HMIS selects a specific number of providers based on the services they offer and for a defined set of beneficiaries.

It may be worthwhile for the HMIS to secure the services of selected providers by negotiating with them to establish fees, conditions of coverage, service quality, methods of payment, etc. In that connection, the stimulation of competition between providers may put the scheme in a better bargaining position.

HMIS beneficiaries may find such an arrangement to be to their advantage when they can enjoy the preferential fees offered by these providers and the favourable terms offered by the scheme (for example, reduced co-payments). The attraction for providers is that such an arrangement provides them with a more solvent client base.

²⁹ Unlike health care providers, patients are usually not in a position to judge the appropriateness of the medical services administered to them.

2.2 Evaluation of the quality of the risk portfolio

This second phase consists of measuring the quality of the risk portfolio of the HMIS. After analysing the parameters that influence insurance-related risks, an evaluation must be made of the effectiveness of measures taken to contain these risks.

The following three indicators are suggested:

- Membership arrangements (G.1);
- Quality of the risk portfolio (G.2);
- Average claims costs (G.3).

Indicator G.1. Membership arrangements

See Volume 2, page 50

This indicator measures the exposure of the HMIS to the risk of adverse selection as a result of membership arrangements (forms and types of membership). Voluntary individual membership involves the highest risk of adverse selection. Conversely, compulsory group membership carries the lowest risk of adverse selection.

Using this first indicator (G.1), it is possible to show whether an HMIS is subject to the risk of adverse selection (positive score). Managers and officials in charge of the HMIS may seek ways to limit this risk - if necessary, by modifying membership arrangements.

The second indicator (G.2) measures the extent to which the HMIS effectively contain the three insurance-related risks. This indicator is calculated on the basis of Table 16, an extract of which is presented below. Table 16 shows the measures that may be applied to the services covered in order to limit insurance-related risks. The shaded areas correspond to a health service covered by the HMIS for which it would be advisable to introduce the measure shown in the column heading.³⁰

Indicator G.2. Quality of the risk portfolio

See Volume 2, page 51

The quality of the risk portfolio of the HMIS is a function of the type of claims and of the measures adopted by the HMIS to limit adverse selection, over-consumption and over-prescription. This indicator measures the number of benefits exposed to one of these risks, for which an appropriate containment measure has been applied.

If it is found that the HMIS is exposed to one of the health insurance-related risks (low score compared with the maximum score for the HMIS), the officials in charge must consider introducing measures to limit this risk. However, any plans to introduce such measures will have to take into account their related effects (enrolment trend, quality of care, solidarity values, etc.).

The third indicator (G.3) measures the degree to which the risk of over-prescription has been contained. It is established on the basis of the average costs of claims covered by the HMIS. It allows for the detection of potential cost rises, whose cause should be analysed (fee increases, changes in treatment-seeking behaviour, etc.).

³⁰ The shading of certain areas in this example is perhaps debatable. In principle, the shaded areas represent the most frequently encountered situations. For this reason, it was considered appropriate for all benefits to be subject to a waiting period. This might be a questionable choice in the case of emergencies. However, without a waiting period, it is possible to imagine that some beneficiaries might, if faced with a major problem, pressure managers to grant them a membership card. The waiting period might also be considered to be an essential factor in learning about risk management.

Indicator G.3. Average claims costs

See Volume 2, page 56

G.3.1: Trends in average claims costs

This indicator may be used to analyse the trend (graphically, or based on the growth rate) in average claims costs. For the purposes of detecting over-prescription, the analysis of cost trends is often more meaningful than the actual level of costs. Regular calculation of this indicator (and its graphical representation) will allow for rapid detection of increases in average costs and for determining the nature of these increases (reversible increase, regular progression, etc.).

G.3.2: Comparison of average claims costs for beneficiaries and non-beneficiaries³¹

This indicator complements the previous one. A comparison of the trend in the average costs of claims of the HMIS with the trend for non-beneficiaries may reveal discrepancies, whose cause should be analysed.

Stable average claims costs (with respect to inflation) are an indicator of proper management of the risk portfolio. However, a rise in costs does not necessarily point to the existence of over-prescription. It is possible that the provider is able to administer care to beneficiaries under the agreed-upon protocol, but cannot do so for non-members owing to their weaker solvency. Only analysis of the medical records by a medical adviser can distinguish between appropriate treatment and over-prescription.

3. Evaluation of functional viability

The evaluation of functional viability consists of analysing the HMIS from a strictly functional perspective, i.e. as a mechanism that collects premiums and provides coverage for its beneficiaries' health expenses. This involves assessing the "smoothness of operation" of the health microinsurance scheme.

This evaluation will be based on indicators relating to:

- The collection of premiums. This requires examining:
 - The scheme's ability to attract and retain a "clientele", by assessing the enrolment trend;
 - The scheme's ability to collect premiums.
- The claims covered by the HMIS. This requires assessing the efficiency with which the HMIS reimburses members (or pays health providers).

³¹ Several indicators presented in this Guide refer to comparisons between beneficiaries and non-beneficiaries. In most cases, these are used to identify the impact of the HMIS by comparing it to a situation, such as the case of non-beneficiaries, in which it is non-existent, so to speak. In reality, it is possible that non-beneficiaries are, in fact, covered by another insurance scheme. In that case, the comparison of beneficiaries and non-beneficiaries amounts to comparing the impact of the HMIS with that of another scheme. To simplify matters, it is assumed in this Guide, unless otherwise stated, that non-beneficiaries are uninsured persons, at least as regards the services covered by the HMIS under consideration. Evaluators will have to choose a group of non-beneficiaries with which to make comparisons, based on the particular context under consideration and on the objectives they wish to pursue.

3.1 Enrolment trend

The first type of indicator for evaluating the functional viability of the HMIS is based, in part, on the monitoring sheets (see Tables 5 and 7).

The enrolment trend may be measured using the following five basic indicators:

- Overall membership growth rate (M.1);
- Renewal rate (M.2);
- Internal membership growth rate (M.3);
- External membership growth rate (M.4);
- Penetration rate (M.5).

For the purposes of evaluation, the number of members and beneficiaries in the scheme's first year of operation is not determinant. This number depends, in part, on the length and intensity of the preparatory period before initiating the collection of premiums. For many disadvantaged people, enrolment in an HMIS is a novelty that involves a learning process. For this reason, it is just as important to know the trend in the number of beneficiaries as it is to know the number of beneficiaries at any given point in time.

Indicator M.1. Overall membership growth rate *See Volume 2, page 58*

This indicator measures the growth in the size of a HMIS over a defined period, usually one year. For year N, it is calculated on the basis of the total number of members in year N-1.

This indicator may be complemented by calculating the growth rate in the total number of beneficiaries (M.1.1) and the growth rate in the number of dependents (M.1.2).

This indicator indicates whether the HMIS is growing (positive rate), stable (rate close to zero) or shrinking (negative rate).

The number of members and the trend in this number are important items of information for an HMIS. From an insurance standpoint, a large number of members allows for:

- Economies of scale (and professionalism);
- Better risk pooling (reduction of uncertainty concerning the frequency of risks occurrence);
- Reduced vulnerability to unforeseen events.

The trend in the number of members is an important factor to monitor. In some health microinsurance schemes, however, viability depends on social cohesion between the members. Too rapid or too sudden an increase in the number of members, especially when the latter do not belong to the same social group, may reduce this cohesion and compromise the viability of the HMIS.

Even if there is a relationship between the viability of an HMIS and the total number of members and beneficiaries, it is not possible to determine the absolute number of members and beneficiaries required to ensure that viability.

The overall membership growth rate does not always provide all the information on the enrolment trend. It may be that members are "trying out" the scheme. There is internal "movement" in the scheme: i.e. some individuals are not renewing their membership, while others are joining the scheme.

To assess the enrolment trend more precisely, it is necessary to analyse whether old members are continuing to pay premiums and whether new individuals are joining the scheme. The following indicators will serve to analyse these various trends.

Indicator M.2. Renewal rate

See Volume 2, page 59

This indicator measures the attraction the HMIS holds for members. It is equal to the percentage of old members who have renewed their contract.

The first indicator (M.1) provided an indication of the overall growth in the number of HMIS members. This second indicator (M.2) demonstrates the “loyalty” of members towards the HMIS and is an indicator of its relevance.

Even in the case of a positive growth rate, it may be worthwhile to calculate the renewal rate, since it indicates the margin of growth of the HMIS and may help to clarify “misleading” situations.

As the following table shows, the growth of an HMIS may be the result of a number of scenarios:

Scenarios	Overall membership growth rate	Renewal rate	New members
Scenario 1	+++	High (>80%)	Many
Scenario 2	+/-	High (>80%)	Few
Scenario 3	+/-	Low (<70%)	Many
Scenario 4	-	Low (<70%)	Few

The table shows four scenarios with diverse consequences for the HMIS:

- *Scenario 1*: The overall membership growth rate is high, owing to a high renewal rate and to the enrolment of new members. This is the best scenario for an HMIS.
- *Scenario 2*: The either positive, or stable, overall membership growth rate is due to a high renewal rate and a low enrolment of new members. This scenario can be explained in various ways, depending on how old the HMIS is and on the level of membership among the target population. For young schemes, it indicates a high capacity to generate renewal but a low capacity to attract new members. For older schemes, it may be the result of having “exhausted” the number of members in the scheme’s area of operations.
- *Scenario 3*: The either positive, or stable, overall membership growth rate is due to a low renewal rate but to a high number of new members. New members outnumber lapses. This is a “misleading” scenario that managers should watch very carefully because it indicates either that members find little value in the HMIS or a strong adverse selection. If this scenario persists, the existence of the HMIS may be threatened.
- *Scenario 4*: The negative overall membership growth rate is due to a low renewal rate and a low number of new members. It is a critical scenario because the HMIS has neither the capacity to retain its “clientele” nor the capacity to attract new members.

In conclusion, if the renewal rate is low, managers should identify the causes of this – particularly in terms of services offered, conditions of membership, distribution and communication methods, calculation of premiums, members’ financial capacity, organization of the HMIS,

adverse selection, etc. In any case, scenarios 3 and 4 may mean that the target population is trying out the scheme, but that a large share of the target population is not satisfied enough to renew its membership. It can also be interpreted as a learning phase in risk management.

The total number of members and the comparison of this figure from one year to the next may also conceal distortions in terms of the extension of the scheme's area of operations and, consequently, the growth of the target population. The indicators for the internal membership growth rate (M.3) and the external membership growth rate (M.4) may be used to take these factors into account. A final indicator, the penetration rate (M.5), completes the analysis of membership trends in the health microinsurance scheme.

Example. By extending its geographical area of operations, an HMIS can increase the total number of beneficiaries from one year to the next. At the same time, the number of beneficiaries covered in the scheme's original areas of operation may decline, reflecting dissatisfaction on the part of old members and the fact that the HMIS holds little attraction for them.

Indicator M.3. Internal membership growth rate See Volume 2, page 60

This indicator measures the trend in the number of members in the old areas of operation of the HMIS. The internal membership growth rate is calculated from one year to the next in the same way as the overall membership growth rate, taking into account only areas where the HMIS has been established for over a year (or has been operating for one accounting period).

This third indicator can also be used to clarify "misleading" situations in the interpretation of the overall membership growth rate. Overall growth should be analysed with reference to two possible scenarios:

- *Scenario 1:* The HMIS has not changed its area of operations. Its target population has remained the same from one year to the next. The overall membership growth rate is thus identical to the internal membership growth rate. Table 7 (see Part II, section 2.2.2) may be used to analyse the proportion of existing and new contributing members or beneficiaries in relation to the total number of members.
- *Scenario 2:* The HMIS has extended its area of operations between year N and year N-1. Consequently, the HMIS may register an increase in the number of beneficiaries merely as a result of the increase in the size of its target population. The growth in the number of beneficiaries may thus be "misleading", since it may be due to the extension of the scheme's geographical area of operations. A distinction must therefore be made between the internal growth of the HMIS and its external growth as a result of having been extended to a new target population.

Indicator M.4. External membership growth rate See Volume 2, page 61

This indicator measures the trend in the number of new contributing members from new areas of operation of the HMIS (where the HMIS is operating for the first time). The external membership growth rate is equal to the number of new members from the new areas (or population segments) in year N as a percentage of the total number of members in year N-1.

Indicator M.5. Penetration rate*See Volume 2, page 62*

This indicator refers to the total number of beneficiaries of the HMIS as a percentage of the number of persons in the target population. It measures the attraction the HMIS holds for the target population. Several penetration rates may be calculated for differing categories of beneficiaries (on the basis of age, sex, income, occupation, etc.).

This last indicator is also important in analysing the enrolment trend. It allows managers to measure the scheme's ability to attract a clientele and its potential for growth. It complements and clarifies the preceding indicators.

3.2 Premium collection

In health microinsurance schemes in which premiums are paid in instalments, there is often a large discrepancy between the level of premiums due and those actually received. The ability of an HMIS to collect premiums due is the second aspect to be considered in evaluating the proper functioning of an HMIS and is used to assess its functional viability.

Indicator M.6. Premium collection rate*See Volume 2, page 62*

This indicator is equal to the amount of premiums received as a percentage of premiums due.

In schemes in which contracts are issued on an annual basis and enter into effect once premiums are paid, this indicator is related to the renewal rate (M.2). In other cases, the premium collection rate is an important indicator of the proper functioning of an HMIS. The objective is to achieve a collection rate that is as close to 100 per cent as possible. A low collection rate has a significantly adverse effect on the performance of an HMIS.

The causes of a low collection rate may be internal: the quality of the portfolio, premiums set too high, poor collection management, etc. They may also be external: the irregularity of members' incomes, geographical remoteness, natural disasters, etc. Managers and evaluators should use this indicator to identify the causes of a low collection rate and take the necessary corrective measures.

3.3 Period for reimbursement of members and/or payment of providers

The last aspect to be discussed in evaluating the functional viability of an HMIS is the ability of the HMIS to pay its providers or reimburse its members within agreed upon time limits. The average period for payment or reimbursement may vary, depending on the time of year. It is calculated on the basis of providers' invoices or members' claims for reimbursement at the time of the evaluation.

Indicator M.7. Average period for reimbursement of members and/or payment of providers

See Volume 2, page 63

This indicator may be used to assess the liquidity of an HMIS and the proper functioning of its management procedures. It measures the time elapsed between the date of issuance of invoices by providers (M.7.1) or members' claims for reimbursement (M.7.2), and the date on which payment is made. This period is compared with the payment period agreed upon by the scheme and the service provider, or with the reimbursement period stipulated in the internal rules of the HMIS.

An excessively long payment period may be interpreted by members and providers as an inability on the part of the HMIS to meet its commitments. There may be numerous consequences, including a decline in the quality of care provided, a lack of confidence on the part of providers and members, and subsequently, a decline in membership renewals.

4. Evaluation of financial and economic viability

Financial and economic viability is one of the major concerns of managers and support agencies because it has a direct impact on the autonomy and survival of an HMIS. Financial and economic viability may be seen as the capacity to cover expenses with income on a sustainable basis and to meet financial commitments within required time limits.

The financial and economic evaluation of an HMIS is a complex operation requiring knowledge of accounting, financial analysis and the use of specific tools. The approach suggested in this section is divided into three steps:³²

- **Evaluation of the scheme's financial situation on the basis of ratios.**³³ Indicators based on the income statement and balance sheet will be discussed.
- **Presentation of different analytical aspects of financial viability** using:
 - A sample interpretation of net income;
 - A description of risk management mechanisms;
 - The calculation of levels of financial viability.
- **Evaluation of the scheme's economic viability.** This evaluation takes into account assets that are not registered in the accounting system but are needed to operate the HMIS.

³² Taking into account the fact that the income statement and balance sheet were presented in Part I.

³³ In health microinsurance schemes that have sophisticated accounting and financial management systems, it is also worthwhile to assess the financial stability of the HMIS by examining its working capital and cash flow needs.

4.1 Evaluation of the scheme's financial situation on the basis of ratios

The evaluation of a scheme's financial situation is conducted using accounting and financial management tools. This involves answering three basic questions:

- Is the HMIS solvent? In other words, can it meet its commitments?
- Can its operations be financed from premiums?
- Are premiums used primarily to pay benefits?

The evaluation of the financial situation is based on the income statement and balance sheet. These two tools represent the minimum required for conducting such an evaluation. By using these two financial statements, it will be possible to:

- Characterize the situation of the HMIS, using the basic data needed for calculating indicators of financial viability;
- Compare the financial situation from one year to the next (and/or of one HMIS with that of another).

Only the indicators considered most relevant in assessing the viability of an HMIS will be discussed. The first indicator that is usually assessed is:

- Net income (see Table 1, Part I).

As seen in Part I, net income is the difference between income and expenses for a given accounting period. If net income is positive, the HMIS has made a profit (surplus) over the course of the accounting period. To achieve a positive net income is a significant result in and of itself, especially in the start-up phase of an HMIS. It is a necessary, but not sufficient, condition for declaring the scheme as viable in the longer term. For this reason, a set of other indicators is presented below:

- Quick ratio (F.1);
- Equity-debt ratio (F.2);
- Reserve or cover ratio (of claims) (F.3);
- Expense ratio (F.4);
- Claims ratio (F.5);
- Gross operating expense ratio (F.6).

Using the cash flow monitoring sheet (Table 13) and the list of investments (Table 14), other important ratios may be calculated:

- Investment concentration ratio (F.7);
- Asset-liability matching (F.8).

A ratio is a relationship between two numerical data. To be useful, there must be a relationship between the two values selected, i.e. the numerator and the denominator. A ratio has no meaning in the absolute sense; it must be compared to something. Two types of analysis may be distinguished:

- *Analysis of trends*, which consist of comparing ratios on different dates to assess changes in the financial situation of an HMIS.
- *Comparison of the ratios of one HMIS with those of another*. Given the lack of information in this area, "benchmarks" are provided to enable evaluators to assess the situation of the HMIS.

Evaluators and managers will probably find that the scheme under consideration does not achieve the desired values for all ratios. These represent goals that it should strive for. Trends in ratios are as significant as their particular value at a given point in time.

4.1.1 The solvency of the HMIS

A health microinsurance scheme allows for pooling risks among members and increasing their individual solvency. Nevertheless, the scheme must be able to meet its financial commitments (reimburse members, pay providers and other suppliers). If it is unable to do this, it is likely that the very existence of the HMIS may be at risk.

Three solvency ratios are presented. They measure the ability of the HMIS to meet its short-, medium- and long-term commitments. The data needed to calculate the first two ratios (F.1 and F.2) are found in the balance sheet. The income statement is needed to calculate the third ratio (F.3).

Indicator F.1. Quick ratio

See Volume 2, page 64

This ratio evaluates the solvency of the HMIS in the short term by comparing liquid assets with short-term liabilities. The higher the ratio, the greater the liquidity. A ratio above 1 is considered satisfactory.

The quick ratio indicates whether the HMIS can pay its suppliers on time. If it cannot, its credibility may suffer, which may have consequences on its viability.

It is also possible to evaluate the financial autonomy and credibility of the HMIS with respect to third parties by measuring its ability to meet all its commitments without borrowing. In order to make this assessment, the equity-debt ratio is used.

Indicator F.2. Equity-debt ratio

See Volume 2, page 64

This ratio evaluates the ability of the HMIS to honour all its liabilities (short- and long-term) without borrowing. It relates the scheme's contracted liabilities, which are not all payable immediately, to its equity capital. To be considered solvent, the HMIS must have an equity-debt ratio of more than 100 per cent.

In extraordinary circumstances (disasters, epidemics, etc.), the HMIS may draw on its reserves to meet its commitments towards suppliers and members. This, of course, requires that it has sufficient reserves. The reserve or cover ratio helps, in part, to assess the level of these reserves.

Indicator F.3. Reserve or cover ratio (of claims) *See Volume 2, page 65*

This ratio measures the degree of financial autonomy of the HMIS. It is the ratio of its accounting reserves to its monthly claims expenses.

It is not easy to determine precisely the optimal reserve ratio from the standpoint of the scheme's operation. This amount may be imposed by legislation to protect beneficiaries. In the absence of legal provisions, it seems prudent to aim for a ratio of between 50 and 75 per cent. This means that reserves should cover the equivalent of six to nine months of claims.

An increase in the value of the ratio means less dependence on external financing. Conversely, a fall in the value implies greater vulnerability for the scheme.

These three indicators provide an initial indication of the financial viability of the HMIS.

4.1.2 Financing the operations of the HMIS

In principle, an HMIS must be able to cover its expenses from the premiums it collects. It is helpful to look at what occurs in practice. Indicator F.4, which is derived from the income statement account, will address this question.

Indicator F.4. Expense ratio

See Volume 2, page 66

This ratio indicates the extent to which operations are financed from premiums. Two ratios may be calculated depending on the expense concerned.

F.4.1: Operating expense / earned premium ratio

This ratio should be less than 0.20.

F.4.2: Total expense / earned premium ratio

A ratio less than or equal to 1 indicates that the HMIS has achieved a positive net income and is in a position to invest.

These ratios may be used to determine the extent to which premiums are sufficient to cover expenses. In the event of an insufficient level of "coverage", the HMIS may have difficulty in meeting its commitments in the medium term, especially if other sources of financing (loans, guarantee funds, subsidies) are limited.

4.1.3 The "smooth financial operation" of the HMIS

Health insurance is advantageous to members if a large share of premiums is used to pay claims, and if operating expenses are low.

At this point, it becomes necessary to assess whether the HMIS is allocating its resources (in particular, premiums received) to the payment of claims in an optimal manner. This is the objective of the third aspect considered in evaluating the financial viability of an HMIS.

Two ratios, calculated on the basis of the income statement, are presented for this purpose. They will also serve to determine whether the premium has been set at the correct level.³⁴

Indicator F.5. Claims ratio

See Volume 2, page 67

This ratio measures the proportion of premiums used for the reimbursement or payment of claims. The claims ratio is estimated to be approximately 75 per cent in an efficient HMIS. This is not a fixed standard, but an indicative benchmark that will need to be confirmed on the basis of experience.

³⁴ For more details on this subject see ILO-STEP: Health Micro-Insurance Schemes: Feasibility Study Guide. Volume 1: Procedures, Volume 2: Tools (Geneva) 2005.

If the ratio is too low, members may well wonder why they are paying premiums. The lower the ratio, the less attraction the HMIS will hold for them. However, if the ratio is too high, the HMIS may be in difficulty. Its gross margin may fall too low for it to cover its other expenses (other than claims) and to accumulate reserves.

The “smooth financial operation” of an HMIS can also be measured on the basis of the level of its operating expenses.

Indicator F.6. Gross operating expense ratio See Volume 2, page 67

This ratio measures the share of the scheme’s financial resources allocated to operations. A ratio of 15 per cent or less is considered to be an appropriate level.

It is desirable for this ratio to be as low as possible. Experience shows, however, that health microinsurance schemes working in rural areas with high operating expenses rarely manage to keep it below the 15 per cent threshold.

4.1.4 Asset management

Particularly in large-scale schemes (in terms of financial resources), asset management is important for the long-term survival of the HMIS. Given a suitable investment policy, managers can ensure that assets are diversified in holdings and across institutions. The following ratio measures the extent of asset diversification.

Indicator F.7. Investment concentration ratio See Volume 2, page 68

This ratio measures the amount of scheme assets held with one institution as a percentage of all investments. Ideally no more than 10 per cent will be held with any one institution.

Indicator F.8 measures the extent to which the HMIS makes future projections of cash requirements based on its current liabilities.

Indicator F.8. Asset-liability matching See Volume 2, page 68

This indicator measures whether the HMIS projects future cash requirements, taking into account all liabilities and future asset maturities that will be used to fund expenses. This indicator is a binary variable, and is based on financial management reports.

4.2 Analytical aspects of financial viability

The construction of the preceding indicators involves mechanical operations. The analysis and interpretation of results, on the other hand, is a more complex exercise. In this section, analytical aspects of results, obtained from the income statement, the balance sheet and certain indicators, will be presented to enhance the ability of managers and evaluators to interpret the financial status of the HMIS.

Three aspects will be presented in this section:

- A sample interpretation of results, based on an analysis of the ratios and net income of the HMIS during the accounting period (positive or negative);

- A description of the possible risk management mechanisms that may be used to strengthen the scheme's ability to deal with contingencies;
- A summary of viability levels that serve as benchmarks for assessing the financial status of the HMIS.

4.2.1 A sample interpretation of results

The interpretation is based on net income for the period. The two cases presented below show negative net income and positive net income, respectively. The analyses provided are not exhaustive and could be supplemented by other elements, which are described in subsequent sections, such as taking hidden costs into account (see Part III, section 4.3.1).

First case: Net income is negative

Referring to the scheme's financial statements, evaluators note a net loss. The starting point of the analysis is to understand why expenses exceeded income. There may be a number of causes: income may have been unusually low or expenses may have been unusually high (claims expense, operating expense, etc.).

In order to understand the nature of the loss, step 1 will be to analyse income, and step 2 will be to analyse expenses.

Step 1 – Analysis of income. Premiums constitute the main resource of an HMIS. To understand if the collection of premiums (income) was inadequate, managers must consider two possibilities:

(1) The premium collection rate (M.6) is satisfactory

If this is so, then budgeted premiums have been over-estimated. The reasons for the loss must be sought first in the scheme's enrolment trend, by analysing the membership growth rates (M.1) and the renewal rate (M.2).

The scheme's managers must look for what caused the decline in membership: unsuitable benefits, mistrust towards the scheme, excessively long reimbursement periods, ineffective policy to promote the HMIS, etc.

Regardless of the reason, the existence of a structurally weak income level is a major danger signal for an HMIS.

(2) The premium collection rate is unsatisfactory

A reduced inflow of premiums at a given point in time may be attributable to the scheme's difficulty in collecting premiums from its members. A low collection rate does not directly influence net income. Earned premiums for the period concerned are shown as income on the income statement, regardless of whether the HMIS actually received them. Premiums billed and not received or paid are shown on the balance sheet as liabilities.

However, a low collection rate may result in:

- Additional collection costs;
- Interest expense (as a result of having to resort to borrowing);
- A reduction in investment income, if the HMIS has had to reduce its investments in order to meet its expenses.

It is thus important to monitor the collection rate. Among the solutions that may be envisaged if this rate is low are:

- Improving the monitoring of premium collection;

- Verifying entitlement to benefits. If control at this level is weak, paying premiums ceases to be a condition for access to benefits, which may encourage some members not to make the required payments;
- Suspending entitlement to benefits in the case of non-payment of premiums (under rules established by the HMIS). If the suspension measure is not applied effectively, the same problems as those described in the preceding point may arise.

Step 2 – Analysis of expenses. The second step in analysing the loss consists of reviewing the expenses of the HMIS. The main expense items are health benefits and operating expenses.

(1) Analysis of claims covered by the HMIS

Ideally, claims should be covered by earned premiums, especially since the latter are also used to cover operating expenses. The ratio of claims paid to earned premiums is the claims ratio (F.5).

It is generally accepted that a normal claims ratio should be somewhere around 75 per cent. Given this, there are three possible situations that may arise:

Situation 1. *The claims ratio exceeds 100 per cent.*

The amount of claims paid exceeds the total amount of premiums, which must also be used to cover operating expenses. The HMIS is faced with a technical deficit: health insurance operations alone are not viable for the period in question because they show a built-in loss. Further analysis is required in order to explain this imbalance. The monitoring sheets of the risk portfolio may be used to carry out this analysis (see Part II, section 2.2.4).

A claims ratio in excess of 100 per cent may be the result of:

- *Excessive consumption due to occasional circumstances.* It may be due to an epidemic or certain exceptionally costly claims. Measures can be taken to limit the effects of these – in particular, through risk management mechanisms (reinsurance, guarantee funds);
- *In-built excessive consumption:* This may be the result of having set premiums too low or of chronic over-consumption. The latter may be linked to membership arrangements (such as open individual membership, which encourages adverse selection), a lack of control (misrepresentation and loaning of membership cards, which encourage over-prescription), etc.

The best way to uncover the causes of the technical deficit is to analyse trends in beneficiaries' service utilization frequency and in the average cost of claims covered by the HMIS.

- *Analysis of service utilization frequency.* An over-use of services noted during certain months of the year – not noted in previous years – could be due to an epidemic. This should be verified with the health care staff. If this is not the case, it is possible that the over-use is fraudulent and beneficiaries have taken advantage of a weakness in control procedures: collusion between beneficiaries and health care staff, loaning of membership cards, etc.

If consumption patterns are similar to those of previous years, the possibility that the over-use was due to an extraordinary event can be ruled out. It then appears more likely that the loss was caused by a structural problem. The HMIS has probably been exposed to the risk of adverse selection and/or to the risk of over-consumption.

In such cases, analysing the quality of the risk portfolio (see Part III, section 2.2) will provide some initial answers. If it emerges that the HMIS faces certain insurance-related risks, measures must be taken to limit them so as to restore financial equilibrium. These measures may include: the introduction of co-payments, waiting period, prior agreement or compulsory referral mechanism, and/or a revision of membership conditions.

In addition to analysing the risk portfolio, it may be worthwhile to analyse beneficiaries' characteristics (see Table 5). This means disaggregating data on beneficiaries according to sex, age, occupation, etc. The problem may be due to adverse selection if

certain categories of beneficiaries more at risk are over-represented in comparison with the total population.

Examples. A majority of pregnant women and children for an HMIS covering outpatient treatment and births, a large proportion of workers in high-risk occupations, or a disproportionate number of elderly persons, are signs of adverse selection.

Schemes may consider changing their membership arrangements in an effort to restore financial balance.

- *Analysis of the average costs of claims.* The first question that arises is whether average costs have been correctly estimated in the calculation of premiums (especially for an HMIS in the start-up phase). It is possible that the loss is due to an under-estimation of the average cost of claims. Consequently, consideration must be given to adjusting premiums. The second level of analysis concerns trends in average costs:
 - A large increase in the average costs of claims as compared with the previous period may be due to an increase in the cost of health services or to a tendency towards over-prescription.
 - If average costs are stable or declining, the loss is probably related to an increase in consumption on the part of beneficiaries.

Based on this analysis, measures should be taken to limit insurance-related risks. These are described in Part III, section 2. They are essential to restoring the financial balance of the HMIS.

Situation 2. *The claims ratio is high (between 90 and 100 per cent).*

The second situation involves an HMIS with a net loss and a high claims ratio. Such a ratio necessarily implies that fewer resources are available to cover other expenses. Even if there is a technical margin, it may be insufficient and may explain the loss for the period. Evaluators will need to carry out the same kind of analysis as set out in situation 1 (above) to uncover the causes of the loss.

Situation 3. *The claims ratio is normal (approximately 75 per cent).*

The last situation analysed is an HMIS that has a “normal” claims ratio, but is operating at a net loss. This means that the HMIS has a significant margin after payment of all claims. The deficit is probably not linked to the cost of claims; the scheme’s other expenses, i.e. operating expenses, should therefore be analysed.

(2) *Analysis of operating expenses*

The loss may be related to an excessive level of expenditure in order to provide for the scheme’s operation (rent, subcontracting, meeting expenses, transport expenses, wages and allowances, purchase of equipment, etc.). This analysis must be carried out independently of the scheme’s claims ratio.

Analysing the operating expenses of an HMIS (as with any financial entity) is a complex exercise. It often involves conducting a separate evaluation altogether. For this reason, this Guide will describe only three aspects of analysis.

- *Absolute trends in operating expenses.* This exercise involves determining total operating expenses for the period. An abnormally high level of expenses compared with previous periods may be the reason for the net loss. Evaluators must determine the cause. An uncontrolled increase in these expenses may threaten the viability of the HMIS. If necessary, expense-cutting measures should be implemented.

- *Relative trends in operating expenses.* This exercise involves analysing trends in the gross operating expense ratio. A ratio of over 15 per cent (by convention) means that the HMIS has above-average operating expenses. This may be the cause of the loss. Managers must consider ways of reducing these expenses.
 - A more detailed analysis consists of determining the ratio of operating expenses to earned premiums. If this ratio is greater than 25 per cent, there are two possible explanations:
 - The HMIS is starting up and the number of members is still low; therefore, fixed expenses are spread over a small number of persons.
 - The HMIS has found its “cruising” speed and has a large number of members. In this case, operating expenses are structurally excessive. Measures must be taken to limit operating expenses in order to restore the scheme’s financial balance.
- *Structure of operating expenses.* This analysis concerns the distinction between fixed and variable expenses, which gives managers an idea of how much room they have to work with in terms of restoring the scheme’s financial balance. Consideration should be given to reducing fixed expenses (subcontracting, rent, etc.).

Second case: Net income is positive

The evaluators note that the financial statements indicate a positive net income. First, the nature of this net income must be determined, by excluding any non-permanent subsidies received by the HMIS (see Part I, section 5.1). This gives a more accurate picture of the scheme’s financial situation. A positive net income, excluding non-permanent subsidies, means that the HMIS has achieved this surplus based exclusively on its own operations.

There are several ways to allocate the surplus in the case of a positive net income (especially when noted for several consecutive years). These allocations should be considered carefully in terms of their impact on the future operation of the HMIS. Four types of allocations are presented below as examples:

- *Transfer to reserves* (see following section). This measure is particularly valid for young schemes. The amount of the transfer will vary depending on the existing reserve ratio (F.3):
 - A reserve ratio of more than 75 per cent (or nine months of claims): In principle, the HMIS has adequate security. However, for rapidly growing schemes (growth in number of beneficiaries), it is advisable to transfer half the net income to reserves.
 - A reserve ratio under 50 per cent (or six months of claims for the last period): It is advisable to transfer all the net income to reserves in order to increase the ratio to 75 per cent.
- *Improving the terms of coverage provided by the contract:* Higher reimbursement ratio, more attractive benefits package, larger pool of authorized providers under the contract terms, etc.
- *Investing in improvements to the management of the HMIS:* Training of staff, purchase of computer equipment, etc.
- *Extending the area of operations of the HMIS:* Investment in new facilities, intensive promotional campaigns, etc.

4.2.2 Financial risk management mechanisms

The second part of the financial analysis concerns financial risk management mechanisms, which enable health microinsurance schemes to deal with contingencies. An HMIS has the obligation to honour the contracts it has concluded with its members, health providers and other suppliers. It must have sufficient funds to meet these obligations. Although the scheme

can control its operating expenses, it cannot entirely control the level of claims it covers. In catastrophic circumstances (epidemics, natural disasters) or other rare and unforeseeable events, an HMIS may have to cover many more claims than planned. There are various financial risk management mechanisms that may be used to handle such situations, including reserves, loans and reinsurance.

Indicator F.9. Financial risk management mechanisms

See Volume 2, page 68

This binary indicator refers to the use of risk management mechanisms, such as reinsurance, loans and reserves. The use of such mechanisms by an HMIS may strengthen its viability.

(a) Reserves

Reserves constitute the equity or capital accumulated by the HMIS in order to provide for unforeseen circumstances. The amount is usually determined by law. The reserve ratio (F.3) indicates the scheme's level of reserves and its ability to provide for contingencies over the long term. Nevertheless, this level of self-protection may be inadequate in catastrophic circumstances.

(b) Loans

Loans may be subscribed from a conventional banking institution, but the guarantees required and the financial costs involved may make this solution undesirable. Loans may also be granted to an HMIS by a guarantee fund.

A **guarantee fund** is a fund that the HMIS may call on in the event of financial difficulty. In most cases, it is funded and jointly managed by several health microinsurance schemes. The guarantee fund usually intervenes by granting a loan to a scheme that applies for it. Conditions for using the guarantee fund are generally well defined. Its intervention may be made conditional on changes in the scheme's operation and the implementation of a "recovery plan".

An HMIS or a network of HMISs that subscribes to a guarantee fund is more stable and more viable than one that does not. However, recourse to this type of mechanism is conditional on the level of development of health insurance schemes in the region or country where the HMIS is located. There is also a third mechanism - that of reinsurance.

(c) Reinsurance

Reinsurance is a mechanism through which an insurer obtains insurance from a third party (the reinsurer) for all or a part of the risks it has undertaken to cover, in exchange for the payment of a premium. The contract concluded between an insurer and a reinsurer is called a reinsurance contract and may be thought of as the insurer's insurance coverage, or second-degree insurance. Reinsurance allows for the diversification of risks and their redistribution over a broader base, thereby reducing the insurer's risk of bankruptcy.

In practice, if an HMIS wishes to purchase reinsurance, there must be a reinsurer in the same market, which is not always the case. However, different health microinsurance schemes may join together to set up an institution that provides reinsurance or co-insurance (pooling of certain risks). Such mechanisms allow risks to be spread over several schemes.

4.2.3 Levels of financial viability

By way of conclusion, this section provides a summary table of the ratios used to analyse the financial situation of an HMIS. By referring to the generally accepted “benchmark” for each indicator, managers can evaluate the level of financial viability of an HMIS. As indicated above, poor scores are common in the start-up phase. Trends in scores from one year to the next are as significant as are their levels at a particular point in time.

Table 17. Summary of financial viability indicators for health insurance

Ref.	Indicators	HMIS score	Standard	Remarks
Table 1	Net income		> 0	The HMIS has generated (made) a profit (or surplus).
F.1	Quick ratio		> 1	The HMIS can pay its debts in the short term.
F.2	Equity-debt ratio		> 100%	The HMIS can meet its obligations.
F.3	Reserve or cover ratio		50% - 75% (6-9 months)	The financial soundness of the HMIS is satisfactory, barring unforeseen events.
F.4.1	Operating expense/ earned premium ratio		< 0.20	The HMIS can cover its operating expenses from premiums.
F.4.2	Total expense/earned premium ratio		≤ 1	The HMIS can achieve positive net income, create reserves or amortize.
F.5	Claims ratio		Around 75%	The HMIS justifies its function as an insurer by allocating a substantial proportion of premiums to the payment of benefits.
F.6	Gross operating expense ratio		≤ 15%	The HMIS allocates a reasonable share of its resources to operations.
F.7	Investment concentration ratio		≤ 10%	Investments are well diversified.
F.8	Asset-liability matching		1	The HMIS has the ability to deal with cash flow needs.
F.9	Financial risk management mechanisms		1	The HMIS can deal with unforeseen or extraordinary situations.

4.3 Evaluation of the scheme's economic viability

The purpose of this section is to provide the methodological tools needed to evaluate the economic viability of an HMIS. In addition to the aspects studied above, this means taking into account resources that are not recorded in the accounts of an HMIS – known as “hidden costs” – but are needed to carry out its operations.

The following items will be discussed:

- The concept of hidden costs;
- Calculating the operating income of an HMIS;
- Evaluating the economic viability of an HMIS.

4.3.1 The concept of hidden costs

From a purely economic standpoint, a cost is defined as the value of resources consumed to produce a good or service. According to this definition, all the resources consumed in operating a health insurance concern must be taken into account in estimating costs.

Hidden costs refer to resources made available to the HMIS without the latter having to bear the financial cost involved. These resources are effectively consumed in the course of the scheme's activities but are not recorded in its accounts.

Example. In India, in 2001, VimoSEWA (the HMIS of the Self-Employed Women's Association) received support from its parent organization for the purpose of promoting the plan and collecting premiums. The wage costs, which were paid by SEWA, were not recorded as an expense by the health insurance scheme. However, they constituted resources that were used by the HMIS to carry out its operations.

Three categories of hidden costs, which relate to their nature, size and the difficulty of estimating them can be distinguished:

- *Goods and services* made available to the HMIS, but not recorded in its budget:
 - *Goods*: These primarily concern the provision of an office or premises, donations in kind (management equipment, office supplies, etc.), investments financed by external resources and not amortized by the HMIS (buildings, computer equipment, vehicles), etc.
 - *Services*: These may include preparation of the scheme's financial statements by a support agency, the financing of continuing training by an external provider, the provision of travel costs for HMIS managers by an NGO, etc.
- *Manpower resources* made available to the HMIS and not recorded in its accounts. This may include in particular:
 - *Provision of paid staff* (for management, administration, distribution and communication, etc.). This includes, for example, a staff member provided by a support agency during the start-up phase, the seconding of a staff member by a municipality or responsible organization in order to assist the HMIS (accounting services, collection of premiums), etc.
 - *Provision of volunteer staff*. In the start-up phase, an HMIS may benefit from the voluntary participation of various actors. Voluntary work is an integral part of the mutual benefit culture. However, experience shows that certain management functions cannot be carried out on a voluntary basis over the long term. It is important to distinguish the administrative and management tasks that can be performed by volunteers on a long-term basis (participation on the board of directors, the supervisory board, etc.) from those requiring remuneration. For the latter, managers should use the method suggested in Volume 2 to estimate the corresponding costs and to evaluate the scheme's ability to finance them.
- *Benefits granted to the HMIS and not recorded in its budget*:
 - *Financial favours*. These primarily concern significant fee reductions, for a limited time, granted by a health care provider. The HMIS must treat the "savings" earned in this period as hidden costs that it will have to bear once this preferential period ends.
 - *Other privileges*. These concern benefits enjoyed by the HMIS by virtue of its status. The conversion of an HMIS to a separate legal entity may involve costs that must be taken into account (e.g. tax advantages relating to equipment).

4.3.2 Calculation of operating income

Operating income is equal to net income, as shown on the income statement, less estimated hidden costs, i.e. those considered necessary to take into account.

The first section defined the concept of hidden costs. If hidden costs are considerable, and the resources financing them are not sustainable, the future viability of the HMIS may be at risk. Managers and evaluators must:

- *Identify hidden costs.* The role table (see Part IV, section 1.1.2), which describes the functions carried out in an HMIS, is a useful tool for identifying hidden costs related to employment and services. This is particularly useful for schemes that are supported by a project during the start-up phase, or those in which certain tasks are delegated to and performed by third parties (health care providers, municipalities, responsible organizations, etc.).
- *Estimate the value of hidden costs.* For each resource used, but not recorded in the accounts of the HMIS, managers must consider whether or not its cost should be taken into account. The main costs that should be taken into account are those that cannot be borne indefinitely by an external source and are necessary to the scheme's operation. This does not involve estimating all costs not borne by the HMIS. A method of estimating the value of hidden costs is presented in Volume 2.
- *Estimate the operating income of the HMIS.* Taking these additional costs into account will reduce the net income of the HMIS. If net income for the period is positive, but operating income is negative, the viability of the HMIS is dependent on the external resources it receives.

The ability of an HMIS to cover its hidden costs is a measure of its viability from an economic standpoint.

4.3.3 Evaluation of economic viability

In addition to measuring operating income, the economic viability of an HMIS can also be measured by two indicators: The self-financing ratio and the ratio of expense (including hidden costs) to earned premium.

Indicator V.1. Self-financing ratio

See Volume 2, page 70

This indicator refers to the ratio of the HMIS's own income (income before subsidies) to the total expenses for the period (total recorded expenses + hidden costs).

A high self-financing ratio means that the HMIS can finance all its expenses (including hidden costs) from its own resources. This ratio may be used to evaluate the scheme's dependence on external resources. For schemes seeking financial autonomy, the objective is to achieve a ratio above 100 per cent.

Indicator V.2. (Expense + hidden costs) / earned premium ratio

See Volume 2, page 71

This indicator is the ratio of total expenses for the period (including hidden costs) to earned premiums.

If this ratio is less than 1, it means that the HMIS, which already shows a positive net income excluding hidden costs (Indicator F.4.2), can alone cover all expenses exclusively from members' premiums.

5. Summary

Part III has dealt with the viability of health microinsurance schemes and has presented a large number of indicators to be used by evaluators and managers. The titles of these are listed in the reference table presented below. Once calculated, the administrative, technical, functional and economic indicators should be listed in the table and compared with the benchmarks indicated.

Table 18. Summary of viability indicators for health insurance

No.	Viability indicators	Score	Benchmark	Remarks
Administrative viability				
T.1	Distribution and communication monitoring		1	
T.2	Membership monitoring		1	
T.3	Premium collection monitoring		1	
T.4	Verification of benefit entitlement		1	
T.5	Claims monitoring		1	
T.6	Risk portfolio monitoring		1	
T.7	Accounting records monitoring		1	
T.8	Financial monitoring		1	
T.9	Overall quality of monitoring		8	Or increasing over the years
Technical viability				
G.1	Membership arrangements		0	
G.2	Quality of the risk portfolio		-	Depending on guarantees covered
G.3.1	Trends in average claims costs		0%	Or inflation rate
G.3.2	Comparison of average claims costs for beneficiaries and non-beneficiaries		< 100%	
Functional viability				
M.1	Overall membership growth rate		> 0	
M.2	Renewal rate		80%	
M.3	Internal membership growth rate		> 0	
M.4	External membership growth rate		> 0	If area of operations is extended
M.5	Penetration rate		-	Depends on HMIS
M.6	Premium collection rate		100%	
M.7	Average period for reimbursement of members or payment of providers			Depends on contracts with providers

No.	Viability indicators	Score	Benchmark	Remarks
Financial viability				
Table 1	Net income		> 0	
F.1	Quick ratio		> 1	
F.2	Equity-debt ratio		> 100%	
F.3	Reserve or cover ratio		50% to 75%	
F.4.1	Operating expense/earned premium ratio		< 0.20	
F.4.2	Total expense/earned premium ratio		≤ 1	
F.5	Claims ratio		> 75%	
F.6	Gross operating expense ratio		≤ 15%	
F.7	Investment concentration ratio		≤ 10%	
F.8	Asset-liability matching		1	The HMIS is able to handle its cash flow needs
F.9	Financial risk management mechanisms		1	Ability to withstand unusual increases in benefit consumption
Economic viability				
V.1	Self-financing ratio		> 100%	
V.2	(Expense + hidden costs)/ earned premium ratio		≤ 1	

Part IV. Evaluation of the institutional viability of the health microinsurance scheme

Part IV, like Part III, is aimed at individuals and organizations wishing to carry out an evaluation, whether they are insurance companies, support agencies, independent evaluators or HMIS managers.

Part III was concerned with the evaluation of viability from the administrative, technical, functional, financial and economic standpoints, and treated health insurance as a financial instrument. It did not take into account the numerous institutional factors of viability.

These factors are largely linked to the organization that assumes responsibility for operating the microinsurance. Such organizations, referred to as “responsible organizations” (ROs) in this Guide, may vary widely in nature. They may include, among others:³⁵

- Community-based organizations (in the broadest sense), such as women's groups, village-based or other associations, mutual organizations, or cooperatives;
- Private insurers;
- Microfinance institutions;
- Health sector organizations, especially health care providers;
- Non-governmental organizations;
- Trade unions;
- Local authorities.

These organizations pursue varying objectives, some of which are often quite removed from that of improving the health of HMIS members. The nature of these objectives may be:

- *Economic*: Increasing and retaining clients, increasing earnings, providing financial services to members, etc.;
- *Social*: Strengthening solidarity in the event of illness, providing assistance to individuals in difficulty, etc.;
- *Health*: Facilitating access to care, improving the quality of health services, reducing the prevalence of diseases, etc.;
- *Political*: Promoting the representation and defence of members’ interests, promoting dialogue and democratic debate, etc.

The nature of the objectives pursued by the responsible organization must be taken into account when evaluating the viability of the HMIS. It is a factor that should also be taken into account when considering the difficulties encountered by the scheme and identifying measures to overcome them.

³⁵ The objective of this Guide is to provide a complete analysis of the health microinsurance scheme. In the partner-agent model, which is fairly common in Asia, responsibilities are shared, by agreement, between a community-based organization (CBO) and an insurer. A common division of responsibilities is for the CBO to distribute the product, collect premiums and process claims, and for the insurer to retain the risk and all the responsibilities that go along with it. For the sake of simplicity, this Guide will analyse the health microinsurance scheme from the standpoint of the CBO. The CBO will have to understand all aspects of insurance in order to provide a good product and maintain a strong position when negotiating agreements with insurance companies. In this sense, the success of the HMIS depends on a strong CBO.

When processing applications for membership, a mutual organization, for example, does not select members on the basis of their personal health risks. That is because its objective is to strengthen solidarity. The viability of a “mutual” HMIS may be threatened if it is faced with competition from schemes that do, in fact, carry out such a selection, since it may have to provide coverage for individuals with a higher average risk profile.

In addition to the objectives pursued by the responsible organization, other institutional factors conditioning the viability of the microinsurance scheme are related to the characteristics of the responsible organization and the level of its “involvement” with insurance. An extremely wide variety of situations may be found in this regard. Included below are three of the most common situations:

- The responsible organization – for example, a large-scale women's organization – engages in numerous activities and manages a variety of facilities (e.g. cooperatives and health centres), one of which is directly responsible for running an insurance operation.
- The responsible organization engages in other activities in addition to providing insurance. This is the case with health care providers and many mutual health organizations.
- The organization engages only in insurance. This is the case for example with some mutual health organizations.

In the first and second situations, there is often some degree of interaction between the various activities (and/or facilities, in the case of the first situation). In particular, health insurance is often subsidized by other economic activities. From an organizational standpoint, it is also common for human resources to be shared between the different activities of the responsible organization.

These relations between activities have a significant impact on the viability of an HMIS. Part IV, which is concerned more generally with the institutional aspects of the viability of the HMIS, will examine these relations. It is not possible to examine every institutional aspect. Only those considered to be the most important, in terms of the current situation of health microinsurance schemes, will be covered. Part IV will discuss the following aspects:

- Distribution of tasks and management of human resources within the HMIS;
- Links and complementarities between the HMIS and the other activities conducted by the RO;
- Links between the health microinsurance scheme and health care providers;
- Legal and regulatory framework in which the HMIS operates.

1. Distribution of tasks and management of human resources within the HMIS

The proper performance of the various tasks involved in the operation of an HMIS is a very important factor in ensuring its viability and autonomy. It depends on the way in which responsibilities are organized and assigned, as well as on the qualifications of the persons who perform them. These two elements will be examined below.

1.1 Distribution of responsibilities

All the functions and tasks required for the proper functioning of the insurance must be clearly defined and assigned.

These functions may be performed by organizational structures and/or persons belonging to the responsible organization or to outside organizations (for example, an accounting firm that prepares the financial statements). The distribution of functions internally and externally has important implications, particularly for the autonomy of the HMIS, its operating expenses, the training needs of its staff, etc. In many cases, it also has an impact on the quality of the performance of those functions. For all these reasons, the distribution of responsibilities is a very important element to be analysed in evaluating and strengthening the viability of an HMIS.

The suggested approach for analysing this distribution consists of:

- Identifying the organizational structures and actors involved in the administration and management of the HMIS;
- Comparing the roles, as defined in the regulations (memorandum of understanding, insurance contracts, internal rules, statutes, operating manual, etc.), of the various actors with the roles actually performed. This exercise involves the construction of theoretical and actual role tables. A comparison of these tables should lead managers to examine how well the current distribution of roles is functioning.

Lastly, the scheme's level of autonomy, from the organizational standpoint, will be considered.

1.1.1 **Organizational structures and actors involved in administration and management**

This section offers suggestions for drawing up a list of organizational structures and actors involved in the administration and management of the HMIS. If the responsible organization conducts various activities, the list will contain only those organizational structures and actors involved in administering or managing the HMIS.

The name and the responsibilities of organizational structures may vary, depending on the HMIS concerned. Evaluators should distinguish between organizational structures that have been given:

- *Decision-making authority*: Such bodies include boards of directors (BoD) and general assemblies (GA) of members or shareholders. They are also called governing bodies. Depending on the HMIS in question, they are responsible, inter alia, for defining the terms of reference and general policy of the HMIS, as well as for approving its statutes, regulations, budget and accounts;
- *Executive authority*: They include bodies such as the executive committee, which is also known as the executive board, or the executive secretariat. These bodies are responsible

for the day-to-day management of the HMIS and, in some cases, are subdivided into departments (general management, financial services, human resources, etc.). They may be external entities, which operate outside the responsible organization and the scheme (such as medical advisers, certified accountants, etc.). In some instances, a management committee may concurrently exercise both decision-making and executive functions;

- A *supervisory body*: This includes such bodies as a supervisory committee, an internal audit department or an external audit service. These bodies ensure that the actions of the HMIS comply with its memorandum of understanding, statutes and internal rules, as well as with its management procedures. They also verify the accuracy of the accounts and, more generally, seek to prevent the improper or fraudulent use of resources.

The actors are identified on the basis of current regulations (memorandum of understanding, insurance contracts, internal rules, statutes, etc.) and categorized according to the type of organizational structure to which they belong (decision-making, executive, or supervisory).

Eight categories of actors have been established and divided into two groups, depending on whether they are internal or external to the HMIS.³⁶ Other categories of actors may exist, depending on the HMIS or the context in question.

(a) *Internal actors*

Internal actors include:

- *Members (or insured persons)*. Whether elected or not, these members serve as volunteers. They may participate in management bodies or in decision-making bodies (general assembly, board of directors).
- *Volunteer staff*. These are non-members who work for the scheme on a permanent or temporary basis. Such individuals may work in decision-making bodies (general assembly, board of directors), or management or supervisory bodies, as trainees or in some other capacity.
- *Departmental staff* of the responsible organization not employed by the HMIS. This includes staff shared by several divisions within the RO (e.g. financial services or general management). Such individuals are paid by the RO, not by the HMIS.
- *Staff employed or compensated* by the HMIS. This refers to all individuals remunerated by the HMIS. If staff from the responsible organization is used for the HMIS as well as for other operations, it is advisable to create a sub-category to distinguish these individuals from employees who work exclusively for the HMIS.

(b) *External actors*

External actors include:

- *Remunerated, external service providers*, such as certified accountants, auditors, etc.;
- *Health care providers*. Some health care providers perform management functions for the HMIS (collection of premiums, registration of members, etc.). A distinction should be made, where applicable, between functions that logically fall within the sphere of the provider (such as checking membership cards), and those that, depending on the level of development of the HMIS, fall within the sphere of the scheme, but which it does not yet perform (collection of premiums, updating of membership registers, etc.);

³⁶ In a partner-agent model, both the insurer and the agent (the local organization) are considered to be internal actors within the HMIS. Nevertheless, for the sake of simplicity, only the agent responsible for running the scheme is taken into account here.

- *Technical assistance provided by a project or NGO* (local or international). Unlike health providers, actors in this category are not remunerated;
- *Third-party technical assistance*. In some cases, the HMIS may receive technical assistance or non-invoiced services from public authorities (municipality, or provincial or regional authority) or private authorities (particularly for socio-occupationally based schemes). This category is distinguished from that of providers in that the assistance it provides is free of charge. Such assistance is also distinguished from project and NGO assistance, because, in principle, it is longer lasting (particularly if it is regulated by law).

1.1.2 Construction of theoretical and actual role tables

After identifying the various organizational structures and actors involved in the scheme, it is possible to construct an analytical tool, i.e. a role table. An initial table – the theoretical role table (Table 19a) – is based on current statutory documents and regulations, and illustrates how the organization of the HMIS was conceived and should function. This table may reveal that certain functions have not been assigned. The officials in charge of the HMIS may then consider whether to supplement the regulations governing the operations of the HMIS or the responsible organization.

Once this initial table has been constructed, a second role table must be prepared on the basis of the functions actually exercised by the various actors working in the administrative and management organizational structures. This is the actual role table (Table 19b).

These two role tables contain the same list of functions, which were selected because of their importance to the proper functioning of the HMIS.

1.1.3 Analysis of the role tables

This section will analyse both the theoretical role table and the actual role table.

(a) The theoretical role table

The theoretical role table may be used to evaluate the theoretical organizational autonomy of the HMIS. If certain functions included in the table have not been assigned, managers should check whether the function is relevant to the HMIS concerned, or whether the absence of an entry reflects an omission in the distribution of tasks. These grey areas are sometimes very useful in identifying dysfunctions within an organization. This analysis may also be carried out in revising the scheme's current regulations.

(b) The actual role table

The actual role table may be used to analyse the real distribution of tasks in terms of how they are actually carried out within the HMIS. It should therefore be completed, not on the basis of regulations, but on the basis of practices observed in reality.

Such an analysis should highlight the way in which the various organizational structures function and identify the actual responsibilities of individual actors. Managers should:

- Verify that there is an actor for each function listed in the role table;
- Identify any dysfunction in the procedures or the assignment of tasks (duplication of responsibility, vertical and horizontal overlapping of responsibility, etc.);
- Evaluate the sustainability of the management structure, i.e. consider to what extent the functions and tasks are carried out by actors who are not required to cease their activities.

Tables 19a and 19b. Theoretical role table and actual role table

See Volume 2, page 31

Functions	Organizational structures	Actors within the organizational structure	Remarks
Decision-making functions			
Institutional relations			
Who is the head of the HMIS and who represents it externally?			
Who elects or appoints the members of the executive bodies?			
Who makes decisions regarding legal actions?			
Who makes decisions regarding the convening of the GA?			
Administrative management			
Who makes decisions concerning the method of distribution and the content of messages communicated?			
Who makes decisions concerning membership arrangements?			
Who makes decisions concerning the admission or exclusion of a member?			
Who issues sanctions in instances of fraud?			
Who makes decisions concerning conditions of membership (form and types of membership, etc.)?			
Technical management			
Who decides what services will be provided?			
Who makes decisions concerning premium amounts?			
Who makes decisions concerning exclusion (temporary or not) from entitlement to benefits?			
Who makes decisions concerning the introduction of measures to limit insurance-related risks (co-payment, compulsory referral, etc.)?			
Financial and accounts management			
Who approves the budget estimate?			
Who approves the income statement and balance sheet?			
Who makes proposals for allocating net income?			
Who makes decisions regarding the allocation of net income?			
Who makes decisions regarding financial investments?			
Who handles cases of embezzlement?			
Who makes decisions concerning reimbursement of members or payment of providers?			
Relations with service providers			
Who chooses service providers?			
Who signs contracts with service providers?			
Who makes decisions concerning whether to refer patients to a higher level?			
Who makes decisions concerning the withdrawal of a provider's accreditation?			
Who chooses the insurance company? (if applicable)			
Executive functions			
General Assembly			
Who organizes the GA?			
Who informs and convenes the members?			

Functions	Organizational structures	Actors within the organizational structure	Remarks
Administrative management			
Who receives membership applications?			
Who updates management tools (insured register, etc.)?			
Who issues membership cards?			
Who processes claims?			
Who informs beneficiaries of services covered?			
Who organizes information campaigns for the target population?			
Who records premium payments?			
Who collects premiums?			
Who monitors cash receipts?			
Technical management			
Who negotiates contracts with providers?			
Who negotiates contracts with the insurance company? (if applicable)			
Who calculates the amount of premiums?			
Who monitors claims (frequency, average costs, etc.)?			
Who settles claims disputes?			
Financial and accounts management			
Who prepares the budget estimate?			
Who monitors the budget?			
Who prepares the cash flow plan?			
Who monitors the cash flow?			
Who commits expenditures?			
Who monitors and collects liabilities?			
Who maintains accounting records?			
Who prepares the income statement?			
Who prepares the balance sheet?			
Who monitors investments?			
Related activities			
Who organizes health education and prevention activities?			
Who carries out health education and prevention activities?			
Who organizes other activities of the HMIS (by activity)?			
Who carries out other activities of the HMIS (by activity)?			
Supervisory functions			
Internal supervision			
Who monitors the beneficiaries' status?			
Who carries out financial and accounting controls?			
Who supervises the petty cash?			
Who checks service providers' invoices?			
Who oversees claims from the medical standpoint?			
Who controls the quality of services dispensed by providers?			
Who carries out internal evaluations and audits?			
External supervision			
Who carries out external evaluations and audits?			

(c) Concordance of the theoretical and actual role tables

The third phase of the analysis consists of identifying any discrepancies that may exist between the distribution of tasks stipulated in the regulations and the actual distribution of tasks. This analysis will address:

- Discrepancies between what is planned and what is actually carried out;
- Efforts to determine the origin of these discrepancies;
- An estimate of the consequences of the discrepancies on the proper functioning of the HMIS.

An analysis of the discrepancies between the two tables provides an initial evaluation of the organizational functioning of the HMIS.

In order to complete and facilitate the analysis, an organizational chart may be used. An organizational chart is a plan showing the various organizational structures involved in the administration and management of the HMIS, and their hierarchical relationship. It enables the officials in charge, managers and staff to improve their understanding of the functioning of the HMIS. The organizational chart can include relationships with health care providers or other actors who exercise decision-making or executive functions within the scheme.

1.1.4 Evaluation of the level of organizational autonomy of the HMIS

After examining the role tables, it is important to evaluate the level of organizational autonomy of the HMIS. In order to do this, it is first necessary to distinguish between internal and external functions (in practice and in theory) using the actual role table. The analysis will then focus on functions carried out by external actors. Two cases, in particular, are worthy of note:

- *External actors working free of charge.* If such support is granted for a limited period, the responsible organization must begin making preparations to operate without it. Several alternatives may be considered, depending on the nature of the function and the context in question, including: training of staff and/or officials of the responsible organization and progressive transfer of responsibilities; recruitment; and negotiation of contracts with service providers. It will be necessary to analyse the economic impact of these various alternatives on the HMIS. Even if the duration of the support is, a priori, unlimited, it is nevertheless worthwhile to examine the possibility of replacing it. The responsible organization must be able to cope with any eventuality (such as the unexpected withdrawal of external actors) and ensure the continuity of the function that was exercised as a result of the support provided.
- *External actors working in the context of paid service provision.* The responsible organization has greater control over the activities of external actors in this case than in the preceding case. However, it may be that some external actors performing important functions are the only ones in the scheme's area of operations who are able to perform them. This reduces the autonomy of the HMIS and makes it vulnerable to the risk of the departure or cessation of activity of the actors concerned.

It should be noted that the number of functions handled by the responsible organization is not a determining factor. A single function (such as monitoring the risk portfolio), which is carried out through a temporary form of technical assistance, may alone have a decisive impact on the viability of an HMIS.

1.2 Human resources

The management of human resources in an HMIS is an area that is often neglected or not dealt with efficiently. There are two main reasons for this:

- Most existing health microinsurance schemes are small in size. Because of the cost involved, it is often not possible to recruit qualified people for each of the functions required for the proper functioning of an insurance scheme. Thus, HMIS managers are often entrusted with numerous responsibilities, even if these require differing skills (finance, relations with insurers³⁷ and health providers, technical monitoring of risk portfolio, etc.).
- Many health microinsurance schemes are linked to other entities that play a role in its management (see previous section 1.1.1). The staff members involved are managed as a function of the concerns of the organization to which they belong, which do not always coincide with the needs of the HMIS.

The fact remains that the shortage of appropriate skills is one of the most common causes of the failure of health microinsurance schemes. Despite these difficulties, human resources management nevertheless deserves to be addressed when assessing the viability of an HMIS.

It falls outside the scope of this Guide to provide methods for an exhaustive evaluation of human resources management. The following section will be limited to analysing whether the HMIS has:

- A *staff administration department*, or at least the basic tools needed in this area;
- A *human resources development policy*, in particular, with regard to training.

1.2.1 Staff administration

Staff administration consists of all the tasks involved in managing people who work for a given organization. These tasks concern the maintenance of personal files, regulations, grievance procedures, job classification, remuneration and all employment-related problems (recruitment, selection, dismissal, etc.).³⁸

Human resources management is a broader concept than staff administration. It includes, in addition to administration, all the procedures used to achieve the most advantageous relationship between staff performance and cost. It involves staff motivation, investment in training, the role of management, etc. The use of the term “resources” underscores the fact that the human element is a valuable asset to the organization and one that should be appreciated.

With regard to staff administration, this section will focus on the tools used in this area. Two basic tools, or their equivalent, should be used:

- **Operating manual.** This describes in detail – for example, in the form of terms of reference – the various functions to be performed by internal actors of the HMIS. It includes the objectives of the function, the necessary qualifications, the unit to which the function has been assigned, the immediate supervisor, the nature of the duties to be performed and the specific tasks required.
- **Staff regulations.** This is a document that establishes the operating rules of the workplace (taking into account legal requirements). It addresses working hours, breaks, dispute settlement, the rights and duties of staff, etc.

³⁷ As mentioned previously, this Guide focuses on the CBO and does not specifically examine its relationship with the insurer. Organizations using the partner-agent model will have to assess the value that each party brings to the relationship.

³⁸ M. Kubr (ed.): *Management consulting: A guide to the profession* (Geneva), ILO, 3rd (revised) edition, 1996.

Depending on the level of development of the HMIS and the degree of its involvement in the other activities of the responsible organization, evaluators will need to assess the existence, quality and utilization of these tools.

Indicator H.1. Staff administration tools

See Volume 2, page 72

This indicator measures the existence and quality of the tools used in administering the staff responsible for operating an HMIS.

1.2.2 Human resources development

Human resources development is intended to ensure that the staff and officials in charge are efficient, competent and able to adapt to changes in the organization. It addresses various elements: initial and further training, performance evaluation, organizational development, etc.

In most existing health microinsurance schemes, only initial and further training serve as basic analytical criteria. Consequently, evaluators should assess:

- *Skills.* Management of health insurance requires specific technical skills. Qualitative analysis is required. On the basis of the actual role table (see Part IV, section 1.1.2), this involves matching the functions to be carried out by the various officials with their qualifications (level of education, professional experience, etc.). Areas of discrepancy will indicate the need for training or, in some cases, the reassignment of tasks.
- *The existence of human resources training activities.* An indicator that may be used to measure the level of investment in training for the staff and officials in charge of an HMIS is provided below.

Indicator H.2. Investment in training

See Volume 2, page 73

H.2.1: Gross investment in training

The first indicator refers to the ratio of total training costs to the total annual operating expenses of the HMIS.

H.2.2: Net investment in training

The second indicator refers to the proportion of total operating expenses allocated to HMIS staff training.

- *Effectiveness of training.* To complete the preceding analysis, the training process and its effectiveness should be evaluated. This assessment should take into account, in particular, the way in which the training programme has been developed (identification of needs, choice of content, choice of trainers, etc.) and the results of training evaluations.

2. Links between the HMIS and the other activities conducted by the responsible organization

In many cases, the responsible organization engages in other activities besides insurance. These other activities are often linked to the HMIS. In particular, it is possible that:

- The activities are linked to one another financially. Health insurance may be directly or indirectly cross-subsidized by other activities. In such cases, the viability of the insurance scheme may depend on the maintenance of these subsidies;
- Some of the other activities of the responsible organization, besides insurance, are in the field of health. Complementarities should therefore exist between these activities and the HMIS. The nature of these complementarities and the way they are handled will have repercussions on the viability of the HMIS;
- The other activities are experiencing difficulties to an extent that threatens the survival of the responsible organization and, by extension, that of the insurance scheme.

These three points will be examined below.

2.1 Financial interrelationships between the various activities conducted by the responsible organization

This section will identify and examine the different types of subsidies received by the HMIS from the other economic activities conducted by the responsible organization. These subsidies may include, among others:

- *Capital invested in the HMIS.* For example, donations to establish reserves or share capital;
- *Financing of certain operations of the HMIS.* For example, financing of activities aimed at promoting the scheme among the target population;
- *Making equipment or human resources available to the HMIS.* For example, the loan of a vehicle, the periodic secondment of a registered accountant, etc.

In the first case, if the capital invested in the scheme consists of operating subsidies, an assessment must be made as to whether these subsidies will continue to be granted to the HMIS on a long-term basis or gradually disappear in order to judge their effect on its viability.

In the second and third cases, an analysis of hidden costs (see Part III, section 4.3) will help to identify the economic impact of these subsidies on the HMIS.

In practice, financial transfers between the activities conducted by the responsible organization are very common. Some organizations set up economic activities for the sole purpose of financing the health insurance scheme. For others, financing health insurance is "profitable" because it allows them to make a financial return on other activities (for example, the reimbursement of productive credit) that is higher than its cost.

2.2 Relationship between health insurance and other health-related activities of the responsible organization

The responsible organization may manage other activities in the field of health that are complementary to the insurance product. If properly structured and managed, these activities should, in principle, reinforce the scheme's viability.

2.2.1 Health-related financial services

In addition to insurance, other health-related financial services may be offered to members of the HMIS, including:

(a) Health credit

Health credit³⁹ may be used:

- To finance services not covered by the HMIS, or for which coverage is capped;
- To pre-finance health expenses when a third-party payment system is not used.

Schemes may also extend "credit" to members in the form of a co-payment. The HMIS may pay the entire invoice of the health provider and then ask members to reimburse an amount equivalent to that of the co-payment (deductible, percentage co-payment).

Example. In India, VimoSEWA provides a "prospective reimbursement" in certain districts. The insured member is visited in the hospital and provided with funds, up to the amount of the maximum benefit, in order to cover expenses prior to discharge.

Health credit offers an advantage to members. It improves their access to health care, including to benefits provided by the scheme, in the absence of a third-party payment system. However, this service, which is risk-free in terms of technical management of the portfolio, does carry financial risks. Experience shows that debts are difficult to recover from beneficiaries. The existence of a health credit system may make the HMIS more attractive, but may indirectly compromise its viability if cost recovery is not satisfactory.

(b) Health savings

Health savings⁴⁰ is a form of risk management that may complement the coverage provided by the HMIS. Health savings can, for example, be used for minor risks, leaving the HMIS to cover major risks.

2.2.2 Non-financial health-related services

Some responsible organizations offer non-financial health-related services. These services are often complementary to the HMIS. They may consist of:

- *Health education or prevention activities* (for example, free screening or vaccination). These activities, in addition to helping improve members' health, can reduce the claims costs of the HMIS.
- *Health care services.* Some responsible organizations operate a health insurance scheme and a health care facility alongside one another. In principle, the transactions of these diverse

³⁹ Health credit is a form of credit that is intended to finance health expenses. It is often subject to conditions that differ from those of other forms of credit (in terms of repayment schedules, conditions of grant, etc.).

⁴⁰ Health savings is a savings mechanism whose purpose is to help members set aside funds for future health expenses not covered by insurance. Like health credit, it is governed by specific conditions (minimum deposit, regular savings, etc.). It may take the form of a "personal health savings scheme" or of subscriber books.

activities should be recorded in separate accounting records in order to avoid the phenomena of unreasonable compensation, which may ultimately endanger the viability of both activities.

The services covered by the health microinsurance scheme and those offered by the responsible organization may be identical, or they may be distinct from one another. Health care providers that set up an insurance scheme generally do so to improve the financing of the health services they provide. Community-based organizations, on the other hand, may develop a network of primary health care services and create an insurance scheme to cover only their members' hospital expenses.

When conducting an evaluation, it is important to consider the interrelationship between health care services and insurance, because it has repercussions, *inter alia*, on the attractiveness of the scheme (penetration rate), the nature of the services covered and the methods of coverage proposed.

- *Specific actions* carried out on behalf of solidarity for groups of persons at high risk (the elderly, disabled, young, very poor, etc.). An example would be the establishment of a welfare fund.

In addition to their possible complementarity with and links to insurance, the above-mentioned activities must be taken into account by HMIS evaluators because they may have other effects on its development. There are numerous possibilities. For example:

- The enrolment trend of the HMIS will be boosted if the responsible organization already has a large number of members as a result of its other activities;
- The possibilities for reducing the fixed expenses of the HMIS are increased when the responsible organization conducts several activities. It is possible, for example, for the HMIS and the other activities to share certain expenses, such as premises, equipment, travel costs of officials, etc.
- The credibility of the responsible organization, earned as a result of its other activities, may facilitate the establishment of relations between the HMIS and third parties (banks, service providers).
- The experience gained and relations developed by officials of the responsible organization through the RO's other activities, may be used to advantage in improving the functioning of the HMIS;
- An HMIS may suffer from a lack of visibility given that a member must fall ill in order for members to "observe" the scheme in operation, which may be rather infrequent if the scheme covers only major risks. The parallel operation of health institutions or other activities on the part of the responsible organization can help to make the existence of the HMIS more "visible".

2.3 The "financial health" of the responsible organization

Even when the insurance product is operating efficiently on its own, its viability may be threatened if the responsible organization experiences serious financial setbacks in connection with the other activities it is conducting.

It is thus in the scheme's interest to examine the "financial health" of the responsible organization. This examination does not have to be exhaustive. It may consist of analysing a few indicators of the RO's consolidated financial position.

The RO's consolidated financial statements – balance sheet and income statement – are produced by combining the financial statements that correspond to the various activities it conducts. These will provide an overview of the responsible organization's situation.

Because this type of financial evaluation is not specifically insurance-related, it falls outside the scope of this Guide. Evaluators may nevertheless wish to refer to certain elements presented in the sections on how to evaluate the viability of an HMIS. The net income achieved by the responsible organization across successive accounting periods will already provide some valuable indications.

Some ratios described in Part III will have little relevance in those cases in which the responsible organization conducts other activities besides insurance. This is true, for example, of the expense/earned premium ratio. On the other hand, the following ratios, which are established on the basis of consolidated accounts, may be used to evaluate the financial position of the RO:

- Consolidated quick ratio (F.1 consolidated);
- Consolidated equity-debt ratio (F.2 consolidated);
- Consolidated gross operating expense ratio (F.6 consolidated);
- Consolidated self-financing ratio (V.1 consolidated).

3. Relationships between the health microinsurance scheme and health care providers

As indicated in Part III, the behaviour of health care providers and the quality of the health care they deliver are very important factors in determining the viability of an HMIS. It is therefore necessary to analyse the various types of relationships that exist between the HMIS and its service providers. Three types of relationships should be considered:

- Functional relationship;
- Institutional relationship;
- Contractual relationship.

In many cases, the responsible organization also operates health care facilities. In this case, the degree of integration and of autonomy of the two activities (insurance and provision of health care) must be analysed.

3.1 Functional relationship

The functional relationship between an HMIS and health care providers may be inferred from the theoretical and actual role tables, by examining the executive and supervisory functions.

An analysis of this functional relationship will enable evaluators to identify the areas in which the functions of the HMIS and its providers are integrated, as well as those areas in which the scheme is autonomous.

3.2 Institutional relationship

The institutional relationship between the HMIS and health care providers may be inferred from the theoretical and actual role tables, by examining decision-making functions. This analysis focuses on the degree of autonomy of the HMIS.

The institutional autonomy of the HMIS with respect to health care providers is defined in terms of three criteria:

- *Separate statutes.* The HMIS must be managed by an entity with separate legal statutes from the entity providing health care.
- *Separate decision-making functions.* The decision-making functions must be performed by organizational structures that are distinct from those administering the provision of health care.
- *Formal relations.* An agreement must be concluded between the two entities.

As a result of applying these criteria, varying degrees of institutional autonomy may emerge:

- *Theoretical autonomy.* The three criteria are satisfied in the regulations, but not in practice;
- *Real autonomy.* The three criteria are satisfied in practice;
- *Partial autonomy.* One of the criteria is not satisfied;
- *Lack of autonomy.* The HMIS and the health care provider are managed by the same organizational structure, which has decision-making power for both.

3.3 Contractual relationship

In Part III of the Guide, mechanisms for the rationalization of benefits were presented. The HMIS may use two additional instruments to control the price, quantity and quality of care provided by health providers, as well as the roles of each entity: treatment protocols and contracts.

Treatment protocols are aimed at “standardizing” treatment procedures. Contracts are aimed at defining the technical and financial relationship between health microinsurance schemes and health care providers.

For the purposes of evaluation, the existence and quality of contracts that formalize the relationship between health care providers and health microinsurance schemes must be analysed. The following table lists the key elements that should be included in most contracts concluded between an HMIS and a health care provider.

Table 20. Analysis of a contract with a health care provider

See Volume 2, page 33

Elements included in contract	Yes/No	Remarks
Definition of services covered		
Fees		
Methods of payment of providers		
Payment deadlines		
Procedures for applying co-payments		
Conditions for modifying fees charged for health services covered by the scheme		
Medical audit procedures		
Procedures for applying treatment protocols		
Methods used by health care provider to verify beneficiaries' entitlement to benefits		
Provider's guarantee with respect to the quality of health services		
Duration of the contract and termination clauses		
Dispute settlement terms		

4. The legal and regulatory framework governing the operation of the health microinsurance scheme

The viability of the HMIS may be threatened by the absence of a legal framework and effective internal rules. Its viability will also depend on compliance with legal obligations.

4.1 The legal framework governing the operation of the health microinsurance scheme

In order for the insurance product to be operated efficiently and with the proper controls, it must be managed by an organization with a suitable legal status. This is necessary in order for the organization to establish and formalize relations with third parties. This legal status subjects the insurance operation to control by the supervisory authorities, which constitutes a safeguard for third parties and scheme members.

In the context of the evaluation, the first question to ask is whether the country in which the HMIS operates has enacted legislation governing insurance. In the absence of a specific legislative framework relating to insurance⁴¹ or to mutual organizations, it should be determined whether some other legal status has been obtained, such as that of an association, a cooperative, etc.

Progressive stages towards legal recognition may be defined using the following table.⁴²

Table 21. Progressive stages towards legal recognition

See Volume 2, page 34

Degree of institutional autonomy	Stage	Remarks
The RO does not have statutes or internal rules	Stage 1	
The RO has formulated statutes and internal rules	Stage 2	
The RO has deposited its statutes with the competent authorities	Stage 3	
The RO has its own legal personality	Stage 4	
The RO has a specific legal personality as an insurance provider, a third-party administrator (TPA) or a mutual organization	Stage 5	

⁴¹ Where the partner-agent model is used, the regulatory system usually describes which activities the CBO is authorized to conduct and/or which activities the insurer is authorized to delegate.

⁴² This table corresponds to cases in which operating an insurance scheme is the only activity carried out by the responsible organization. Where this is not the case, the numerous possibilities that exist for establishing a separate legal status or entity for the various activities of the responsible organization would make presentation of this table more complex.

4.2 Compliance with statutory and regulatory obligations

The holding of general assemblies, preparation of annual reports, presentation and approval of the income statement and balance sheet, and the rotation of representatives of the management bodies of the HMIS are the main activities that should mark the institutional life of an organization. The intervals and methods of application of these statutory obligations are set out in the statutes and internal rules of the scheme.

The scheme's compliance with current statutory and regulatory obligations can be analysed using Table 22.

For mutual organizations, in particular, non-compliance with statutory and regulatory obligations may indicate a lack of involvement on the part of members in the life of the mutual organization. The "real", as opposed to merely "formal", nature of the principle of member participation has a significant influence on the dynamics of the organization and its viability. A few additional indicators may be used to assess this participation:

- *The ratio of rotation of representatives.* This is the ratio of new representatives to total representatives at a given point in time.
- *The number of participants in the general assemblies* organized by the HMIS;
- *The ratio of attendance at general assemblies* is the ratio of participating members to the total number of contributing members.
- *The participation of women and young people* in general assemblies.

By attending a general assembly, it is possible to get a clearer idea of the opportunities available to members to express their points of view and their capacity to do so.

Table 22. Statutory and regulatory obligations

See Volume 2, page 35

Statutory and regulatory obligations	Statutory intervals	Actual frequency	Remarks
Holding of general assemblies			
Production of annual reports			
Production of financial statements (income statement, balance sheet)			
Conduct of external audit by a statutory auditor			
Rotation of members of management bodies			
Preparation of the minutes of board of directors' meetings			
Preparation of the record of the general assembly			
Submission of financial reports to supervisory authorities			

Part V. Some indications for evaluating the efficiency, effectiveness and impact of the health microinsurance scheme

Measuring the impact of an HMIS, or describing its operation in terms of efficiency or effectiveness, requires the use of methods that fall outside the scope of this Guide. These methods are generally defined on an ad hoc basis to address the particular characteristics of the schemes to be examined. They seek to define the effects of the HMIS by comparing situations “with and without” its intervention (for example, by comparing data for beneficiaries with data for uninsured persons). Field surveys are one of the main methods used in making such comparisons, relying on an approach that is both qualitative and quantitative in nature. Such methods require time, as well as human and financial resources, in order to be carried out in a rigorous fashion.

Part V has modest ambitions. It does not attempt to provide the methodological guidelines needed to implement the above-mentioned methods. That would require a separate guide. Part V merely provides some indications to users who might be interested in this type of evaluation as a complement to evaluating the viability of the HMIS. The indicators and criteria presented in Part V are relatively simple and should be used with caution. The combination of several indicators, supplemented by qualitative information, may be used to obtain an initial assessment of the impact, efficiency and effectiveness of an HMIS.

A number of indicators of effectiveness and efficiency will be presented in turn, together with some indications for evaluating the impact of an HMIS. Finally, the notion of the relevance (or lack of relevance) of the health microinsurance scheme will be introduced.

1. Some indicators of the effectiveness of the health microinsurance scheme

The **effectiveness** of an HMIS may be defined as its capacity to fulfil the objectives assigned to it. In this sense, the measure of its effectiveness is generally linked to the level of achievement of its objectives.

Not all health microinsurance schemes pursue the same objectives (see Part IV). The indicators presented in this section relate to two objectives: improving beneficiaries’ access to health care and extending access to insurance for the majority of the population, as a mean to improve income security.

1.1 Improving beneficiaries' access to health care

Seven basic indicators for evaluating the level of attainment of this objective will be presented.

Indicator E.1. Rate of utilization of health services by beneficiaries

See Volume 2, page 74

This indicator, which is calculated for each category of service (or benefit) and for a defined period, refers to the number of times HMIS beneficiaries use a particular service in relation to the total number of beneficiaries.

Indicator E.2. Comparative rate of utilization of health services

See Volume 2, page 75

This indicator refers to the rate of utilization by beneficiaries of a particular service for a defined period in relation to the utilization rate of the same service for the same period by non-beneficiaries.⁴³

This indicator should be interpreted with caution. Although an increase in the utilization of services may mean better access to care, it may also be the result of over-consumption, adverse selection or over-prescription.

Indicator E.3. Comparative latent periods

See Volume 2, page 76

The latent period refers to the time separating the onset of an illness from the moment treatment is sought. It may be determined for, and a comparison made between, beneficiaries and non-beneficiaries.

An insured person will tend to seek treatment more promptly than a person who is not insured. It will be more costly for an uninsured person to obtain treatment, and such persons will tend to wait until the illness "goes away". Uninsured persons may also need time to gather together the money they need to pay for health expenses. For insured persons, this time may be negligible, or very short, if the HMIS uses a third-party payment system.⁴⁴

This indicator should be interpreted with caution inasmuch as the length of the latent period depends on many factors: the ability of health care providers to meet the demand for care promptly; the greater or lesser amount of resources available to beneficiaries, depending on the time of the year; etc.

⁴³ It is assumed that non-beneficiaries are not insured by another scheme.

⁴⁴ Even in the opposite case, the time needed to assemble the necessary funds for the expenses will be shorter, on average, for insured persons than for non-insured persons. The fact that expenses will be reimbursed increases the likelihood of finding resources quickly: it makes it easier to borrow from others, to replace an item that has been sold, etc.

Indicator E.4. Comparative average length of stay for non-programmed hospitalizations

See Volume 2, page 77

This indicator is the ratio of the average length of stay in hospital of beneficiaries to that of non-beneficiaries, for a defined period.

It may be assumed that HMIS beneficiaries will have the possibility of being admitted to hospital more quickly than non-beneficiaries, for the same reasons as those expressed for the previous indicator. Because they are hospitalized at an earlier stage in their illness, the length of treatment will, a priori, be shorter for beneficiaries.

Indicator E.5. Comparative average costs of non-programmed hospitalizations

See Volume 2, page 78

This indicator is the ratio of the average cost of this benefit for beneficiaries to that for non-beneficiaries, for a defined period.

If the fees are the same for both groups, a decrease in this ratio may indicate a more minor illness in HMIS beneficiaries (on average). It reflects better access to care in the sense that beneficiaries obtain treatment at an earlier stage in their illness. On the other hand, it is possible that the insurance scheme gives beneficiaries access to more expensive treatments than those received by non-beneficiaries, which has an opposite effect on the value of the indicator.

Indicator E.6. Rate of exclusion of beneficiaries

See Volume 2, page 79

This indicator is equal to the number of beneficiaries who are unable to obtain care through the services covered by the HMIS in relation to the total number of beneficiaries, for a defined period.

This rate gives an indication of the persistence of barriers to health care access. These barriers may have many causes, both internal (level of co-payments, delays in issuing guarantee letters, etc.) and external (availability or quality of health care provision, excessive transport costs, opportunity costs, etc.) with respect to the HMIS.

1.2 Access to insurance for the majority of the population

To measure the effectiveness of the HMIS in achieving this other objective, managers may refer to the penetration rate (M.5), which was used in the evaluation of viability.

Indicator M.5. Penetration rate

See Volume 2, page 62

The penetration rate for the target population is the ratio of the total number of HMIS beneficiaries to the number of persons comprising the target population. A rate of 100 per cent equals the maximum effectiveness of the HMIS.

The penetration of the scheme is dependent on a large number of factors that must be examined in order to interpret this indicator. These include the “visibility” of the scheme’s actions (measured, for example, by the number of claims for each beneficiary family), the financial accessibility of the HMIS (measured, for example, by the premium to income ratio), the extent to which the target population has been informed about the HMIS, etc.

2. Some indicators of the efficiency of the health microinsurance scheme

The **efficiency** of an HMIS may be defined as the relationship it establishes between the means it uses and the results it achieves. In other words, efficiency is essentially the capacity to deliver the best services at the least cost. Efficiency may therefore be measured, roughly speaking, in terms of the ratio of results to means.

Some of the indicators presented here are those that were defined in the sections dealing with the evaluation of the financial viability of an HMIS.

Indicator F.5. Claims ratio

See Volume 2, page 67

The claims ratio is the proportion of premiums used to reimburse members or to pay providers.

The higher the proportion of premiums used for their primary purpose, namely, the payment of claims, the greater the efficiency of the HMIS. From this perspective, a ratio of approximately 75 per cent is indicative of an efficient scheme.

Indicator F.6. Gross operating expense ratio

See Volume 2, page 67

The gross operating expense ratio measures the proportion of the scheme’s financial resources used to operate the HMIS.

Operating expenses are outlays whose objective is to enable the provision of services to members. The higher these expenses are as a percentage of total expense, the higher is the “cost” of granting the benefits. In other words, the higher the level of means required to obtain the results (the health services), the lower the efficiency. From this perspective, a ratio of 15 per cent or less is indicative of an efficient HMIS.

Indicator C.1. Investment income

See Volume 2, page 81

Investment income consists of income from the investment of funds.

The HMIS is a financial system based on the collection of premiums and the payment of benefits. It manages financial flows. Indicator C.1 is one factor in evaluating the ability of the HMIS to use the funds at its disposal. A more detailed assessment of this ability would require an analysis of financial flows over the course of the accounting period.

Indicator M.7. Average period for reimbursement of members*See Volume 2, page 63*

The average period for the reimbursement of members is the amount of time elapsed between a claim for reimbursement and its settlement.

In principle, an HMIS seeks to reduce the time it takes to reimburse members. For the member, the longer the period for reimbursement, the less attractive the service offered by the HMIS appears to be. Inefficient administrative management or cash flow problems are often the cause of excessively long periods for reimbursement.

3. Some indications for evaluating the impact of the health microinsurance scheme

The **impact** of an HMIS consists of its direct and indirect effects on beneficiaries and of the social, economic, health-related, and even political environment in which the HMIS operates.

This section presents some practical indications for evaluating the impact of an HMIS. These indications cannot alone comprise the components of a methodology for an impact study. As indicated in the introduction to Part V, such a study would require the utilization of methods that fall outside the scope of this Guide.

Four types of impact will be described:

- Impact on beneficiaries and the target population;
- Impact on the health care supply;
- Impact on the population of the area of operations;
- Impact on equity.

3.1 Indications for evaluating the scheme's impact on beneficiaries and on the target population

3.1.1 *The impact of the HMIS on access to health care by beneficiaries and the target population*

The lack of financial capacity to address health expenses should be understood here as the inability to assume health expenses in such a way that does not plunge the individual or household into poverty. Individuals and households may be able to find financial resources to access health care but to do so, they may use strategies such as indebtedness at exorbitant rates, handing over of assets, extending labour force including child labour, etc., which can have long-term consequences on their income and poverty. While these strategies do allow for access to health services, they are nonetheless considered to be characteristics of exclusion.

The HMIS may have a positive impact on beneficiaries' level of access to health care. It may also have the negative effect of excluding those members of the target population who are not insured. For those who are insured, the HMIS may have the effect of reducing:

- *Temporary or seasonal financial exclusion.* Such exclusion is characterized by a lack of resources to pay for health expenses during a given period.

A reduction in this type of exclusion may be observed by comparing the treatment sought by beneficiaries with that of non-beneficiaries (see indicators of effectiveness concerning beneficiaries' access to health care).

The effect of the HMIS on this type of exclusion may also be estimated by means of certain characteristics relating to the operation of the HMIS, such as:

- *The period in which premiums are paid.* If the target population is subject to a lack of resources during a particular period of the year, it is important that the deadlines for the payment of premiums do not fall within that period. Otherwise, members will have difficulty paying their premiums, and part of the target population will not be able to join the scheme.
- *The existence of a third-party payment mechanism.* This absolves members from having to "pre-finance" the full amount of expenses at the time an illness occurs. It thus facilitates access to care and may directly reduce poverty.
- *The existence of a co-payment.* The existence of a co-payment, even if it is quite low, may constitute a financial barrier for members during periods of low liquidity.
- *Partial or complete financial exclusion.* This type of exclusion refers to the inability to meet all or part of one's health expenses and affects the poorest people.

In this case, as well, it is useful to compare the level of access to health care of beneficiaries with that of non-beneficiaries.

Because it groups users together, insurance can serve to reduce the price of care (through negotiation with providers) and thus improve access in general. However, it does not provide care that is free for some and cost-based for others; rather, the financial cost is shared by all. Consequently, it is also worthwhile at this point to examine:

 - Whether the amount of premiums is not too high in relation to the average income of the target population. There is no optimal and universal ratio between these two elements. Most operators put it at between 3 and 10 per cent.
 - Whether the methods of coverage (in terms of persons and in terms of health expenses) constitute a barrier to the poorest people. This is often the case when members must pre-finance health care by paying providers directly, or when steep co-payments are used.
 - Whether transfers take place from the richest to the poorest members. Examples include: when, for the same level of coverage, premiums are determined on the basis of members' income (income-related premiums);⁴⁵ or when, in some schemes, members decide to "pay" the premiums of the poorest members.
 - Whether the HMIS participates in distributing subsidies from sources other than its members. Some schemes manage subsidies granted by the Government or other third parties. These subsidies are generally intended for the partial or full payment of the premiums of specific groups of people (street children, the elderly, persons with disabilities, destitute).
- *Geographic exclusion.* In rural areas, in particular, one of the most common factors limiting access to health care is the remoteness of providers, particularly hospitals, which are usually located in urban areas.

The HMIS can help to reduce these problems by creating its own health care facilities, by promoting the establishment of service providers in the area (by providing them with a solvent clientele) or by establishing transport services to health care providers located

⁴⁵ Health microinsurance schemes that use this type of premium are rare, since most health microinsurance schemes are aimed at individuals in the informal economy, where income is difficult to estimate and even more difficult to verify.

at a distance. On the other hand, individuals who do not join the HMIS remain excluded and, compared to insured persons, are caught in the trap of poverty. Insured members of the target population reduce their financial vulnerability to health shocks and, consequently, their level of poverty in the long run.

Example. One of the major obstacles to gaining access to health services faced by members of the VDRC HMIS in Nepal was the relatively large distance separating some villages from the nearest hospital, the College of Medical Sciences. In an effort to overcome this problem, the HMIS concluded an additional contract with a nearby health post to provide primary health care services and an ambulance service for transportation/evacuation to the hospital.

The second impact expected from microinsurance systems is the financial protection which it provides to beneficiaries. Numerous studies show that shocks related to health problems are one of the main reasons that households enter into poverty or are unable to get out of it. Health problems cause a loss of income due to the cost of health care but also entail other costs such as those linked to the inability to work, travel and most of all, the cost of financing health care. This cost results from strategies used by households to procure the necessary resources to pay for health care. Strategies are varied and include indebtedness often at exorbitant rates, liquidation of savings, selling assets at lower prices, resorting to child labour, etc. For example, a household may resort to one of these strategies in order to finance the hospitalization of a family member. If these strategies are effectively translated into the use of services, the costs associated with this use are often catastrophic for a household in the long term. In reducing the need to use this type of strategy, the insurance protects households from associated costs. Measuring only the access to services does not give a full picture of the essential financial protection provided by insurance.

The measure of financial protection will bear particularly upon the comparison between beneficiaries and non-beneficiaries in the frequency and intensity of resorting to these strategies. Or, what is more ambitious but more rigorous, the comparison between the two groups in the incidence of poverty in the long term.

3.1.2 The impact of the HMIS on beneficiaries' feelings of insecurity

If insurance has developed rapidly in the world, it is because human beings have an aversion to risk. The knowledge that one is insured, in essence, helps to reduce feelings of insecurity with respect to risks. The mere existence of an HMIS may help to reduce these feelings. Moreover, beneficiaries' feelings of insecurity will be reduced in direct proportion to increases in the range of services covered, the level of coverage provided (low co-payments) and the visibility of the level of coverage provided (deductibles, rather than percentage co-payments).

3.1.3 The impact of the HMIS on beneficiaries' health

This impact can be measured directly or indirectly.

The direct measure of the impact of the HMIS on the health of the general population and on that of HMIS beneficiaries is a complex exercise, inasmuch as the factors involved are numerous and closely linked: education, housing, availability of the health care supply, public health (vaccination campaign, national health policy, etc.), income level, etc. It is difficult to isolate the effects of these various factors. Direct measurement involves conducting surveys and quantitative and qualitative studies, as well as comparisons of morbidity and mortality rates.

The indirect measure is based on a method similar to the one used to measure the impact of agricultural techniques on production. It is based on the following assumption: If beneficiaries have greater access to health care services, they will enjoy better health, since that is precisely the objective of health care. If this assumption is accepted, measuring the impact is a matter of measuring access to health care.

3.1.4 The impact of the HMIS on beneficiaries' health expenses

An HMIS may have the effect of reducing the level of health expenses of households. Beneficiaries' health expenses may be reduced, in particular, when the method of invoicing expenses is on a flat-rate basis, when fees for health services have been reduced and when treatments are governed by treatment protocols. An initial estimate of this reduction can be obtained by comparing the average expenses of families of beneficiaries and those of non-beneficiaries for a defined period.

3.1.5 The impact of the HMIS on beneficiaries' economic activities

If the HMIS has a positive impact on beneficiaries' health, it will probably also have a positive impact on their economic activities. It is true that a poor state of health reduces attendance at work and productivity.

Moreover, poor people who do not have protection are very often forced to sell a productive asset (machine, animal, etc.) on unfavourable terms in order to meet health expenses. This diminishes their productive capacity, and is frequently a factor in the creation of lasting impoverishment.

Similarly, this type of sale may adversely affect the income produced from economic activities, thereby decreasing the profitability of the latter.

One indicator which may be used although complex to apply is the impoverishment rate of beneficiaries of an HMIS. It refers to the percentage of people who were impoverished at the time of enrolment in the scheme, due to catastrophic health expenditure.

Example. In East Africa, in order to finance emergency hospital costs for his child (MUs 50,000), a farmer had to sell part of his standing corn crop. He was forced to forfeit to the buyer for MUs 50,000 a crop that he could have sold for double that amount at a better time. For this farmer, the real cost of the illness was MUs 100,000, i.e. the cost of the hospitalization, plus the cost of the lost earnings.

3.1.6 The impact of the HMIS on solidarity and empowerment

The HMIS can strengthen social bonds and solidarity. This type of impact is difficult to measure using only quantitative indicators. Several effects may be taken into account:

- *The strengthening of mutual aid between HMIS beneficiaries.* The HMIS may be the promoter (direct impact) or the catalyst (indirect impact) of this strengthening. Several indicators may be analysed initially, such as the number of visits to patients, the number of visits regarding happy social occasions (marriages, births) or unhappy occasions (deaths), or the organization of emergency patient transport for HMIS beneficiaries and non-beneficiaries.
- *The strengthening of solidarity with respect to marginalized or vulnerable groups.* The HMIS may have initiated the establishment of solidarity funds, charitable efforts or other ways of assisting people in difficulty.

3.2 Indications for evaluating the impact of the HMIS on the health care supply

The relationship between the health care supply and the HMIS may vary widely, for example:

- The HMIS and the health care supply may be joined in the same organization.
- The HMIS may have a contract with one or more selected health care providers.

The type of relationship, the payment mechanisms used and “contextual” factors (such as whether or not competition exists between providers, the management efficiency of health care providers, etc.) will strongly influence the impact of the HMIS on improving the health care supply. It is thus very difficult to evaluate this impact on the basis of isolated factors.

3.2.1 *The impact of the HMIS on the extent to which the services offered are tailored to the needs of users*

An HMIS constitutes a grouping of users. As a result, it possesses a source of economic power derived from its capacity to purchase services. If members of the HMIS have the opportunity to express their views (in mutual health organizations, for example), this constitutes yet another form of user representation. These two characteristics contribute to a better reflection of “demand” in the definition and provision of health care services wherever health microinsurance schemes exist.

Example. The Valdeco Cooperative Society in the Philippines voted to establish a compulsory hospitalization benefit for all members. At a recent meeting, members voted to extend coverage to the entire family.

The influence of the HMIS on the type of services offered by providers will be in proportion to the scheme’s “purchasing power” and the existence of strong competition between service providers.

In order to fill in the gaps in terms of health services that meet the needs of its members, the HMIS may also set up new health services at its own initiative.

3.2.2 *The impact of the HMIS on the quality and price of health care*⁴⁶

An HMIS can have a positive impact on the quality of health care. Several factors determine this influence: the purchasing power, and thus, negotiating position, of the HMIS; the existence of quality control measures approved by providers and the HMIS; the financial impact of the HMIS on the health provider’s resources; etc.

An HMIS may also seek to negotiate preferential rates for its beneficiaries. Providers may be willing to reduce their rates given the possibility that the HMIS can, by earning its clientele’s loyalty, increase providers’ turnover. They will be even more inclined to do so if there is a competing local health care provider.

The HMIS also makes the financial relationship between users and providers more transparent. In this sense, the HMIS can help to reduce “under-the-table” payments.

It is important to compare the effects of the HMIS on the quality and price of health care services. The evaluation of cost-effectiveness is, however, a complex exercise.

⁴⁶ Several studies have shown that numerous microinsurance schemes have been able to be set up only by virtue of the fact that a health care supply, considered to be of good quality, had previously been established.

3.2.3 The impact of the HMIS on health care providers' incomes

The impact of the HMIS on health care providers' incomes may be the result of:

- *An expansion of the client base of the HMIS.* It is useful to determine the proportion of care granted to HMIS beneficiaries in relation to the total turnover of the provider. Two indicators may be used for this purpose:

Indicator I.1. Share of providers' health services accounted for by the HMIS

See Volume 2, page 82

This indicator measures the proportion of health services delivered to HMIS beneficiaries in relation to the total quantity of health services delivered.

Indicator I.1 illustrates how large a share of the providers' operations is attributable to the HMIS. It reflects the "penetration" of the HMIS in terms of the volume of care delivered by health providers in the scheme's area of operations.

Indicator I.2. Share of providers' income accounted for by the HMIS

See Volume 2, page 83

This indicator determines the amount of income received by providers for health services dispensed to HMIS beneficiaries, expressed as a percentage of total income. It assesses the financial impact of the HMIS on health care providers.

These two indicators should be examined with caution. It is probable that at least some of the users had been utilizing the services of the providers prior to the establishment of the HMIS. In that case, the increase in income generated by the HMIS is not equal to its contribution to providers' turnover.⁴⁷

- *A reduction in outstanding payments.* If the provider has an accounting system that can quantify payments in arrears, it is possible to study the trend of such payments as from the inception of the HMIS. The rate of outstanding payments may decline as a result of:
 - The improved solvency of members;
 - The use of a third-party payment system in which the provider has the HMIS as a client and "payer", and not a large number of users;
 - The greater capacity of the provider to monitor collection from non-beneficiaries (to the extent that the alternative of joining the HMIS is open to them, the provider is better able to put pressure on clients).
- *Better forecasting of income.* The fact of having been selected by an HMIS offers a provider a measure of stability with respect to its clientele. The introduction of capitation payments further increases the ability of providers to forecast their income (but not their expenses).
- *Change in the method of invoicing.* Health services can accept payments by an HMIS on a flat-rate basis. The use of flat-rate payments may subsequently be applied to non-beneficiaries of the HMIS.

⁴⁷ If Y is the turnover of the provider attributable to HMIS beneficiaries and X is its turnover prior to the establishment of the HMIS and attributable to persons who became beneficiaries, then the increase in income attributable to the HMIS is Y-X and not Y.

3.3 Indications for evaluating the impact of the HMIS on the population of the scheme's area of operations

The population of the area of operations may be seen as consisting of HMIS beneficiaries and non-beneficiaries. The impact of the HMIS on beneficiaries has already been described above. In order to determine the impact of the HMIS on the population of the area of operations, it is necessary to measure the proportion of beneficiaries in that population. For non-beneficiaries, the impact of the HMIS may be related to the indirect effects of its activities. These two points are presented below.

3.3.1 Coverage of the population

Two indicators are provided:

Indicator I.3. Population coverage rate

See Volume 2, page 84

This indicator measures the percentage of the total population of the area of operations to whom the HMIS provides services.

The indicator may be used to assess the extent to which the activities of the HMIS affect the population of the area of operations. It attests to the "weight" of the HMIS in this area. The penetration rate does not measure this; it shows only the trend of enrolment in the HMIS and its effectiveness in reaching its target population. A mutual health organization of artisans, for example, may have a high population penetration rate (measured in relation to the target population) but a low population coverage rate, because artisans make up only a small part of the overall population.

Indicator I.4. Breakdown of beneficiaries by category

See Volume 2, page 85

This indicator shows whether certain categories of beneficiaries are over- or under-represented, in relation to their share of the overall population of the area of operations.

Evaluators must select different categories (age, sex, income, etc.) as a function of the characteristics of the HMIS and the population of the area. The proportion of each category (e.g. women) among HMIS beneficiaries and among the population as a whole must be compared.

This indicator should be constructed and interpreted by taking into account the objectives of each HMIS. Obviously, an HMIS whose objective is to facilitate women's access to health care will, by definition, have a lower impact on men.

3.3.2 The impact of the HMIS on non-beneficiaries

The impact of the HMIS on non-beneficiaries may result, in particular, from an improvement in the health care supply (type of services, quality of care, availability of medicines, etc.) as a result of the existence of the HMIS. The HMIS may also be responsible for initiating health education and prevention activities. Such activities are rarely restricted to the beneficiaries of the scheme alone. The example set by the HMIS may also lead to the establishment of other schemes that are also aimed at the population of the scheme's area of operations.

However, by dividing the population (between those insured and those not insured), an HMIS may create some distortion and increase the level of exclusion among non-beneficiaries. This would be the case, for instance, if health providers behaved differently towards insured and non-insured persons: charging them differing fees, providing them differing levels of service (in terms of quality and availability), etc.

3.4 Indications for evaluating the impact of the HMIS on equity

Two aspects of equity should be considered:

- *The equity of access.* Equity in terms of access to health care means that everyone should enjoy the right to access to health care, irrespective of his or her economic, social, or cultural situation, state of health, sex or age. The contribution of the HMIS to this objective may assume a number of forms. It will be necessary to examine, inter alia:
 - *The characteristics of the members of the HMIS.* If the HMIS is aimed at individuals who have no alternative or no other possibility of obtaining adequate access to health care (owing to financial, cultural, geographic or other barriers), the HMIS will have contributed to greater equity, provided that it has a positive impact on beneficiaries.
 - *The effect of the HMIS in protecting the poorest segments of society.* It should be determined whether the poorest have truly benefited from insurance services. It is harder for the poorest to utilize services as they have more difficulty in meeting indirect costs not covered by insurance. In the case of flat rate premiums and low utilisation of services by the poorest, the HMIS will experiment with regressive cross subsidization. When external subsidies are used, it may be controlled if they effectively reach the persons eligible.
 - *The establishment of membership barriers by the HMIS.* Some health microinsurance schemes limit membership to certain age groups, to the health status of candidates on enrolment, etc. These restrictions reduce the contribution of the HMIS to equity.
- *Financial equity.* From the financial perspective, it is desirable, for reasons of equity, that all those who can should contribute, according to their means, to their own social protection, and, if appropriate, to the collective effort such protection involves. Health microinsurance schemes in which premiums are determined on the basis of members' income will be more equitable from this standpoint than those in which premiums are fixed. It is also important to verify, in cases in which subsidies are introduced, that the latter are actually received by those who need them most, and that all those who are able to pay their premiums do so.

4. Relevance of the health microinsurance scheme

An HMIS is relevant if it provides an appropriate response to the needs for which it was created.

This definition establishes a link between relevance and impact. If an HMIS provides “an appropriate response to needs”, it means that it has a positive impact on satisfying these needs. However, an HMIS may have an impact and be considered not relevant because it fails to meet the needs its operation is intended to satisfy.

Different people may evaluate the relevance of the same HMIS in very different ways. These divergent views may arise not only from a difference of opinion but also from a difference of “vision” in terms of the motives (needs) justifying the existence of the HMIS. For example, a health administration official may consider the purpose of the HMIS to be granting poor people access to health care, whereas the officials in charge of the HMIS may fail to see this as an objective. If the HMIS concerned does not promote access by the poor, it will be considered as not relevant by the health administration official, while the HMIS officials will judge its relevance according to very different criteria.

In order to facilitate the analysis of relevance, a checklist of needs has been formulated based on the literature and experience acquired in this area. These needs have been listed and ranked (in terms of existing problems) according to whether they relate to the target population, potential health care providers or to objectives of equity. The effective contribution of the HMIS in meeting these needs actually refers to the evaluation of impact described in the preceding section.

An HMIS may respond to a particular need, but its response may not constitute the best solution to that need based on the context in question. It is particularly important to consider this aspect during the feasibility study. Thus, the most “relevant” solution to a particular need must be found on the basis of the context in question. Sometimes the relevance of an HMIS is evaluated more in terms of the principles of its functioning than in terms of its actual functioning. For example, it is possible to consider an HMIS to be relevant because insurance is the best way to meet the needs of a group of people, even if, in reality, the HMIS does not function properly and therefore does not meet those needs. In such cases, it is not the relevance of the HMIS that is called into question but rather its functioning.

Checklist for analysing the relevance of an HMIS

Needs identified	Problems
Target population	
Financial needs *	
Reduction of temporary exclusion	Difficulty and not enough time to assemble the money needed at the time of illness
Reduction of seasonal exclusion	Inability to assemble the money needed at certain times of the year to pay for health expenses
Reduction of partial exclusion	Inability to have enough money available to pay for all the care prescribed by the provider
Reduction of total exclusion	Continuous lack of money to pay for health expenses
Reduction of insecurity with respect to the risk of illness	Fear (anxiety) of not having enough money to obtain treatment
Need for adequate health care supply	
Improvement of supply (suited to needs and of good quality)	Health care supply not suited to needs (including unsatisfactory quality)
Reduction of geographic barriers to health care access	Difficulty of access due to the fact that providers are located at a distance
Health care providers	
Increase in income	Reduced demand for health care owing to low and irregular incomes of users
Reduction of outstanding payments	Lack of solvency of users due to low and irregular incomes
Better forecasting of income	Uncertain level of demand due to irregular incomes of users
Equity objectives	
Greater equity of access	Existence of barriers to access to basic health care for users with low incomes
Greater financial equity	Premiums for financing care not linked to income levels

* See Section 3.1.1

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Annexes

Annex 1. Descriptive summary of the health microinsurance scheme

This sheet may be inserted at the beginning of an evaluation report intended for distribution. It provides readers with an overview of the HMIS that will help them to understand and analyse the information contained in the rest of the report.

1.	Name of health microinsurance scheme:
2.	Name of organization responsible for the HMIS, or owner (if ownership is legally defined):
3.	Address of registered office of the HMIS:
4.	Period of design/preparation of the HMIS:
5.	Date of inception of the HMIS:
6.	Date of initial operations of HMIS (payment of first claims):
7.	Date of inception of organization responsible for the HMIS (if different from date of inception of the HMIS):
8.	Nature of the organization responsible for the HMIS:
	<input type="checkbox"/> Association
	<input type="checkbox"/> Mutual organization
	<input type="checkbox"/> Cooperative organization
	<input type="checkbox"/> Community-based organization, other than cooperative or mutual organization
	<input type="checkbox"/> Other NGO
	<input type="checkbox"/> Commercial health care provider
	<input type="checkbox"/> Not-for-profit health care provider
	<input type="checkbox"/> Trade union
	<input type="checkbox"/> Other: please specify
9.	Legal recognition of insurance activity:
	<input type="checkbox"/> Yes: type
	<input type="checkbox"/> No
10.	Manner of reimbursement of health insurance benefits:
	<input type="checkbox"/> Third-party payment
	<input type="checkbox"/> Reimbursement to members
	<input type="checkbox"/> Other: please specify
11.	Other activities of the organization responsible for the HMIS:
	<input type="checkbox"/> None
	<input type="checkbox"/> Life insurance
	<input type="checkbox"/> Disability insurance
	<input type="checkbox"/> Retirement insurance
	<input type="checkbox"/> Health care supply
	<input type="checkbox"/> Prevention, health education

11. Other activities of the organization responsible for the HMIS (cont.):
 - Savings/credit
 - Trade union activities
 - Education/literacy
 - Other forms of insurance: purpose
 - Other social services: purpose
 - Other activities: list
12. Forms of membership
 - Individual
 - Family
 - Group
13. Other beneficiaries:
 - Family
 - Other dependents
 - Indigents
 - Others:
14. Acquisition of beneficiary status:
 - Voluntary
 - Automatic
 - Compulsory
15. Number of current members of the HMIS:
Of these, per cent are women.
16. Total number of current beneficiaries of the HMIS:
Of these, per cent are women.
17. Total number of members of the organization responsible for the HMIS
Of these, per cent are women.
18. Residential environment of members:
 - Rural per cent
 - Urban per cent
 - Suburban per cent
19. Ties between members (other than membership in the HMIS)
 - None in particular
 - Members in the same company
 - Members in the same occupational sector
 - Members in the same village, district or geographic community
 - Members in the same ethnic group
 - Members in the same cooperative or mutual organization
 - Members in the same trade union
 - Members in the same association
 - Other: please specify
20. Economic situation of members:
 - per cent of members work in the informal sector (excluding agriculture)
 - per cent of members work in the agricultural sector
 - per cent of members work in the formal sector

20. Economic situation of members (cont.):
- Middle-class income percentage of all members
 - Lower middle-class income percentage of all members
 - Below poverty line income percentage of all members
 - Extreme poverty income percentage of all members
21. Restrictions on membership:
- No restrictions
 - On the basis of age
 - On the basis of sex
 - Depending on the risks of illness
 - On the basis of income
 - On the basis of place of residence
 - On the basis of religion
 - On the basis of race, ethnic origin
 - Dependent on not belonging to a particular institution
(company, cooperative, trade union, etc.)
 - Other:
22. Geographic area of operations of the HMIS:
- Municipality/village
 - Sub-region
 - State/region
 - Nation
23. Types of health services covered by the HMIS:
- Acute outpatient care
 - Medicines
 - Preventive consultations
 - Chronic outpatient care
 - Non-programmed surgical operations
 - Gynaecological and obstetric treatments
 - Non-programmed medical hospitalizations
 - Programmed hospitalizations
 - Transport/evacuation
 - Specialist treatment
 - Other:
24. Total amount of income received in the last accounting period (or calendar year):
..... (in local currency) for the period
..... US\$ equivalent
25. Method of financing the health insurance scheme
- Members' premiums
 - Other premiums: please specify
 - State contributions
 - Subsidies from health care providers linked to the HMIS
 - Contributions and subsidies from other sources: please specify
 - Investment income from reserves
 - Transfer of surpluses from other activities of the organization responsible for the HMIS
 - Other:

26. Types of premiums:
- Flat-rate, differentiated on basis of members' category (age, sex, etc.)
 - Flat-rate, not differentiated on basis of members' category
 - Income-related, differentiated on basis of members' category
 - Income-related, not differentiated on basis of members' category
 - Related to personal risks of member
 - Other:
27. Average annual amount of premium paid by a member:
 (in local currency) for the period
 US\$ equivalent
28. Health care providers offering services covered by the HMIS:
- | | | |
|--|--------------|---------------|
| <input type="checkbox"/> Public sector | level: | number: |
| <input type="checkbox"/> Private commercial sector | level: | number: |
| <input type="checkbox"/> Private not-for-profit sector | level: | number: |
| <input type="checkbox"/> Belonging to responsible organization | level: | number: |
29. Level of participation of members in management of the HMIS:
- Democratic management by members (General Assembly)
 - Management under authority of organization responsible for HMIS without members' participation
 - Management under authority of organization responsible for HMIS with members' participation
 - Other:
30. Responsibility for day-to-day management:
- No salaried employees
 - Non-salaried officials in charge and salaried managers
 - Managed exclusively by salaried employees of HMIS
 - Management assigned to a public operator
 - Management assigned to a private operator
 - Participation in management by salaried employees of other organizations
 - Other:
31. Technical assistance:
- In receipt of permanent technical assistance since
 - In receipt of periodic technical assistance since
 - In receipt of ad hoc technical assistance since
 - Not in receipt of technical assistance
32. Participation in a reinsurance scheme:
 Yes No
33. Participation in a guarantee fund:
 Yes No
34. Other bodies or persons playing a key role in the operation of the HMIS:
 Bodies or persons:
- Roles:

Annex 2. Glossary

Accounting period

Refers to the period for which financial statements are prepared. The accounting period is usually determined by law and, in many cases, corresponds to one calendar year.

Adverse selection

A phenomenon according to which persons with a greater-than-average risk of illness or maternity enrol in a health microinsurance scheme in a higher proportion than that of their share of the target population and/or choose the highest levels of coverage. When individuals have no say about whether to be insured or at what level of coverage, adverse selection does not exist. Such is the case when membership is automatic and schemes offer a single level of coverage. The existence of adverse selection may jeopardize a scheme's financial viability given that benefit-related expenses risk exceeding forecasts, since they are based on estimates of consumption for the overall target population.

→ Synonym: **Anti-selection**

Association

A group of persons who voluntarily join together for a particular purpose or to defend common interests. Contrary to commercial enterprises, associations are operated on a non-profit basis.

Examples. Associations of producers, consumers, human rights defenders; sports or cultural associations, etc.

Basic health care

Routine treatment provided to patients in health facilities at the first level of the health pyramid. It includes preventive care and health promotion, simple curative treatment and nutritional rehabilitation.

Beneficiary

A person who, in his or her capacity as a member or dependent, benefits from the services of a health microinsurance scheme.

→ Synonym: **Person covered, Person protected**

Benefits

The health insurance coverage that a health microinsurance scheme agrees to provide in exchange for the payment of insurance premiums.

Brand-name drug

A pharmaceutical substance protected by a patent and sold under a brand name chosen by the manufacturer.

Claims ratio

Refers to the ratio of the services received by members to the premiums they pay to the HMIS.

Commercial insurance

A system for the provision of coverage against the financial consequences of certain risks, formalized by means of a contract managed by a profit-oriented insurance company. The contract is concluded between an insurer and an insured party (individual or group). In exchange for the payment of premiums, the insurer guarantees the insured party that it will provide a specified level of coverage for expenses resulting from the occurrence of a given risk: fire, flood, theft, accident, illness, loss of harvest, etc.

Compulsory health insurance

A statutory and compulsory system through which the general community assumes responsibility for the health care costs of individuals as part of a State-run universal social security scheme.

Compulsory referral

The patient's obligation to seek consultation from a health facility at a given level before being entitled to receive treatment at a higher level. The doctor or nurse at the first health facility refers the patient to the higher level.

Example. In order to be admitted to a district hospital, covered persons are required to have undergone consultation at a health centre and to have been "referred" (or recommended to proceed) to the next higher level.

Contract or agreement between a health microinsurance scheme and a health care provider

An agreement concluded between a health microinsurance scheme and a health care provider that specifies the services to be covered, fees to be charged, and the amount and methods of reimbursement to be applied. Such agreements must guarantee members the possibility of receiving quality care at a pre-established and reasonable price.

Cooperative

An autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. (Excerpt from ILO Recommendation 193 concerning the Promotion of Cooperatives, 2002.)

Deductible

When an HMIS covers only amounts in excess of a pre-established sum, this sum is called the deductible. The deductible is generally set in relation to the type of services covered.

Dependent

A person who, though not a member of a health microinsurance scheme, benefits from the services it provides as a result of his or her family ties to a member. Some schemes accept as dependents the member's spouse (or spouses) and children up to a specified age; others also include ascendants (members' parents and grandparents) and even siblings (members' brothers and sisters). Members must register dependents upon enrolment in the scheme or, in the case of marriage or birth, subsequent to enrolment. When a person is no longer a member of the scheme, coverage is no longer provided to his or her dependents.

Essential drugs

Essential drugs are those selected by the World Health Organization (WHO) for their importance in preventing or treating the most common diseases in a country. Using the list of essential drugs can help to improve treatment, ensure the proper use of medicines and reduce health expenses.

Flat-rate (benefit)

Refers to the amount of benefit paid to members that is fixed in advance and independent of the actual amount of health expenses.

General assembly

Refers to the main decision-making body of a health microinsurance scheme when the latter is managed in a participatory fashion. In the case of a mutual organization, cooperative or association, the general assembly brings together members or their representatives; in the case of a joint stock company, it brings together shareholders. The general assembly determines the scheme's objectives and overall policy.

Generic drug

A medicine designated by the name of its main active ingredient and not by its commercial name. In general, the International Non-Proprietary Name (INN) established by the World Health Organization (WHO) corresponds to the generic name. Generic drugs are less expensive than brand-name drugs.

Group insurance or group contract

An insurance contract concluded between an insurer and a group of beneficiaries, such as the employees of an enterprise or the members of an association, cooperative, trade union, etc. Such contracts usually provide insurance coverage in the following areas: health care, retirement pensions, temporary or permanent disability, and death of the breadwinner.

Guarantee Fund

A fund that a health microinsurance scheme can call upon in the event of financial difficulty. Generally speaking, the assistance provided by the guarantee fund takes the form of a loan to the requesting scheme. The circumstances in which the guarantee fund may be used are usually specified in detail. The fund's assistance may be made conditional upon changes in the operation of the health microinsurance scheme. Guarantee funds may be financed by member schemes, the State, financing institutions or support organizations.

Health

The state of complete physical, mental and social well-being and not merely the absence of disease or physical disability (definition provided by the World Health Organization).

Health care providers

A person or a health facility that provides health care to a patient.

Examples. Doctors, pharmacists, surgeons, midwives, nurses, health centres, district hospitals, regional hospitals, national hospitals, dispensaries, traditional practitioners, etc.

Health care supply

The set of health services or health care providers available for a given population.

Health care facility

An establishment or institution engaged in the field of health as a provider of health care to individuals: health centre, dispensary, doctor's office, hospital, etc.

Health infrastructure level

All health facilities that share the same functions. Dispensaries, health centres and doctor's offices make up the first level; district hospitals comprise the second level; and regional or university hospitals comprise the third level. In general, a referral is needed to transfer from one level to another (except in the case of emergencies), which means, for example, that to be admitted to a hospital, one must have been "referred" by a dispensary.

Health risks

Refers to contingencies that affect the health of individuals (illness, maternity). A distinction is made between major and minor risks. Major risks are those that entail considerable expense, such as hospitalizations, dystocic pregnancies, surgical operations, etc. Such contingencies are rare and have a low probability of occurrence. Minor risks are those that entail more moderate expense, such as consultation with a general practitioner or the purchase of generic drugs. They are much more commonplace and have a high probability of occurrence.

	Probability	Cost	Example
Minor risk	+++	+	Consultation
Intermediate risk	++	++	Specialist treatment
Major risk	+	+++	Hospitalization

Hidden costs

These refer to resources that are made available to and utilized by the HMIS but that are not reported in the income statement.

Home care

Refers to health services delivered to the patient's residence. In some countries, doctors or nurses make home visits; however, fees for home care are higher in order to compensate for travel expenses.

Hospital care

Treatment provided during the hospitalization of a patient, that is, during a hospital stay including at least one night.

Insurance

A mechanism intended to provide coverage against the financial consequences of prescribed uncertain events, by spreading the anticipated costs resulting from the occurrence of those events – also known as risks – among several persons. Insurance is based on (1) the prior payment of premiums, i.e. before the occurrence of the risks; (2) risk sharing; and (3) the notion of guarantee. The premiums paid by insured persons are pooled together and used to cover the expenses of exclusively those persons affected by the occurrence of a certain number of clearly defined risks. In exchange for the payment of premiums, insured persons obtain the insurer's guarantee to provide this financial compensation. They give up ownership of the premiums paid, and consequently, any claim to them.

Internal rules

A document establishing the rules and operating procedures of an association or mutual organization that all members agree to follow. The internal rules complement the statutes and enlarge upon their description.

Legal personality

Refers to the status of a natural person or legal entity that is the subject of rights and obligations. A natural person is a human being. A legal entity is a group of individuals to which the law attributes a juridical personality distinct from that of its members: an association, trade union, church, commercial enterprise, school, hospital, province, department, region, etc. The rights associated with juridical personality are, among others, the rights to own property, to institute legal proceedings and to assemble. Obligations include paying one's debts, paying taxes and paying wages to employees. A natural person acquires juridical personality upon birth and loses it upon death or disappearance. A legal entity acquires juridical personality upon registration with the competent authorities. Legal entities may be registered under a variety of forms: non-profit organization, cooperative, mutual organization, public limited company, limited liability company, etc.

Loss

The difference between income and expenditure for a given accounting period, where expenditure exceeds income. Depending upon legislation and the legal status of the organization, other terms, such as "deficit", may be used.

Maximum benefits (maximum coverage)

A benefit in which 100 per cent of health expenses are covered, up to a prescribed limit, which is expressed in monetary units.⁴⁸ The flat-rate benefit can be a maximum amount per prescription, consultation, session, episode of illness, hospital day, period or year. The amount of the flat-rate benefit is determined in advance and is independent of the expenses actually incurred by the patient. The use of flat-rate benefits helps to limit the expenses of the health microinsurance scheme and to protect against catastrophic claims, which, owing to their exorbitant cost, could bankrupt the scheme.

Example. A “Consultations” benefit covers 100 per cent of expenses up to a maximum limit of 600 Monetary Units (MUs) per consultation. If the consultation fee is 500 MUs (<600 MUs), the scheme covers 100 per cent of expenses, or 500 MUs, and the member pays nothing. If the consultation fee is 800 MUs (>600 MUs), the scheme covers the maximum amount, or 600 MUs, and the member pays the difference between the consultation fee and the benefit, or 200 MUs.

Note. Some health microinsurance schemes utilize the term “flat-rate benefit” when the maximum coverage is low – that is, far below the average cost of the health service – and the term “maximum benefit” when, on the contrary, it is relatively high. These two notions are nevertheless equivalent from the technical standpoint.

Medical adviser

A physician who works for the health microinsurance scheme and provides advice to the scheme, as well as to its partner health providers and to patients. He or she advises the scheme concerning the conclusion of agreements with health providers, analyses requests for prior agreement and issues authorizations or refusals for coverage. The medical adviser monitors the appropriateness of the health services provided and the validity of and compliance with the rules of reimbursement. He or she may also play a role in activities relating to health education.

Membership fee

A sum of money paid to a health microinsurance scheme by a new member upon enrolment. The membership fee covers administrative expenses and is not refundable in the event of withdrawal. The membership fee is also referred to as the enrolment, registration or initiation fee.

Moral hazard (or risk of over-consumption)

A phenomenon according to which insured persons take undue advantage of the health services covered by the scheme because they know they are insured against the cost of such services. Their utilization of health care exceeds the standard used as an input for determining premiums. Some authors consider moral hazard also to include prescription abuse by health care providers, or the risk of over-prescription.

⁴⁸ It should be noted that the use of flat-rate benefits in insurance differs from their use in other economic contexts. An insurance scheme cannot reimburse more than the amount actually spent by the beneficiary, such as in the case where a flat-rate travel allowance is granted independently of actual expenses.

Outpatient care

Treatment provided in a hospital or clinic, but without involving hospitalization of the patient. The patient returns home after receiving treatment.

Patient

An individual who utilizes health services: medical consultations, medicines, laboratory tests, surgical operations, deliveries, etc.

Percentage co-payment

The share of the cost of a covered health service that is not borne by a health microinsurance scheme and is always expressed as a percentage. The percentage co-payment helps moderate the consumption of health care and reduces the scheme's expenses. It is an effective means of combating moral hazard, but, when too high, may have the effect of limiting the accessibility of health care.

Premium

A fixed sum paid periodically by a member of a health microinsurance scheme in order to benefit from the services provided by the scheme and to enable his or her dependents to benefit from them. The amount of the premium paid by a family may depend upon the number of persons protected, their characteristics (age, sex, place of residence, occupation) and the level of their family income. Premiums constitute the chief financial resource of the scheme and must enable it to cover its costs. These include expenditures related to the coverage of health expenses, operating costs, accumulation of financial reserves, etc.

The premium paid by a member is equal to the sum of the premiums calculated for each health service. The individual premium corresponding to a given health service is itself the sum of several elements, including the adjusted pure premium, the safety loading, the unit operating costs and the unit surplus.

Primary health care

A health development strategy based on improving the quality of health services at the first level, on extending them (from curative to prevention and promotion) and on encouraging people to participate in managing the services and sharing in their cost.

Profit

Refers to the difference between income and expense for a given accounting period when income exceeds expense. Depending on legislation and the legal status of the organization, other terms, such as "earnings" or "surplus" may be used.

Reinsurance

A mechanism through which an insurer obtains insurance from a third party (the reinsurer) for all or a part of the risks it has undertaken to cover, in exchange for the payment of a premium. The contract concluded between an insurer and a reinsurer is called a reinsurance contract and may be thought of as the insurer's insurance coverage, or second-degree insurance. Reinsurance allows for the diversification of risks and their redistribution over a broader base, thereby reducing the insurer's risk of bankruptcy.

Reserve Fund

Own capital accumulated by the health microinsurance scheme to meet future expenses, particularly those arising from unforeseen circumstances. The level of such funds is usually subject to regulation.

→ Synonym: **Reserves**

Risk

Refers to the probability that an uncertain event will occur, and, by extension, to an uncertain event that, when it does occur, may have adverse financial consequences. This is why individuals seek insurance against the financial consequences of certain risks. Insurance cannot prevent risks from occurring, but it can reduce their financial impact. The main social risks are sickness, disability, old age, unemployment, death, etc.

Risk management

An approach that consists of taking certain precautionary measures and organizing oneself in order to deal with the future occurrence of a risk.

Example. Stocking food supplies in anticipation of a drought or a shortage, saving for a wedding, etc.

Risk of over-consumption

A phenomenon according to which beneficiaries of an insurance scheme tend to over-consume the services offered by the scheme in order to take maximum advantage of the premiums they have paid.

Risk of over-prescription

A phenomenon according to which health providers adjust their prescriptions to correspond to patients' maximum level of coverage, without opposition from patients, given the fact that the latter know they are covered. Health providers may have a tendency to prescribe more medicines than necessary, lengthen hospital stays, systematically use diagnostic services, such as laboratory tests, X-rays, etc.

Risk pooling

The principle according to which the financial consequences of individual risks are not borne by each individual but by an entire group. Risk pooling refers to the sharing of risks, which is the basic premise underlying insurance mechanisms.

Risk portfolio

The whole group of covered persons, whose individual levels of coverage and consumption of health services vary from one person to the next and represent costs for the scheme. Schemes must ensure that their risk portfolio is well-balanced, that is, that the presence of high risks (persons who consume more health services than the average) is compensated by low risks (persons who consume fewer health services than the average).

Social control

An internal control mechanism arising from the existence of social relations between members.

Example. The fact that members know each other and live in close proximity to one another helps to limit fraud and abuse, as well as to reduce the unjustified consumption of health care.

Social insurance

A term generally used to describe compulsory insurance systems in some developed countries (e.g. in Europe) and based on national solidarity. The Government of Germany under Chancellor Bismarck was the first to institute a social insurance system of this kind, and since then it has inspired several similar systems in Europe.

In a broader sense, social insurance can also refer to any not-for-profit social insurance scheme based on social solidarity, whether voluntary or compulsory. Mutual organizations are one example.

Social movement

An organized social group that carries out actions to benefit its members and society in general.

Examples. Associations of individuals, trade unions, trade union federations, groupings, mutual organizations, cooperatives, etc.

Social protection

A generic term covering all guarantees against reduction or loss of income in cases of illness, old age, unemployment or other hardship, and including family and ethnic solidarity, collective or individual savings, private insurance, social insurance, mutual benefit societies, social security, etc. (excerpt from *ILO Thesaurus*, Geneva, 1991).

Social security

The protection which society provides for its members, against the economic and social distress that otherwise would be caused by the stoppage or substantial reduction of earnings resulting from sickness, maternity, employment injury and occupational diseases, unemployment, invalidity, old age and death. To this must be added the provision of medical care and the provision of subsidies for families with children.

Such protection may be provided by different mechanisms: statutory social insurance schemes, universal benefits and services financed from the general budget, social assistance, insurance schemes and microinsurance schemes. (Adapted from *Social security: A new consensus*, Geneva, ILO, 2001.)

Specialist treatment

Consultations with specialist physicians (gynaecologists, paediatricians, surgeons, etc.) and technical medical procedures (X-rays, clinical biology, etc.).

Supplementary health insurance (supplementary illness insurance)

An optional scheme that assumes responsibility for health expenses not covered by social security schemes. Supplementary health insurance is organized at private initiative, most often by a mutual organization or an insurance company.

Third-party payment

A mechanism according to which patients covered by a health microinsurance scheme are not required – at the time health services are consumed – to pay for health expenses covered by the scheme; they pay only the co-payment, if any. The health microinsurance scheme (the third party) subsequently pays the health facility for the expenses it incurred on behalf of the patient.

Waiting period or probationary period

A period of one or more months following enrolment, during which new members pay premiums to the scheme but are not entitled to receive benefits, whether for themselves or for their dependents. The waiting period is primarily aimed at discouraging opportunistic behaviour in persons who might enrol only in time of need (such as immediately prior to a delivery or planned surgical operation) and subsequently withdraw from the scheme. The waiting period also enables health microinsurance schemes to accumulate financial reserves as from the scheme's inception. The length of the waiting period often varies depending upon the type of health services covered.

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Health Microinsurance Schemes: **Monitoring and Evaluation Guide**

Volume 2: Practical indications



The “Strategies and Tools against social Exclusion and Poverty” (STEP) global programme of the International Labour Organization (ILO) is active in two interdependent thematic areas: the extension of social protection to the excluded and integrated approaches to social inclusion.

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List of abbreviations

ACOPAM	Cooperative and Organizational Support to Grassroots Initiatives
ANMC	Alliance Nationale des Mutualités Chrésiennes
BoD	Board of Directors
BRAC	Bangladesh Rural Advancement Committee
CBO	Community-Based Organization
CIDR	Centre International de Développement et de Recherche
DHC	District Health Centre
GA	General Assembly
GEFONT	General Federation of Nepalese Trade Unions
HMIS	Health Microinsurance Scheme
IBNR	Incurred But Not Reported
ILO	International Labour Organization, International Labour Office
INN	International Non-Proprietary Name
I/S	Income Statement
MIS	Management Information System
MUs	Monetary Units
NGO	Non-Governmental Organization
NHIP	National Health Insurance Program
NRs	Nepali Rupees
PAHO	Pan American Health Organization
PREM	People's Rural Education Movement
RBNP	Reported But Not Paid
RO	Responsible Organization
Rs	Rupees
SDC	Swiss Agency for Development and Cooperation
SEWA	Self-Employed Women's Association
STEP	Strategies and Tools against social Exclusion and Poverty
TPA	Third-Party Administrator
UPR	Unearned Premium Reserve
VDRC	Vijay Development Resource Centre
WHO	World Health Organization
WSM	World Solidarity

Part I. Completing the tables

Table 1. Simplified income statement (I/S)

Reference	Volume 1 – Part I, section 5.1
Sources of information	The information needed to produce the I/S is taken from the accounting documents.
Method of completion	It is assumed that managers, evaluators and support agencies know how to prepare an I/S. The I/S is presented here only because it is used to construct indicators.
Example	<p>The imaginary example used in this case is an Asian rural HMIS supported by a project. It will be used in other examples illustrating how to calculate indicators.</p> <p>The VIMO HMIS started up operations on 1 January 2001. On 31 December 2006, it closed its third annual accounting period. The accounts for the 2006 accounting period, in rupees (Rs), were balanced as at 31 December 2006. The I/S was prepared by managers on the basis of all income and expenses recorded by the HMIS.</p> <p>Income</p> <ul style="list-style-type: none"> ● As at 31 December 2006, 1,300 members had paid their premiums. ● Unearned premium reserve: Rs 100,000. Some members paid their annual premiums in July and in November 2006 in order to cover medical expenses in 2007 (see section on recording premiums). ● Funds deposited at the bank produced interest in the amount of Rs 5,000. <p>Expenses</p> <ul style="list-style-type: none"> ● Health benefits provided in 2006 by the VIMO HMIS totalled Rs 900,000. Of these, Rs 850,000 were entered in the accounts and 50,000 corresponded to health services provided to beneficiaries but not yet invoiced by the health care provider. ● The VIMO HMIS is managed by a management committee, whose members meet once a month. The treasurer and the secretary-general received allowances totalling Rs 50,000 for the year. ● Travel and subsistence expenses for committee members are paid by the VIMO HMIS. A total of Rs 50,000 was spent for this purpose during the year. ● The VIMO HMIS purchased office supplies totalling Rs 65,000. ● The VIMO HMIS organized a festival to promote its activities among the population. It allocated Rs 50,000 to this event. It also carried out information campaigns in new villages, the cost of which totalled Rs 150,000. The total for promotional expenses was Rs 200,000. <p>In addition, the VIMO HMIS received an operating subsidy of Rs 150,000.</p>

2006 Income Statement		
INCOME		
Premiums	1 300 000	A
Change in Unearned Premium Reserve (UPR)	100 000	B
Subtotal earned premium	1 200 000	C = A – B
Permanent subsidies and/or grants	0	D
Investment income	5 000	E
Other income	0	F
● Membership fees	0	f1
● Ancillary services & other	0	f2
Total INCOME	1 205 000	R = C + D + E + F
EXPENSES		
Claims expenses		
Claims paid	850 000	g1
Change in Incurred But Not Reported claims	0	g2
Change in Reported But Not Paid claims	50 000	g3
Reinsurance expenses	0	g4
Subtotal incurred claims	900 000	G = g1 + g2 + g3 + g4
Operating expenses		
<i>Administrative expenses</i>		
Fixed expenses		
● Salaries and benefits	50 000	h1
● Rental and contractual charges	0	h2
● Depreciation	0	h3
Variable expenses		
● Travel	50 000	h4
● Office supplies	65 000	h5
● Miscellaneous	0	h6
Subtotal administrative expenses	165 000	H = h1 + h2 + h3 + h4 + h5 + h6
<i>Distribution and communication expenses</i>		
● Promotion	200 000	i1
● Distribution	0	i2
Subtotal distribution and communication expenses	200 000	I = i1 + i2
Subtotal operating expenses	365 000	J = H + I
Other expenses		
Ancillary health services expenses	0	k1
Miscellaneous	0	k2
Subtotal other expenses	0	K = k1 + k2
Total EXPENSES	1 265 000	X = G + H + I + K
NET INCOME (OR LOSS) BEFORE SUBSIDIES AND GRANTS	-60 000	Y = R – X
Subsidies or grants received	150 000	S
NET INCOME (OR LOSS) AFTER SUBSIDIES AND GRANTS	90 000	Z = Y + S

Table 2. Simplified balance sheet

Reference	Volume 1 – Part I, section 5.2
Sources of information	The information needed to produce the balance sheet is taken from the accounting documents.
Method of completion	It is assumed that managers, evaluators and support agencies know how to prepare a balance sheet. The balance sheet is presented here only because it is used to construct indicators.
Example	<p>The example used in this case is the same one that was used for the I/S.</p> <p>The VIMO HMIS started up operations on 1 January 2004. On 31 December 2006, it closed its third annual accounting period. The accounts for the 2006 accounting period, in rupees (Rs), were balanced as at 31 December 2006. The balance sheet, i.e. the capital position of the HMIS, was prepared by managers as at 31 December 2006.</p> <p>Assets</p> <ul style="list-style-type: none"> ● The scheme had Rs 390,000 in its current account and Rs 100,000 in cash. ● Members' premium payments in arrears amounted to Rs 50,000. These are debts owed to the HMIS and are accrued on the balance sheet. ● Rs 250,000 were invested in an interest-bearing bank account in order to earn a return on the scheme's funds. <p>Liabilities</p> <ul style="list-style-type: none"> ● Health care services provided to beneficiaries but not yet invoiced to the HMIS totalled Rs 50,000. ● Premiums received in advance (unearned premium reserve) totalled Rs 100,000. Some members paid their annual premiums in July and in November 2006 in order to cover medical expenses in 2007 (see next section). ● Invoices received but not yet paid for, corresponding to health services provided to members in December, totalled Rs 100,000. These must be paid by the HMIS before 31 January 2007. They represent short-term liabilities to health care providers. ● Grant funds received by the HMIS as start-up capital when the scheme was established totalled Rs 150,000. (These should not be confused with grants received in 2006 to finance operations.) ● Reserves accumulated from the net income of the previous two years totalled Rs 300,000. ● Net income for the accounting period totalled Rs 90,000.

The balance sheet is drawn up in the following manner:

Balance sheet, as at 31 Dec. 2006		
Account		Reference number
ASSETS		
Cash and due from banks	490 000	1
Accruals and prepayments	50 000	2
Short-term investments in market instruments	0	3
Long-term investments	250 000	4
Fixed assets	0	5
Intangible fixed assets	0	6
Total ASSETS	790 000	7
LIABILITIES		
Claims and other actuarial liabilities		
Incurred But Not Reported Reserves (IBNR)	0	8
Reported But Not Paid Reserves (RBNP)	50 000	9
Unearned Premium Reserve (UPR)	100 000	10
Actuarial liabilities	0	11
Short-term liabilities	100 000	12
Long-term liabilities	0	13
Total	250 000	14
Equity		15
Paid-in equity from shareholders	0	16
Grant funds	150 000	17
Retained earnings	390 000	18
Total LIABILITIES	790 000	19

Recording premiums and claims on the income statement and balance sheet

1. Recording premiums

It may be helpful to recall the following definitions regarding premiums:

- **Premiums due** within an accounting period, or premiums billed, refer to premiums that the HMIS should, in theory, receive under all contracts in force.
- **Premiums received** refers to premiums that the HMIS has actually received under all contracts in force.
- **Earned premium** (for a given period) refers to the portion of premiums due that is allocated to cover benefits for the period that falls within the relevant accounting period.

It is necessary to distinguish between premiums due, premiums received and earned premium in order to determine the amount of resources available to the HMIS to cover benefits in a given period (and those it must set aside because they correspond to the following period).

The accounting documents (journal, general ledger) are used to record:

- *In the premium account (management account), all premiums due under contracts in force;*
- *In the premium accrual account (balance sheet account, as a debit), the equivalent of premiums due. When premiums are received by the HMIS, the amount is credited to this account.*

At the end of the accounting period, when preparing the I/S and the balance sheet, two cases must be considered.

First case: The period for which premiums are due is different from the accounting period

From 1 January 2006 to 31 December 2006 (2006 accounting period), the VIMO HMIS had 1,300 members, each of whom was required to pay a premium of Rs 1,000. This premium covered a one-year period. Of these:

- Annual premiums were due for 1,120 members on 1 January. The amount of premiums due cover the same period as the accounting period and are equal to the amount of earned premiums for the accounting period, i.e. $1,120 \times 1,000 = \text{Rs } 1,120,000$ (segment [a] in the chart below).
- Annual premiums were due for 150 members on 1 July. The premiums due (Rs 150,000) cover the period 1 July 2006 to 30 June 2007. The amount of premiums earned for the 2006 accounting period correspond to the share of premiums covering the period 1 July to 31 December 2006 (6 months), i.e. $150,000 \times 6/12 = \text{Rs } 75,000$ (segment [b1] in the chart below). The remainder (Rs 150,000 – Rs 75,000) is treated as unearned premium.
- Annual premiums were due for 30 members on 1 November. The premiums due (Rs 30,000) cover the period from 1 November 2006 to 31 October 2007. The amount of earned premiums for the 2006 accounting period correspond to the share of premiums covering the period 1 November to 31 December 2006 (2 months), i.e. $30,000 \times 2/12 = \text{Rs } 5,000$ (segment [c1] in the chart below). The remainder (Rs 30,000 – Rs 5,000) is treated as unearned premium.

Income statement account	Year 2006		Year 2007	
	01/01	31/12	01/01	31/12
Period covered				
Members a	1,120/...../	a/		
Members b		b1 150/...../	b2 /...../	
Members c		c1 30/...../	c2 /...../	
Premiums due		a + b + c, or (1 120 + 150 + 30) × 1 000 = 1 300 000		= 0
Earned premium		a + b1 + c1, or (1 120 + 75 + 5) × 1 000 = 1 200 000		
Unearned premium		b2 + c2 or (75 + 25) × 1 000 = 100 000		

In the accounting documents, the total of premiums due, i.e. 1,120,000 + 150,000 + 30,000, or Rs 1,300,000 is recorded as a credit in the *Premiums* account. This is the amount of premiums the HMIS expects to receive from its beneficiaries.

When the I/S is prepared at the end of the accounting period, only income for the relevant accounting period is taken into account (and only that income). Thus, only earned premium corresponding to the current accounting period must be shown in the I/S, i.e. 1,120,000 + 75,000 + 5,000 = Rs 1,200,000.

In order to show only the amount corresponding to earned premium, accountants make a year-end adjustment by recording in:

- *The Premiums account* (as a debit) the amount of premiums due, or Rs 1,300,000, line (A) of the income statement. The *Change in unearned premium*, or Rs 100,000, is recorded in line (B). The *Earned premium* is the difference between the two, or Rs 1,200,000, and is recorded in line (C). It corresponds to the amount of premiums actually earned for the 2006 accounting period.
- *The Unearned premium reserve account in the liabilities portion of the balance sheet* (line 10) (as a credit), the amount of income received in advance, or Rs 100,000.

At the beginning of the following accounting period, a debit to the *Unearned premium reserve* account eliminates the unearned premium reserve, and a corresponding credit is recorded in the income account.

Second case: Some premiums due have not been paid by the end of the accounting period

Using the above example in which premiums due totalled Rs 1,300,000, the HMIS actually received Rs 1,250,000. The difference between premiums due and premiums received, or Rs 50,000, is a debt that the HMIS must recover from its members.

In the accounting documents, the *Accruals and prepayments* account (in the assets portion of the balance sheet) is the counterpart (double-entry system) of the *Premiums* account (management account). It was debited a total of Rs 1,300,000 for the accounting period. However, since only Rs 1,250,000 were received (credited to the account), the balance at the end of the accounting period was Rs 50,000.

This is the amount shown on the balance sheet under *Accruals and prepayments* as debts to be recovered by the HMIS from its members (line 2 of the balance sheet).

2. Recording claims

The accounting documents are used to record:

- Under *Claims paid* (management account), all claims covered by the HMIS;
- Under *Short-term liabilities* (balance sheet), a credit for the amount of claims to be covered. As claims are paid by the HMIS (to members and/or providers), they are debited to this account.

At the end of the accounting period, when preparing the I/S and the balance sheet, two cases must be considered.

First case: Some health care providers' invoices were not received by the HMIS before the end of the accounting period

Members may have obtained health services towards the end of the accounting period and providers' invoices for these services may not have reached the HMIS by the date the financial statements were prepared. These expenses are nevertheless attributable to the accounting period just ended.

The example of the VIMO HMIS illustrates this situation.

The HMIS operates a third-party payment system. During the 2006 accounting period, it received invoices totalling Rs 850,000 from health providers. It estimates (on the basis of treatment certificates) that invoices totalling Rs 50,000 have not yet been received.

In the accounting documents, only the expenses for which invoices have been received, i.e. Rs 850,000, have been recorded in the *Claims paid* account. This amount does not, however, correspond to the actual expenses, which are Rs 50,000 higher.

When the financial statements are prepared, correcting entries must be made to reflect the actual expenses for the accounting period. These entries are made in the following manner:

- Use of the *Reported But Not Paid Reserves* account (line 9 on the balance sheet). This account is credited with the amount of invoices not received, or Rs 50,000.
- Use of the expense account, *Change in Reported But Not Paid claims* (health services received by beneficiaries and covered by the HMIS, line g3). The Rs 50,000 in health services, for which an invoice has not yet been received, is entered as a debit to the account. The *Subtotal of claims incurred* equals Rs 850,000 (claims paid) + Rs 50,000 (change in RBNP claims) or Rs 900,000 (line G).

Second case: Some invoices received by the HMIS were not paid during the 2006 accounting period

Again taking the example of the VIMO HMIS, with respect to the invoices received:

- Rs 750,000 was actually paid to service providers in 2006;
- Rs 100,000 was unpaid at the end of 2006 and will have to be paid by the end of January 2007.

In the accounting documents, the *Short-term liabilities* account (balance sheet) is the counterpart (double-entry system) of the *Claims paid* account (management account). The last invoices of the year must be recorded under *Claims paid* (which totals Rs 850,000 before making the correction described above). The Rs 100,000 corresponding to invoices not paid are entered as *Short-term liabilities* to service providers (line 12 of the balance sheet).

Table 5. Sociodemographic characteristics of the population of the area of operations and the target population

Reference	Volume 1 – Part II, section 2.2.1
Sources of information	<ul style="list-style-type: none"> ● Demographic and economic data concerning the area of operations (or failing that, the country) obtained primarily from censuses ● Surveys of the target population, or information collected during a feasibility study ● Sociodemographic surveys carried out at the local level
Method of completion	<p>The data entered in column 2 must be as recent as possible. It is also important to give the reference year (or years) in column 3 and the source of these data in column 4.</p> <p>These data refer to the population of the area of operations of the HMIS and its target population.</p>

The population of the area of operations of the HMIS

1. Size (X). This is the number of people making up the population of the area in which the HMIS operates.

- For a geographically based HMIS, the population of the area of operations is easy to define.

Example. If the HMIS operates in a single region, the population of the area of operations is equal to the total population of this region.

- For a socio-occupationally based HMIS, the population of the area of operations is the population that contains the socio-occupational category of persons targeted by the HMIS.

Example. If the HMIS is aimed at fishermen, the population of the area of operations consists of the people living in coastal regions or near rivers or waterways.

Censuses are the main source of data for determining the size of the population of the area of operations. If the most recent census is several years old, the census data must be updated using the population growth rate (on average for the period). If the local growth rate is not available, a rough approximation can be made using the national population growth rate.

The method of calculating the total population (X) is as follows:

$$X_N = X_{N_0} (1 + \text{PGR})^{N - N_0}$$

Where: X_N = Population in year N

X_{N_0} = Population in year N_0 (census year)

PGR = Population growth rate

Example. Population of the area (1991 census): 10,000

Population growth rate: 1% per year

Population of the area in 1999:

$$X = 10000 \times (1 + 0.01)^8$$

$$X = 10828.567$$

$$X = 10829 \text{ (rounded figure)}$$

2. Density (Y). This is the ratio of the number of inhabitants of the area of operations (X) to its area in km² (Z). $Y = X/Z$ (inhabitants per km²).

Local population density is sometimes difficult to determine owing to a lack of data. It is important to at least have an idea of the magnitude of the population density.

3. Average annual income. This is sometimes indicated in studies carried out by projects or in studies relating to the feasibility of the HMIS. In the absence of specific data for the area, the average annual wage or the national minimum wage may serve as an indicative figure.

The target population of the HMIS

4. Size (P).

- For a geographically based HMIS, the target population is the population of the area of operations of the HMIS (within its geographical limits) who have the opportunity to access its services.

Example. An HMIS operates in Bangladesh in a region where, in 2006, the population was estimated at 350,000. During that year, only some of the villages in the region, whose combined population was estimated at 150,000 inhabitants, had been contacted and were given the opportunity to access the services of the HMIS (either as members or as dependents). In this case, the population of the area of operations was 350,000, and the target population for 2006 was 150,000. If the HMIS had offered only maternity insurance, the target population would have comprised only those women capable of being pregnant out of the 150,000 inhabitants.

- For a socio-occupationally based HMIS, the target population consists of individuals belonging to the socio-occupational category of persons to whom the HMIS is aimed. These individuals may be scattered across several areas. If the HMIS does not restrict its activities on a geographic basis, the area of operations may be one or more districts or regions, or even an entire country.

Example. If the HMIS is aimed at fishermen, the population of the area of operations consists of the people living in coastal regions or near rivers or waterways. The target population will consist of fishermen and their families (if the HMIS allows for the coverage of family members).

If the HMIS is set up within a trade union, and all the members of that trade union – and only they – may join, then the size of the target population is the same as the number of members of the trade union.

In some cases, the size of the target population may be determined on the basis of the total population, which is generally indicated in the population census. If the most recent census is several years old, the size of the target population must be estimated in similar fashion to the size of the population of the area of operations (see above).

5. Size as a percentage of the population of the area of operations. This is the ratio of the target population to the population of the area of operations, which, for year N is equal to $P_N/X_N \times 100$.

6. Average number of members per household. A household consists of family members living in the same house, sharing the same food and using the same resources for ordinary expenses. It usually consists of the mother, the father, the children and, often, other dependents. This line of the table indicates the average number of persons in a household.

7. Average annual income of the target population. It may happen that the target population does not have the same income as the population of the area of operations. This is often the case with socio-occupationally based schemes. It is useful (but not always possible) to know the average annual income of the target population. When conducting an evaluation, it is necessary to look for data in any previous surveys that may have been taken of this group.

Table 6. Renewal monitoring sheet

Reference	Volume 1 – Part II, section 2.2.1
Sources of information	<ul style="list-style-type: none"> ● Insured and premium file ● Insured, premium and membership fee register
Method of completion	<p>This monitoring sheet provides the basis for calculating renewal rates with reference to the expected month of renewal of members. If 2,000 HMIS members renew in the month of February, each of them is listed on the renewal monitoring sheet. This sheet contains the following headings (in the case of monthly monitoring):</p> <p><i>Insurance promoter.</i> The name of the person responsible for promoting the HMIS.</p> <p><i>ID, name and address.</i> The ID, name and address of the member to enable the insurance promoter to locate the member.</p> <p><i>End date of contract.</i> The date on which the contract between the member and the organization expires.</p> <p><i>Renewed.</i> If members renew their participation, the word “yes” is indicated; if not, the word “no” is indicated.</p> <p><i>Date renewed.</i> The date on which the member renews.</p>
Example	The Sucura HMIS monitors member renewals each month. The list has proven useful in maintaining a high renewal rate.

Table 7. Beneficiaries monitoring sheet

Reference	Volume 1 – Part II, section 2.2.2
Sources of information	<ul style="list-style-type: none"> ● Insured, premium and membership fee register ● Insured and premium file ● Lists of beneficiaries (or those excluded)
Method of completion	<p>The beneficiaries monitoring sheet is a summary of the insured register and insured files. It allows managers to monitor at regular intervals the number of members and beneficiaries. The beneficiaries monitoring sheet contains the following headings (in the case of monthly monitoring):</p> <p><i>X1. New members.</i> Persons enrolled in the HMIS for the first time, who pay their premium for the month concerned (or who re-enrol in the scheme after a lapse in membership).</p> <p><i>X2. Lapses.</i> The number of members who are no longer entitled to the benefits of the HMIS owing to a voluntary termination of their membership or to their exclusion from the HMIS (owing, for example, to the prolonged non-payment of premiums).</p> <p><i>X. Total contributing members.</i> The total number of contributing members, which is equal to: $X \text{ month } j = X \text{ month } j-1 + X1 - X2$.</p> <p><i>Y1. New beneficiaries.</i> The number of beneficiaries (members + dependents) who enrol during the month concerned (and are up to date with their premiums).</p> <p><i>Y2. Lapses.</i> The number of beneficiaries who lose their entitlement to the benefits of the HMIS in the month concerned.</p> <p><i>Y. Total number of beneficiaries.</i> The total number of beneficiaries who are entitled to the benefits of the HMIS. This total is: $Y \text{ month } j = Y \text{ month } j-1 + Y1 - Y2$.</p> <p><i>Z1, Z2, Z3. Beneficiaries by type of membership.</i> This is the number of beneficiaries according to the type of membership in effect in the HMIS. Completion of this part of the sheet is optional. The data concerned are not used elsewhere. This part is useful only if the HMIS offers several types of membership.</p> <p><i>Y/X. Average family size.</i> This is the ratio of the total number of beneficiaries (Y) to the total number of contributing members (X) for the month concerned. This ratio may also be calculated for new beneficiaries and lapses.</p> <p><i>Annual average (last column).</i> In order to interpret trends in the number of members (and beneficiaries) from one year to the next, it is preferable for managers to use the average number for the year. In schemes with open enrolment periods, there are often significant seasonal variations in membership, which could distort the interpretation if the last available month was taken as a reference for the whole year.</p>
Example	<p>The Sucura HMIS, which has an open enrolment period (enrolment at any time of the year) and no waiting period, started up operations in January of year N-2. The premium covers a period of one year and is payable on enrolment. The last year for which data for a complete year are available is year N.</p> <p>The beneficiaries monitoring sheet is shown on the following page.</p>

Table 7. Beneficiaries monitoring sheet

		Year N-2												Ann. Av.
Number of contributing members and beneficiaries		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann. Av.
		Year N-1												35
Number of contributing members and beneficiaries		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann. Av.
		Year N												92
Number of contributing members and beneficiaries		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann. Av.
X1	New members	15	25	10	30	50	160	135	185	40	30	20	25	60
X2	Lapses	15	25	35	30	40	60	180	232	50	60	32	23	65
X	Total contributing members (balance)	276	276	251	251	261	361	316	269	259	229	217	219	265
Y1	New beneficiaries	120	185	67	201	356	1 012	850	1 160	325	215	145	158	400
Y2	Lapses	98	155	231	190	255	380	1 325	1 520	360	340	205	155	435
Y	Total beneficiaries (balance)	1 810	1 840	1 676	1 687	1 788	2 420	1 945	1 585	1 550	1 425	1 365	1 368	1 705
Beneficiaries by type of membership														0
Z1	Voluntary membership	1 810	1 840	1 676	1 687	1 788	2 420	1 945	1 585	1 550	1 425	1 365	1 368	1 705
Z2	Automatic membership	0	0	0	0	0	0	0	0	0	0	0	0	0
Z3	Compulsory membership	0	0	0	0	0	0	0	0	0	0	0	0	0
Y/X	Average family size	6.56	6.67	6.68	6.72	6.85	6.70	6.16	5.89	5.99	6.22	6.29	6.25	6.43

Table 8. Claims listings by provider

Reference	Volume 1 - Part II, section 2.2.4
Sources of information	<ul style="list-style-type: none"> ● Treatment certificates ● Health care providers' invoices ● Claims registers
Method of completion	<p>Managers create a basic listing for each provider authorized by the HMIS to provide care. These listings are drawn up on a periodic basis (monthly/quarterly/yearly).</p> <p>Each listing groups together all claims for the various categories of health services provided by the HMIS for the relevant period. A service category includes various types of care (see Table 16). Each listing contains the same categories, for the same periods in order to make the information they contain comparable. On the other hand, all providers do not necessarily provide all services covered by the HMIS.</p> <p>The listings are completed as follows:</p> <p><i>Section 1 - Number of claims.</i> For each category of care, the number of claims covered by the HMIS during the period in question is indicated. A claim is considered to have been covered when the HMIS has authorized payment of the provider (or reimbursement of the member). Whether or not the claim has actually been paid is not relevant here.</p> <p><i>Section 2 - Total cost of claims.</i> For each category of care, the total cost of claims covered by the HMIS for the period in question is indicated.</p>
Example	<p>In this example, the categories of health services covered by the Sucura HMIS are:</p> <p>Category 1: Outpatient care</p> <p>Category 2: Medicines</p> <p>Category 3: Non-programmed surgical operations</p> <p>Category 4: Gynaecological-obstetric treatment</p> <p>Category 5: Non-programmed medical hospitalizations</p> <p>Category 6: Programmed hospitalizations</p> <p>Category 7: Specialist treatment</p> <p>The Sucura HMIS works with two health care providers, Health Centre X and Hospital Y. The hospital provides all the services covered by the HMIS. The health centre provides only certain services in categories 1, 2 and 4.</p> <p>The Sucura HMIS started up operations in January of Year N-2.</p> <p>The scheme's managers draw up a yearly monitoring sheet by performing monthly monitoring of each provider. The following listings contain data for year N.</p>

Table 8. Claims listings by provider

		Year N-2												
Services covered		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Number of claims														
		Year N-1												
Services covered		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Number of claims														
		Year N												
Services covered		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Number of claims														
1		2	1	0	0	2	1	2	0	0	1	1	2	12
2		15	10	5	7	3	10	15	20	2	5	13	10	115
3		2	5	1	1	3	2	1	5	2	1	1	1	25
4		1	5	0	1	2	5	6	3	5	2	2	3	35
5		5	5	2	2	3	10	5	6	3	2	3	4	50
6		0	1	0	0	0	0	0	0	1	0	0	0	2
7		0	0	0	0	0	0	0	0	0	0	0	0	0
Cost		25	27	8	11	13	28	29	34	13	11	20	20	239
Cost of claims														
1	Outpatient care	8000	3500	0	0	7500	4000	8500	0	0	8000	3500	7000	50000
2	Medicines	30000	17000	8000	9000	8000	25000	35000	45000	4500	10500	10000	18000	220000
3	Non-programmed surgical operations	18000	53000	9000	8500	30500	20000	7000	55000	17000	10000	12000	10000	250000
4	Gynaecological-obstetric treatment	5000	32000	0	5000	12000	30000	36000	16000	35000	14000	13000	17000	215000
5	Non-programmed medical hospitalizations	90000	85000	35000	30000	56000	170000	71000	98000	55000	35000	50000	75000	850000
6	Programmed hospitalizations	0	14000	0	0	0	0	0	0	16000	0	0	0	30000
7	Specialist treatment	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		151000	204500	52000	52500	114000	249000	157500	214000	127500	77500	88500	127000	1615000

Table 9. Number and cost of claims monitoring sheet

Reference	Volume 1 - Part II, section 2.2.4
Sources of information	Claims listings by provider (Table 8)
Method of completion	<p>Column 2 - <i>Number of claims</i>. For each category of care, the total number of claims covered by the HMIS for the period in question and for all providers is indicated here.</p> <p>Column 3 - <i>Claims (as a percentage of total claims)</i>. This is a measure of the relative share of claims accounted for by each category of care, as follows:</p> $(\text{Number of claims by category} / \text{Total number of claims}) \times 100$ <p>Column 4 - <i>Total cost of claims</i>. For each category of care, the total cost of claims covered by the HMIS for the period in question and for all providers is indicated here.</p> <p>Column 5 - <i>Cost of claims (as a percentage of total cost of claims)</i>. This is a measure of the relative cost attributable to each category of claims covered by the HMIS:</p> $(\text{Total cost per category} / \text{Total cost of claims}) \times 100$
Example	Using Table 8 above, the managers and evaluators of the Sucura HMIS have drawn up the number and cost of the following claims for year N:

Table 9. Number and cost of claims monitoring sheet

Category of services covered	Year N-2			
	Claims (number)	Claims (% of total)	Total cost of claims (MU*s)	Cost of claims (% of total)
	Year N-1			
Category of services covered	Claims (number)	Claims (% of total)	Total cost of claims (MU*s)	Cost of claims (% of total)
Year N				
Category of services covered	Claims (number)	Claims (% of total)	Total cost of claims (MU*s)	Cost of claims (% of total)
Outpatient care	22	7.1%	90 000	5.0%
Medicines	155	50.2%	268 000	14.9%
Non-programmed surgical operations	25	8.1%	250 000	13.8%
Gynaecological-obstetric treatment	55	17.8%	315 000	17.5%
Non-programmed medical hospitalizations	50	16.2%	850 000	47.1%
Programmed hospitalizations	2	0.6%	30 000	1.7%
Specialist treatment	0	0.0%	0	0.0%
Total	309	100.0%	1 803 000	100.0%

* MU's = Monetary units

Analysis note. At 50.2 per cent of the total, prescriptions of medicines account for the largest number of claims. Yet they represent only 14.9 per cent of the total cost of claims covered by the HMISS. Conversely, the most costly claims covered by the HMISS correspond to non-programmed hospitalizations, which represent 47.1 per cent of the total cost of claims but only 16.2 per cent of the total number of claims.

Table 10. Average claims cost monitoring sheet

Reference	Volume 1 – Part II, section 2.2.4
Sources of information	Claims listings by provider (Table 8)
Method of completion	<p>The method for completing this table is the same as that for Table 8. The following formula is used to calculate the average costs accounted for by each category of service and each provider:</p> $\text{Total cost for each category} / \text{Number of claims for each category}$
Example	<p>The average costs of claims covered by the Sucura HMIS over the course of the last three years (N, N-1 and N-2) are calculated on the basis of Table 8 and are listed on three separate sheets.</p> <p>It should be noted that the average cost (“Annual” column) for the total of claims for the year is not equal to the mean of average monthly costs. The average annual cost for a given category of care is equal to the total cost of care for the year divided by the total number of claims for the year.</p>

Table 11. Risk frequency monitoring sheet

Reference	Volume 1 – Part II, section 2.2.4
Sources of information	<ul style="list-style-type: none"> ● Beneficiaries monitoring sheet (Table 7). ● Claims listings by provider (Table 8)
Method of completion	<p>The frequency of risk (or use of health services), expressed as a percentage, is calculated for each category of service and each provider for the period concerned using the following formula:</p> $\frac{\text{Number of claims in a health care category/}}{\text{Average number of beneficiaries entitled to claims}}$ <p>With respect to the calculation of the risk frequency, it is important to note that some health microinsurance schemes offer a number of different contracts (benefit plans). Consequently, their beneficiaries do not all have access to the same types of benefits. In order to calculate the risk frequency in such cases, a distinction should be made between claims (Table 8) and beneficiaries (Table 7) according to type of contract, and separate monitoring sheets should be prepared in order to keep track of the risk frequency for each type of contract in effect.</p>
Example	Based on Tables 7 and 8, the utilization frequency for years N, N-1 and N-2, for claims submitted to the Sucura HMIS, is as follows on the opposite page.

Table 11. Risk frequency monitoring sheet

Services covered	Risk frequency – Year N-2 (per cent)													
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual	
Health Centre X														
Services covered	Risk frequency – Year N-1 (per cent)													
	Jan.	Feb.	Mar.	Apr.	May <td>June<td>July<td>Aug.<td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td></td></td></td>	June <td>July<td>Aug.<td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td></td></td>	July <td>Aug.<td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td></td>	Aug. <td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td>	Sept. <td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td>	Oct. <td>Nov.<td>Dec.<td>Annual</td> </td></td>	Nov. <td>Dec.<td>Annual</td> </td>	Dec. <td>Annual</td>	Annual	
Health Centre X														
Services covered	Risk frequency – Year N (per cent)													
	Jan.	Feb.	Mar.	Apr.	May <td>June<td>July<td>Aug.<td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td></td></td></td>	June <td>July<td>Aug.<td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td></td></td>	July <td>Aug.<td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td></td>	Aug. <td>Sept.<td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td></td>	Sept. <td>Oct.<td>Nov.<td>Dec.<td>Annual</td> </td></td></td>	Oct. <td>Nov.<td>Dec.<td>Annual</td> </td></td>	Nov. <td>Dec.<td>Annual</td> </td>	Dec. <td>Annual</td>	Annual	
Health Centre X														
1 Outpatient care	0.06	0.11	0.06	0	0.04	0.05	0.06	0.06	0.06	0.07	0	0.07	0.59	.11
2 Medicines	0.28	0.06	0.06	0.06	0.50	0.08	0.31	0.06	0.06	0.28	0.07	0.58	2.35	-.81
3 Non-programmed surgical operations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 Gynaecological-obstetric treatment	0	0.11	0.12	0	0.06	0.08	0.36	0.19	0.06	0	0.07	0.07	1.17	-
5 Non-programmed medical hospitalizations	-	-	-	-	-	-	-	-	-	-	-	-	-	-.51
6 Programmed hospitalizations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Specialist treatment	-	-	-	-	-	-	-	-	-	-	-	-	-	-.52
Total claims	0.33	0.27	0.24	0.06	0.56	0.72	0.32	0.19	0.35	0.15	0.73	4.11	4.11	.23
Hospital Y														
1 Outpatient care	0.11	0.05	0	0	0.11	0.04	0.10	0	0	0.07	0.07	0.15	0.70	.96
2 Medicines	0.83	0.54	0.30	0.41	0.17	0.41	0.77	1.26	0.13	0.35	0.95	0.73	6.75	-.62
3 Non-programmed surgical operations	0.11	0.27	0.06	0.06	0.17	0.08	0.05	0.32	0.13	0.07	0.07	0.07	1.47	.13
4 Gynaecological-obstetric treatment	0.06	0.27	0	0.06	0.11	0.21	0.31	0.19	0.32	0.14	0.15	0.22	2.05	.13
5 Non-programmed medical hospitalizations	0.28	0.27	0.12	0.17	0.41	0.26	0.38	0.19	0.14	0.14	0.22	0.29	2.93	.51
6 Programmed hospitalizations	0	0.05	0	0	0	0	0	0.06	0	0	0	0	0.12	-
7 Specialist treatment	0	0	0	0	0	0	0	0	0	0	0	0	0	-.37
Total claims	1.38	1.47	0.48	0.65	0.73	1.16	1.49	2.15	0.84	0.77	1.47	1.46	14.02	.78
All health care providers														
1 Outpatient care	0.17	0.16	0.06	0	0.11	0.08	0.15	0.06	0.06	0.14	0.07	0.22	1.29	.07
2 Medicines	1.10	0.60	0.36	0.47	0.67	0.50	1.08	1.32	0.19	0.63	1.03	1.32	9.09	-.62
3 Non-programmed surgical operations	0.11	0.27	0.06	0.06	0.17	0.08	0.05	0.32	0.13	0.07	0.07	0.07	1.47	.13
4 Gynaecological-obstetric treatment	0.06	0.38	0.12	0.06	0.17	0.29	0.67	0.38	0.39	0.14	0.22	0.29	3.23	.13
5 Non-programmed medical hospitalizations	0.28	0.27	0.12	0.17	0.41	0.26	0.38	0.19	0.14	0.14	0.22	0.29	2.93	.02
6 Programmed hospitalizations	0	0.05	0	0	0	0	0	0.06	0	0	0	0	0.12	-
7 Specialist treatment	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total claims	1.71	1.74	0.72	0.71	1.29	1.36	2.21	2.46	1.03	1.12	1.61	2.19	18.12	-

Table 12. Budget monitoring sheet

Reference	Volume 1 – Part II, section 3.1
Sources of information	<ul style="list-style-type: none"> ● Supporting documents ● Cash book ● Bank statements ● Journal ● General ledger ● Budget
Method of completion	<p>Column 2 of the table contains the budget estimates for the year, broken down into different budget lines. The budget is broken down quarterly in subsequent columns.</p> <p>For each quarter, the total income and expense planned for the period is shown in column 3 under “Budgeted”. In the “Actual” column, the income and expense recorded in the accounting documents for the quarter are entered. The difference between the budgeted and actual amounts is shown as both a value and a percentage in columns 5 and 6 for the quarter. The percentage difference is equal to the ratio of the difference in value to the budgeted amount.</p>

Table 13. Cash flow monitoring sheet

Reference	Volume 1 – Part II, section 3.2
Sources of information	<ul style="list-style-type: none"> ● Supporting documents ● Cash book ● Bank statements ● Journal ● General ledger ● Cash flow plan
Method of completion	<p>The cash flow monitoring sheet has headings that are similar to those of the budget monitoring sheet, but which concern only cash flows. The cash flow monitoring sheet is completed according to the same principle as the budget monitoring sheet.</p>

Table 14. List of investments

Reference	Volume 1 - Part II, section 2.3
Sources of information	<ul style="list-style-type: none"> ● Supporting documents ● Cash book ● Bank statements ● Journal ● General ledger
Method of completion	<p>All investments and resources of the HMIS are listed by asset class. The book value of the investment is listed in the second column. The current market value, if available, is listed in the third column. The share accounted for by the asset class (expressed as a percentage) in the total book value of the scheme's investments is listed in the fourth column. The final column lists the expected yield or return on investment for the asset class.</p>

Table 15. List of management and monitoring tools

Reference	Volume 1 - Part II, section 2.4
Sources of information	The management information system of the HMIS
Method of completion	<p>Health microinsurance schemes use a variety of management and monitoring tools. The list provided in the table is thus not exhaustive, and other tools may be added to it. The most important consideration is to ensure that the tools used by the HMIS are adequate to allow for effective monitoring and management.</p> <p>Column 2 of the table shows which tools are used by the HMIS.</p> <p>Column 3 is reserved for evaluation of the way these tools are used. The following elements may be described:</p> <ul style="list-style-type: none"> ● <i>The frequency with which information is updated;</i> ● <i>The quality and accuracy of entries (corrections, crossings out, errors/omissions, etc.);</i> ● <i>Effective use of tools to produce summarized information (financial statements, risk frequency monitoring, average costs monitoring, etc.).</i>

Table 16. Reference list of services covered by an HMIS

Reference	Volume 1 – Part III, section 2.2
Sources of information	<ul style="list-style-type: none"> ● Insurance contracts ● Statutes and internal rules ● Meetings with managers and officials in charge of the HMIS
Method of completion	<p>Column 1 of the table is a reference list of the services most commonly offered by health micro-insurance schemes (see complete table below). Evaluators should select from the reference list only the services covered by the HMIS under evaluation (or create new categories). If certain services are subject to special conditions of coverage, these should be mentioned.</p> <p>The figures in column 2 under “<i>Exposure to insurance-related risks</i>” show the degree of exposure to the risk of adverse selection and/or over-consumption for each type of service covered. These figures (1, 2 or 3) correspond to the categories described under parameter b1 in Volume 1, (Part III, section 2.1.2). Evaluators must determine from among the services provided by the HMIS those that are, by their nature, subject to the risk of adverse selection and over-consumption.</p> <p>Evaluators must complete columns 3 to 11 on the basis of measures taken by the HMIS to limit insurance-related risks.</p> <p>In column 3, under “<i>Waiting period</i>”, the length of the waiting period is indicated. The waiting period is frequently the same for all services offered. However, an HMIS may apply a waiting period to only some of the services covered and/or apply a specific waiting period to certain services (delivery, for example).</p> <p>In columns 4, 5 and 6 (“<i>Deductible</i>”, “<i>Percentage co-payment</i>” and “<i>Maximum benefit</i>”), the existence of any co-payment should be indicated for the health service in question. Co-payments may vary from one health service to another and may take the following forms:</p> <ul style="list-style-type: none"> ● <i>Deductible</i>. The amount of the deductible is entered in column 4. ● <i>Percentage co-payment</i>. The percentage co-payment is entered in column 5. ● <i>Maximum benefit (capping)</i>. The amount of the maximum benefit is entered in column 6. <p>In column 7, under “<i>Prior agreement</i>”, an indication is made as to whether, for each health service offered, a prior agreement mechanism is applied by the HMIS. Some services are, in principle, not affected (such as non-programmed hospitalizations, for example).</p> <p>In column 8, under “<i>Compulsory referral</i>”, an indication is made as to whether, for each health service offered, a compulsory referral mechanism is applied by the HMIS, i.e. whether before going to a provider at a given level, a beneficiary must consult a provider at a lower level.</p> <p>In column 9, under “<i>Payment mechanisms</i>”, the payment mechanism used by HMIS is indicated. If, for the same benefit, different payment methods are used, depending on the provider, this should be mentioned.</p> <p>In column 10, under “<i>Rationalization of benefits</i>”, an indication should be made as to whether the care provided is subject to a treatment protocol or to a contract between the HMIS and health care providers, or whether treatment varies according to the practitioner or other factors.</p>

In column 11, under “*Selection of providers*”, an indication is made for each benefit as to whether providers have been pre-selected, or whether the beneficiary is free to choose the health care provider.

These tasks may seem tedious. Practice shows that for many health microinsurance schemes the table will be relatively easy to complete. In fact, the methods and conditions of coverage are often the same or differ very little from one health service to another.

Completing the table is necessary for performing a qualitative analysis of the risk portfolio. Moreover, this table will be of direct use in calculating Indicator G.2 concerning the quality of the risk portfolio.

Example

An HMIS functions in the following manner:

- *With regard to services offered*, it covers all services set out in the table included below.
- *With regard to conditions of membership*, the HMIS:
 - Allows membership at any time of the year (open membership);
 - Imposes a waiting period only for gynaecological-obstetric treatment.

In terms of claims management, the HMIS:

- Has introduced a percentage co-payment of 20 per cent on all claims;
- Allows programmed hospitalizations only on the basis of prior agreement;
- Pays authorized providers by episode of illness;
- Has concluded a contract with two health care providers, Health Centre X and Hospital Y, and covers expenses for services offered only by them.

For this HMIS, Table 16 is completed in the following manner (see next pages):

Reference list of services covered by the health microinsurance scheme	Exposure to insurance-related risks	Measures to limit insurance-related risks								
		Waiting period	Deductible	Percentage co-payment	Maximum benefit	Prior agreement	Compulsory referral	Payment mechanisms	Rationalization of benefits	Selection of providers
Acute outpatient treatment										
Health services										
Curative consultations	3			20%				per case	Yes	Yes
Nursing services	2			20%				per case	Yes	Yes
Minor surgery	2			20%				per case	Yes	Yes
Other	2			20%				per case	Yes	Yes
Medicines										
Generic and essential drugs	2			20%				per case	Yes	Yes
Brand-name and specialist drugs	2			20%				per case	Yes	Yes
Tests										
Laboratory	2			20%				per case	Yes	Yes
X-rays	2			20%				per case	Yes	Yes
Other	2			20%				per case	Yes	Yes
Preventive consultations										
Health services										
Prenatal consultations	2			20%				per case	Yes	Yes
Mother and child care	3			20%				per case	Yes	Yes
Vaccinations	3			20%				per case	Yes	Yes
Other	2			20%				per case	Yes	Yes
Medicines										
Generic and essential drugs	2			20%				per case	Yes	Yes
Brand-name and specialist drugs	2			20%				per case	Yes	Yes
Chronic outpatient treatment										
Health services										
Tuberculosis	3			20%				per case	Yes	Yes
Leprosy	3			20%				per case	Yes	Yes
HIV/AIDS	2			20%				per case	Yes	Yes
Other	2			20%				per case	Yes	Yes
Medicines										
Generic and essential drugs	2			20%				per case	Yes	Yes
Brand-name and specialist drugs	2			20%				per case	Yes	Yes

Reference list of services covered by the health microinsurance scheme	Exposure to insurance-related risks	Measures to limit insurance-related risks								
		Waiting period	Deductible	Percentage co-payment	Maximum benefit	Prior agreement	Compulsory referral	Payment mechanisms	Rationalization of benefits	Selection of providers
Non-programmed surgical operations										
Health services										
Treatment of strangulated hernias	1			20%				per case	Yes	Yes
Appendectomy	1			20%				per case	Yes	Yes
Other intestinal occlusions	1			20%				per case	Yes	Yes
Setting of fractures	1			20%				per case	Yes	Yes
Other	1			20%				per case	Yes	Yes
Medicines										
Generic and essential drugs	2			20%				per case	Yes	Yes
Brand-name and specialist drugs	2			20%				per case	Yes	Yes
Gynaecological and obstetric treatment										
Health services										
Deliveries without complications	2	6 months		20%				per case	Yes	Yes
Caesarean	1	"		20%				per case	Yes	Yes
Dystocic delivery: Use of forceps, dilators, etc.	2	"		20%				per case	Yes	Yes
Curettage – Post partum or after spontaneous or induced abortion	1	"		20%				per case	Yes	Yes
Other	1	"		20%				per case	Yes	Yes
Medicines										
Generic and essential drugs	2	"		20%				per case	Yes	Yes
Brand-name and specialist drugs	2	"		20%				per case	Yes	Yes
Non-programmed medical hospitalizations										
Health services										
Treatment of complications in common diseases	1			20%				per case	Yes	Yes
Malaria (under hospitalization)	1			20%				per case	Yes	Yes
Acute respiratory infections	1			20%				per case	Yes	Yes
Diarrhoea with dehydration	1			20%				per case	Yes	Yes
Intensive care service	1			20%				per case	Yes	Yes
Other	1			20%				per case	Yes	Yes

Reference list of services covered by the health microinsurance scheme	Exposure to insurance-related risks	Measures to limit insurance-related risks								
		Waiting period	Deductible	Percentage co-payment	Maximum benefit	Prior agreement	Compulsory referral	Payment mechanisms	Rationalization of benefits	Selection of providers
Medicines										
Generic and essential drugs	2			20%				per case		
Brand-name and specialist drugs	2			20%				per case		
Programmed hospitalizations										
Health services										
Chronic diseases	3			20%				per case	Yes	Yes
Treatment of simple hernia	3			20%				per case	Yes	Yes
Removal of a goitre	3			20%				per case	Yes	Yes
Hysterectomy or removal of a fibroid tumour	2			20%				per case	Yes	Yes
Other	2			20%				per case	Yes	Yes
Medicines										
Generic and essential drugs	2			20%				per case	Yes	Yes
Brand-name and specialist drugs	2			20%				per case	Yes	Yes
Transport/evacuation										
All	1			20%				per case	Yes	Yes
Specialist services										
Health services										
Ophthalmology	3			20%				per case	Yes	Yes
Cataract	3			20%				per case	Yes	Yes
Eye glasses	2			20%				per case	Yes	Yes
Dental extraction	3			20%				per case	Yes	Yes
Dental treatment	2			20%				per case	Yes	Yes
Prostheses	3			20%				per case	Yes	Yes
Other	2			20%				per case	Yes	Yes
Medicines										
Generic and essential drugs	2			20%				per case	Yes	Yes
Brand-name and specialist	2			20%				per case	Yes	Yes

Note: The empty shaded boxes are used to indicate those benefits for which the scheme's methods of coverage take insufficient account of insurance-related risks. Measures to limit these risks not shown in the example concern in particular:

The **waiting period** (with the exception of gynaecological and obstetric treatment), the application of which can limit the risk of adverse selection. In the absence of a waiting period, individuals may be attracted to the HMIS only when they fall ill, thereby creating a financial imbalance in the system;

The **maximum benefit**, which is designed to contain costs. Hospitalization costs, for example, can be very high, thereby creating a financial imbalance;

The **compulsory referral**, which is a means of reducing costs. Beneficiaries may be tempted, for example, to go directly to specialists (who are more expensive) before consulting a general practitioner.

Tables 19a and 19b. Theoretical and actual role tables

Reference Volume 1 – Part IV, section 1.1.2

Sources of information

- Statutes
- Internal rules
- Operating manual
- Minutes of annual meeting or general assembly
- Other regulations governing the functioning of the HMIS
- Meetings with HMIS managers, officials in charge and beneficiaries
- Management tools

Method of completion

The role table is filled out in two copies. The format of the two tables is identical (same functions, same questions asked). Only the source of the data used to fill them out is different.

- **Table 19a: Theoretical role table.** It is used to identify the organizational structures and actors “theoretically” responsible for the operation of the HMIS, according to the distribution of roles defined in the regulations of the scheme.
- **Table 19b: Actual role table.** This is used to identify the organizational structures and actors who actually perform the various operations in use at the time of the evaluation. To fill out the actual role table, the various actors concerned must be asked the questions contained in the table, and the information collected must be checked for consistency (minutes, signatures, etc.).

The completion of each table is carried out in two stages:

First stage: Identifying organizational structures and actors

All the organizational structures and actors involved in the management and administration of the HMIS must be identified.

In principle, each function, corresponding to a question in the table, is performed by a single organizational structure. Yet, several actors within each organizational structure (box in the “Actors within the organizational structure” column) may be involved. It is advisable to code each organizational structure or actor identified by means of an abbreviation. Evaluators may subdivide the “Organizational structure” column into columns for each organizational structure identified (board of directors, executive committee, etc.). It may do the same with the “Actors” column. This format can only be used if the number of persons or organizational structures is limited (owing to the number of columns). In such cases, the table is completed by marking the table with an “X” each time an organizational structure or an actor (column) is involved in a function (row).

Different categories of organizational structures and actors have been identified in advance (see Volume 1, Part IV, section 1.1.1).

Second stage: Filling in the squares

The main functions performed by an HMIS are indicated as questions in the table (column 1). A function may be performed by several actors who are internal or external to the HMIS.

The functions are classified according to whether they are:

- Decision-making functions;
- Executive functions;
- Supervisory functions.

For each function, the organizational structure involved and actors responsible should be indicated in the corresponding column.

If the regulations do not mention a particular function, or the function does not exist in the HMIS, the row is left blank.

If the regulations are unclear or ambiguous, question marks should be entered following the name of the actor who is most closely responsible, adding a remark to explain why a question mark was indicated.

Table 20. Analysis of a contract with a health care provider

Reference	Volume 1 – Part IV, section 3.3
Sources of information	Contracts with health care providers
Method of completion	<p>This table is relevant only if the HMIS has formalized its relationship with a service provider by means of a written contract.</p> <p>The most important contractual provisions in contracts with providers are shown in the table. The content of contracts used by the HMIS may vary according to provider. Consequently, a separate table should be used for each group of similar contracts.</p> <p>In column 2 of the table, the word “yes” should be entered if the various items listed in column 1 are covered in the contract and “no” if they are not. These items are:</p> <ul style="list-style-type: none"> ● <i>The definition of services covered.</i> In the “Remarks” column, an indication is made as to whether the services are described in detail. ● <i>Fees.</i> In the “Remarks” column, an indication is made as to whether the list of fees is complete. ● <i>Methods of payment of providers.</i> Four mechanisms are commonly used by the HMIS (see Volume 1, Part III, section 2.1.2): <ul style="list-style-type: none"> – Fee-for-service; – Payment per Diagnostic Related Group (or by episode of illness); – Fixed daily rate per hospitalization day; – Capitation. ● <i>Payment deadlines.</i> The agreed upon payment deadlines are indicated in the “Remarks” column. ● <i>Procedures for applying co-payments.</i> If the HMIS applies co-payments, the term “procedures” refers to the type of co-payment in effect, the type of benefits subject to co-payment, rules for modifying co-payments, etc. ● <i>Conditions for modifying fees charged for health services covered by the scheme.</i> ● <i>Medical audit procedures.</i> ● <i>Procedures for applying treatment protocols.</i> ● <i>Methods used by health providers to verify beneficiaries’ entitlement to benefit.</i> The purpose of this item, in particular, is to determine whether the contract explicitly describes the type of check to be performed by the provider (checking membership cards, consulting a list of beneficiaries, etc.) ● <i>Provider’s guarantee with respect to the quality of health services.</i> This involves identifying the commitments made by the provider with respect to the quality of health services, and the methods, if any, of controlling that quality. ● <i>Duration of the contract and termination clauses.</i> ● <i>Dispute settlement terms.</i> This involves ascertaining whether the contract contains explicit provisions concerning arbitration in the event of a dispute, such as recourse to judicial authorities or to a third party.

Table 21. Progressive stages towards legal recognition

Reference	Volume 1 – Part IV, section 4.1 ¹
Sources of information	List of regulations of the responsible organization (RO) or, in some cases, the supervisory authority
Method of completion	<p>The following should be checked:</p> <p><i>Stage 1:</i> Whether there are any regulations governing the activities of the RO.</p> <p><i>Stage 2:</i> Whether the RO has statutes or internal rules. In the case of a mutual organization, evaluators should check whether the statutes and internal rules have been adopted by the members.</p> <p><i>Stage 3:</i> Whether the RO has deposited its statutes with the competent authorities. Evaluators should consult the deposit (or declaration) slip.</p> <p><i>Stage 4:</i> Whether the RO has legal personality. If so, it must have received documents from the competent authorities certifying the official registration of its legal personality, accompanied by a registration number.</p> <p><i>Stage 5:</i> Whether the responsible organization has a specific legal status as an insurance provider or an HMIS. Two conditions must be satisfied:</p> <ul style="list-style-type: none"> ● There must be specific legislation in the country (health microinsurance act or insurance act, for example). ● The legal personality of the responsible organization must have been granted officially through application of the above-mentioned legislation.

¹ The table presented in Volume 1 and referred to here is used in cases in which the insurance scheme is the only activity of the responsible organization (RO). If it is not, the numerous possibilities that exist for establishing separate statutes and entities for the various activities would make the presentation of this table more complex.

Table 22. Statutory and regulatory obligations

Reference	Volume 1 – Part IV, section 4.2
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Sources of information	<ul style="list-style-type: none">● Statutes● Internal rules● Legislative texts governing the functioning of the HMIS
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Method of completion	<p>The following should be indicated:</p> <ul style="list-style-type: none">● In column 2, the intervals at which statutory and regulatory obligations should be fulfilled according to the documents of the HMIS (<i>theoretical intervals</i>);● In column 3, the actual frequency with which the activities subject to statutory and regulatory obligations are carried out. <p>By comparing the two columns, it is possible to determine the level of compliance of the HMIS with statutory and regulatory obligations. Remarks concerning discrepancies, if any, are recorded in column 4.</p> <p>The various obligations listed in the table (rows of the table) should be adjusted and, if necessary, supplemented by evaluators, depending on the specific characteristics of each HMIS.</p>
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Part II. Calculation of indicators

1. Evaluation indicators of administrative viability

T.1. Distribution and communication monitoring

Reference	Volume 1 – Part III, section 1.1
Sources of information	<ul style="list-style-type: none"> ● HMIS promotional material ● Communication plans ● Training materials for insurance promoters ● List of insurance promoters, indicating length of service with the HMIS, amount of compensation, number of members enrolled, etc. ● Surveys of members' needs and degree of satisfaction with the scheme

Method of calculation

Indicator T.1.1. Communication strategy

Indicator T.1.1 concerns the existence and quality of communication tools. It evaluates the extent to which these tools contain certain items of information considered necessary for the proper communication of facts concerning the HMIS. Three items of information have been selected. One third of a point is attributed each time one of these items is contained in the tools of the HMIS (the information may not necessarily be up-to-date). The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Items of information	Weighting coefficient
1. Written or illustrated material describing benefits	1/3
2. Specific messages describing insurance principles (e.g. The HMIS is a mechanism used to pool resources.)	1/3
3. Periodically updated communication materials	1/3
Total	1

If there are no communication monitoring tools, or if the tools do not contain any of the above-mentioned items of information, the indicator score is 0.

Indicator T.1.2. Promoters

Indicator T.1.2 concerns the utilization of management and monitoring tools to measure the effectiveness of promoters. These tools should enable managers to conduct a number of monitoring activities. Four activities have been selected on the basis of their importance.

Activities	Weighting coefficient
1. Training materials for insurance promoters are developed	1/4
2. Training is provided at least once a year	1/4
3. Managers monitor the effectiveness of insurance promoters	1/4
4. Managers monitor HMIS promoters' turnover	1/4
Total	1

One fourth of a point is attributed for each activity that the scheme carries out. The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

If there are no management monitoring tools, or if none of the above mentioned activities is carried out, the indicator score is 0.

Indicator T.1.3. Member satisfaction

Indicator T.1.3 concerns the utilization of management and monitoring tools to measure the target population's satisfaction with the HMIS. These tools should enable managers to carry out a number of monitoring activities. Two activities have been selected on the basis of their importance. One half of a point is attributed for each activity that the scheme carries out. The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Activities	Weighting coefficients
1. Managers measure members' satisfaction with the HMIS	½
2. Surveys are conducted to understand why members left the scheme	½
Total	1

If none of the activities is being carried out at the time of the evaluation, the indicator score is 0.

Indicator T.1 is the arithmetic mean of indicators T.1.1, T.1.2 and T.1.3:

$$T.1 = \frac{T.1.1 + T.1.2 + T.1.3}{3}$$

The indicator can range between 0 and 100 per cent.

T.2. Membership monitoring

Reference Volume 1 – Part III, section 1.2

Sources of information

- Insured and premium file
- Insured, premium and membership fee register
- List of beneficiaries (or those excluded)

Method of calculation **Indicator T.2.1. Membership management and monitoring tools**

Indicator T.2.1 concerns the existence and quality of membership management and monitoring tools. It evaluates whether these tools contain certain items of information considered essential for monitoring membership adequately. Three items of information have been selected. One third of a point is attributed each time one of these items is contained in the tools of the HMIS (the information may not necessarily be up-to-date). The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Items of information	Weighting coefficient
1. ID number and/or name of member	1/3
2. Starting date of coverage	1/3
3. Ending date of coverage	1/3
Total	1

If there are no membership monitoring tools, or if the tools do not contain any of the above-mentioned items of information, the indicator score is 0.

Indicator T.2.2. Use of membership management and monitoring tools

Indicator T.2.2 concerns the use of the membership management and monitoring tools of the HMIS. These tools should enable managers to carry out a number of monitoring activities. Four activities have been selected on the basis of their importance. One fourth of a point is attributed to each activity that the scheme carries out. The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Activities	Weighting coefficient
1. A calculation is made of the number of beneficiaries covered	1/4
2. A calculation is made of the average number of beneficiaries per contributing member	1/4
3. The list of members and beneficiaries is updated	1/4
4. The list of members with premiums in arrears and members temporarily or permanently excluded from the HMIS is updated regularly	1/4
Total	1

If none of the activities is being carried out at the time of the evaluation, the indicator score is 0.

Indicator T.2 is the arithmetic mean of indicators T.2.1 and T.2.2:

$$T.2 = \frac{T.2.1 + T.2.2}{2}$$

The indicator can range between 0 and 100 per cent.

T.3. Premium collection monitoring

Reference Volume 1 – Part III, section 1.3

Sources of information

- Insured and premium file
- Insured, premium and membership fee register
- List of beneficiaries (or those excluded)

Method of calculation Indicator T.3 measures the existence and quality of monitoring tools for collecting premiums and membership fees, as well as the type of information these tools contain. In order to calculate this indicator, it is necessary to distinguish between health microinsurance schemes in which premiums are paid in a single amount and those in which they are paid in instalments.

Schemes in which premiums are paid in a single amount

Two items of information have been selected for their importance in monitoring the collection of premiums. One half of a point is attributed each time one of these items is contained in the tools of the HMIS (the information may not necessarily be up-to-date). The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Items of information	Weighting coefficients
1. Amount of premiums due	1/2
2. Total amount of premiums received for the period	1/2
Total	1

Schemes in which premiums are paid in instalments

Six items of information have been selected for their importance in monitoring the collection of premiums. One sixth of a point is attributed each time one of these items is contained in the tools of the HMIS (the information may not necessarily be up-to-date). The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Items of information	Weighting coefficients
1. Amount of premiums due	1/6
2. Total amount of premiums received for the period	1/6
3. Amount of premiums to be collected on the due date	1/6
4. Amount of premiums received for the current accounting period	1/6
5. Amount of premiums received for the next accounting period	1/6
6. Number of members (and/or dependents) who are up-to-date with their premium payments	1/6
Total	1

T.4. Verification of benefit entitlement

Reference Volume 1 – Part III, section 1.4

- Sources of information**
- HMIS management information system
 - HMIS administrative procedures
 - Meetings with managers and health care providers

Method of calculation Indicator T.4 concerns the existence and implementation of procedures carried out by health providers and the HMIS to verify entitlement to benefits. These procedures vary depending on the verification tools used. Such tools include: Membership cards (or insurance certificates), guarantee letters, treatment certificates and lists of persons excluded from coverage by the HMIS. This indicator is calculated on the basis of a number of possibilities:

- The HMIS may use only one verification tool – for example, the membership card.
- The HMIS may perform several controls using various tools, for example membership card plus guarantee letter, or membership card plus treatment certificate and list of excluded persons.

For each use of a tool as part of a control procedure, a point is attributed according to the scoring table below.

Actors	Activities	Membership card	List of excluded persons	Guarantee letter	Treatment certificate
HMIS	Insured files and registers are updated	1	1	1	1
	Validity of membership card is checked			1	
	Appearance of beneficiary's name on membership file is checked			1	
	List of excluded persons is updated		1		
	Insured files (or persons excluded) are compared to invoices	1	1		
	Guarantee letters are compared to invoices			1	
	Treatment certificates are compared to invoices				1
Provider	Validity of membership card is checked	1			1
	Appearance of beneficiary's name on membership card is checked	1			1
	A list of excluded persons, drawn up by the HMIS, is checked		1		
Total scores for each tool		4	4	4	4

The score for each tool may range between 0 and 4.

Indicator T.4, expressed as a percentage, is calculated on the basis of the following formula:

$$T.4 = \frac{\text{Sum of scores for each tool used}}{4 \times \text{number of tools used}} \times 100$$

For example, if two tools are used, and each has a total score of 2 points, the value of the indicator will be:

$$T.4 = \frac{2 + 2}{4 \times 2} \times 100$$

or T.4 = 50 per cent.

It is, in fact, more important to analyse the verification activities listed on the table in order to determine whether they have been carried out by the scheme than it is to determine the indicator score.

When analysing indicator T.4, evaluators must check to see whether service providers take measures to refuse to provide coverage to cheats when detected, and/or whether the HMIS penalizes them (refusal to reimburse services, withdrawal of membership card, exclusion from benefit, etc.).

The application of control procedures, no matter how effective, is useless if beneficiaries, or non-beneficiaries, for that matter, can wrongfully access the services of the HMIS without fear of punishment.

T.5. Claims monitoring

Reference

Volume 1 - Part III, section 1.5

Sources of information

HMIS management information system

Method of calculation

Indicator T.5.1. Claims monitoring by service and provider

Indicator T.5.1 concerns the existence of claims management and monitoring tools and the quality of the information they contain. This indicator should be calculated on the basis of the information contained in Table 8.

Indicator T.5.1 applies to cases in which monitoring is carried out by provider. Monitoring carried out by provider facilitates detection of slippages, if any, in the cost of claims.

Three assessment criteria have been selected to evaluate the quality of monitoring. One third of a point is attributed each time one of these criteria is satisfied. The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Assessment criteria	Weighting coefficients
1. The monitoring tools for each provider contain the number of claims	1/3
2. The monitoring tools for each provider contain the cost of claims	1/3
3. The monitoring tools are regularly updated (up-to-date at the time of the evaluation)	1/3
Total	1

Indicator T.5.2. Claims management information system

Indicator T.5.2 is similar to indicator T.5.1. It concerns the existence of aggregated data (for all providers combined) on claims, and should be calculated on the basis of the information contained in Table 9.

As with the previous indicator, three assessment criteria have been selected to evaluate the quality of monitoring. One third of a point is attributed each time one of these criteria is satisfied. The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Assessment criteria	Weighting coefficients
1. The monitoring tools contain the total number of claims for each category	1/3
2. The monitoring tools contain the cost of claims for each category	1/3
3. The monitoring tools are regularly updated (up-to-date at the time of the evaluation)	1/3
Total	1

Indicator T.5 provides an overall assessment of monitoring in this area.

It is the arithmetic mean of indicators T.5.1 and T.5.2:

$$T.5 = \frac{T.5.1 + T.5.2}{2}$$

This indicator may range between 0 and 100 per cent.

T.6. Risk portfolio monitoring

Reference Volume 1 – Part III, section 1.5

Sources of information HMIS management information system

Method of calculation Indicator T.6 may be used to determine whether managers possess the tools needed to monitor the risk portfolio. It is calculated on the basis of six criteria for monitoring the number, average costs and frequency of claims. This indicator should be calculated on the basis of information contained in Tables 9, 10 and 11.

One sixth of a point is attributed each time one of these criteria is satisfied. The sum of the points multiplied by 100 produces the indicator score expressed as a percentage. The maximum score is 100 per cent.

Criteria	Weighting coefficients
Existence of monitoring tools	
1. The tools may be used to monitor the average cost of claims (by category and/or benefit)	1/6
2. The tools may be used to monitor the frequency of risks (by category and/or benefit)	1/6
Maintenance of monitoring tools	
3. The tools used for monitoring average costs are updated annually	1/6
4. The tools used for monitoring average costs are updated quarterly	1/6
5. The tools used for monitoring the frequency of risks are updated annually	1/6
6. The tools used for monitoring the frequency of risks are updated quarterly	1/6
Total	1

T.7. Accounting records monitoring

Reference Volume 1 – Part III, section 1.6

Sources of information

- Accounting documents and tools
- Accounting management procedures

Method of calculation Indicator T.7 measures the existence and the quality of accounting records monitoring, assuming that an accounting system exists. The purpose is not to assess the management of the accounting function, but rather the monitoring procedures implemented by the scheme.

Six activities have been selected. One sixth of a point is attributed for each activity carried out. The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Activity	Weighting coefficients
1. Collection of accounting documents	1/6
2. Filing of accounting documents	1/6
3. Regular checking of accounting entries and balances (for example, balancing the accounts)	1/6
4. Monthly cash control and reconciliation of bank statements	1/6
5. Verification of the annual income statement	1/6
6. Verification of the annual balance sheet	1/6
Total	1

T.8. Financial monitoring

Reference Volume 1 – Part III, section 1.7

Sources of information

- Financial management tools
- Financial management procedures

Method of calculation Indicator T.8 relates to the existence and quality of budget, cash flow and investment monitoring.

Five monitoring activities have been selected. One fifth of a point is attributed for each activity carried out by the scheme. The sum of the points multiplied by 100 produces an indicator score expressed as a percentage. The maximum score is 100 per cent.

Activity	Weighting coefficients
1. Establishment of the budget at the beginning of the period	1/5
2. Budget monitoring carried out at least twice a year	1/5
3. Construction of a cash flow plan at the beginning of the year covering at least one year, and monitoring on at least a quarterly basis	1/5
4. Investments monitored annually	1/5
5. Monitoring of the premium collection rate (M.6) on at least a quarterly basis	1/5
Total	1

T.9. Overall quality of monitoring

Reference Volume 1 – Part III, section 1.8

Sources of information Indicators T.1 to T.8

Method of calculation This indicator provides an evaluation of the overall quality of monitoring carried out by the HMIS on the basis of the monitoring indicators presented above.
The scores for the various monitoring indicators are entered in the following table:

No.	Indicators of good management	Score obtained	Optimal score	Difference
T.1	Distribution and communication monitoring		100%	
T.2	Membership monitoring		100%	
T.3	Premium collection monitoring		100%	
T.4	Verification of benefit entitlement		100%	
T.5	Claims monitoring		100%	
T.6	Risk portfolio monitoring		100%	
T.7	Accounting records monitoring		100%	
T.8	Financial monitoring		100%	
	Total score		100%	

The indicator is equal to the arithmetic mean of the other monitoring indicators:

$$T.9 = \frac{\text{Total score obtained}}{8}$$

2. Evaluation indicators of technical viability

G.1. Membership arrangements

Reference Volume 1 – Part III, section 2.2

Sources of information

- Statutes
- Internal rules
- Membership rules (or other regulations)

Method of calculation Using the table presented below, an evaluation is made of the risk of adverse selection to which the HMIS is exposed as a result of the membership arrangements used.

Membership	Voluntary	Compulsory	Automatic
Individual	3	0	0
Family	2	0	0
Group	1	0	0

0 = no risk of adverse selection, 1 = low risk of adverse selection, 2 = moderate risk of adverse selection, 3 = high risk of adverse selection

If membership is compulsory or automatic (for a socio-occupational group or the population of a particular community), the risk of adverse selection is considered to be zero. In voluntary membership schemes, on the other hand, the smaller the membership base, the greater the risk of adverse selection for the HMIS.

If a scheme offers various membership arrangements, the scores should be weighted on the basis of the proportion of beneficiaries pertaining to each of the categories of membership offered (see Table 7). The indicator is then constructed as follows:

Category	Voluntary	Compulsory	Automatic
Individual	$A \times 3$ points	0	0
Family	$B \times 2$ points	0	0
Group	$C \times 1$ points	0	0
Score	Sum of points		

A = Proportion of beneficiaries with voluntary individual membership, B = Proportion of beneficiaries with voluntary family membership, C = Proportion of beneficiaries with voluntary group membership.

Example A HMIS has 500 beneficiaries, of which:

- 250 have voluntary individual membership;
- 250 have voluntary family membership.

The proportion of beneficiaries is calculated as follows:

- $A = 250/500 = 0.5$
- $B = 250/500 = 0.5$

Category	Voluntary	Compulsory	Automatic
Individual	$0.5 \times 3 \text{ points} = 1.5$	0	0
Family	$0.5 \times 2 \text{ points} = 1.0$	0	0
Group	0	0	0
Score	$G.1 = 1.5 + 1.0 = 2.5$		

The closer indicator G.1 is to 0, the less exposed the HMIS is to the risk of adverse selection as a result of its membership arrangements. The closer indicator G.1 is to 3, the more it is exposed to this risk. In the example shown, an indicator score of 2.5 means that the risk exposure of the HMIS is high.

G.2. Quality of the risk portfolio

Reference

Volume 1 - Part III, section 2.2

Sources of information

- Insurance contracts
- Internal rules (or regulations of the HMIS)
- Meetings with HMIS managers

Method of calculation

This indicator supplements the qualitative analysis carried out on the basis of Table 16. The score for indicator G.2 is obtained from the same reference list as follows:

- In column 1, the services covered by the HMIS are selected. The table provides a reference list of the services most frequently covered. Services not covered by the HMIS should be deleted.
- In column 2, "*Exposure to health insurance-related risks*", the highest score for each service offered by the HMIS is circled. These scores are then added together to obtain the theoretical total (X, last line of the table) corresponding to an optimal quality for the risk portfolio. If the HMIS provides all the services on the reference list, the maximum score is 194.

For each service offered (each line), a "1" is circled in those cases in which the HMIS applies adequate measures to limit health insurance-related risks, such as those shown in the headings of columns 3 to 11. For example, one point is attributed if a flat-rate system of payment (column 9) is applied. The number of "1s" per line is then added together. The result is the score for the service in question. The scores obtained are added together to produce the real total for the HMIS (Y, last line of the table).

This indicator is calculated using the following formula:

$$G.2 = \frac{Y}{X} \times 100 \text{ (expressed as \%)}$$

Reference list of services covered by the health microinsurance scheme	Exposure to insurance-related risks	Measures to limit insurance-related risks								
		Waiting period	Deductible (note 2)	Percentage co-payment	Maximum benefit	Prior agreement	Compulsory referral	Payment mechanisms (flat-rate payment = 1)	Rationalization of benefits	Selection of providers
Acute outpatient treatment										
Health services										
Curative consultations	4		1	1			1			1
Nursing services	4		1	1			1			1
Minor surgery	4		1	1			1			1
Other	4		1	1			1			1
Medicines (note 1)										
Generic and essential drugs	5		1	1			1		1	1
Brand-name and specialist drugs	6		1	1		1	1		1	1
Tests										
Laboratory	5		1	1		1	1			1
X-rays	5		1	1		1	1			1
Other	5		1	1		1	1			1
Preventive consultations										
Health services										
Prenatal consultations	5		1				1	1	1	1
Mother and child care	2		1					1		
Vaccinations	2		1					1		
Other	2		1					1		
Medicines										
Generic and essential drugs			-	-			-		-	-
Brand-name and specialist drugs			-	-		-	-		-	-
Chronic outpatient treatment										
Health services										
Tuberculosis	7		1	1	1	1	1	1	1	
Leprosy	7		1	1	1	1	1	1	1	
HIV/AIDS	7		1	1	1	1	1	1	1	
Other	7		1	1	1	1	1	1	1	
Medicines										
Generic and essential drugs			-	-			-		-	-
Brand-name and specialist drugs			-	-		-	-		-	-

Reference list of services covered by the health microinsurance scheme	Exposure to insurance-related risks	Measures to limit insurance-related risks								
		Waiting period	Deductible (note 2)	Percentage co-payment	Maximum benefit	Prior agreement	Compulsory referral	Payment mechanisms (flat-rate payment = 1)	Rationalization of benefits	Selection of providers
Non-programmed surgical operations										
Health services										
Treatment of strangulated hernias	2	1						1		
Appendectomy	2	1						1		
Other intestinal occlusions	2	1						1		
Setting of fractures	2	1						1		
Other	2	1						1		
Medicines										
Generic and essential drugs		-		-			-		-	-
Brand-name and specialist drugs		-		-		-	-		-	-
Gynaecological and obstetric treatment										
Health services										
Deliveries without complications	4	1		1			1	1		
Caesarean	2	1						1		
Dystocic delivery: Use of forceps, dilators, etc.	2	1						1		
Curetting – Post partum or after spontaneous or induced abortion	2	1						1		
Other	2	1						1		
Medicines										
Generic and essential drugs		-		-			-		-	-
Brand-name and specialist drugs		-		-		-	-		-	-
Non-programmed medical hospitalizations										
Health services										
Treatment of complications in common diseases	4	1		1	1			1		
Malaria (under hospitalization)	4	1		1	1			1		
Acute respiratory infections	4	1		1	1			1		
Diarrhoea with dehydration	4	1		1	1			1		
Intensive care service	4	1		1	1			1		
Other	4	1		1	1			1		
Medicines										
Generic and essential drugs		-		-			-		-	-
Brand-name and specialist drugs		-		-		-	-		-	-

Reference list of services covered by the health microinsurance scheme	Exposure to insurance-related risks		Measures to limit insurance-related risks							
			Waiting period	Deductible (note 2)	Percentage co-payment	Maximum benefit	Prior agreement	Compulsory referral	Payment mechanisms (flat-rate payment = 1)	Rationalization of benefits
Programmed hospitalizations										
Health services										
Chronic diseases	5		1	1	1	1	1			
Treatment of simple hernia	5		1	1	1	1	1			
Removal of a goitre	5		1	1	1	1	1			
Hysterectomy or removal of a fibroid tumour	5		1	1	1	1	1			
Other	5		1	1	1	1	1			
Medicines										
Generic and essential drugs			-		-			-		-
Brand-name and specialist drugs			-		-		-	-		-
Transport/evacuation										
All	5		1	1		1	1		1	1
Specialist services										
Health services										
Ophthalmology	5		1		1	1			1	1
Cataract	6		1		1	1	1		1	1
Eye glasses	5		1	1	1			1		1
Dental extraction	5		1		1	1		1		1
Dental treatment	5		1		1	1		1		1
Prostheses	6		1	1	1	1		1		1
Other	5		1		1	1		1		1
Medicines										
Generic and essential drugs			-		-			-		-
Brand-name and specialist			-		-		-	-		-
TOTAL	X = 194	Y	46	33	22	17	21	31	6	18

Note 1: In calculating this indicator, medicines are counted only once, unless subject to different arrangements for different categories of service.

Note 2: In the case of services for which the deductible or the percentage co-payment limit health insurance-related risks, it is considered sufficient to apply only one of the two measures at a time.

G.3. Average claims costs

Reference Volume 1 – Part III, section 2.2

- Sources of information**
- Claims listings by provider (Table 8)
 - Average claims costs monitoring sheet (Table 10)
 - Financial data made available by providers
 - Surveys

Method of calculation **G.3.1. Trends in average claims costs**

This indicator may be calculated in two ways:

- Based on gross figures for average claims costs, presented as a table or a graph;
- Based on the rate of growth in the average cost of various claims. The following formula is used in such cases:

$$G.3.1 = \frac{\text{Average cost}_N - \text{Average cost}_{N-1}}{\text{Average cost}_{N-1}}$$

Trends in average costs may be analysed in a variety of ways:

- By analyzing trends in the average cost of claims over time. This makes it possible to detect an increase in cost and characterize it: as a reversible increase, a regular increase, etc.;
- By comparing trends in the average costs of health care provided by different providers. This can reveal abuses on the part of certain providers or variations in the treatment techniques they use.

Graphs may be prepared in both cases. The comparison of average costs should be made over a sufficiently long period in order for the results to be meaningful.

G.3.2. Comparison of average claims costs for beneficiaries and non-beneficiaries

This indicator may be useful for confirming the existence, if any, of over-prescription. However, it is not always possible to obtain the information necessary to calculate this indicator.

For each service (or category of services) and for the same period, the following information is required:

- X = Average cost of the claim (or category) concerned.
- Y = Co-payment (deductible, percentage co-payment, maximum benefit) to be paid by the HMIS beneficiary for the benefit concerned. The co-payment is calculated on the basis of the average of co-payments to be paid by beneficiaries for the benefit concerned.
- Z = Average cost of the same claim invoiced to a non-beneficiary (based on data made available by the service provider, or on surveys of a representative sample of non-beneficiaries).

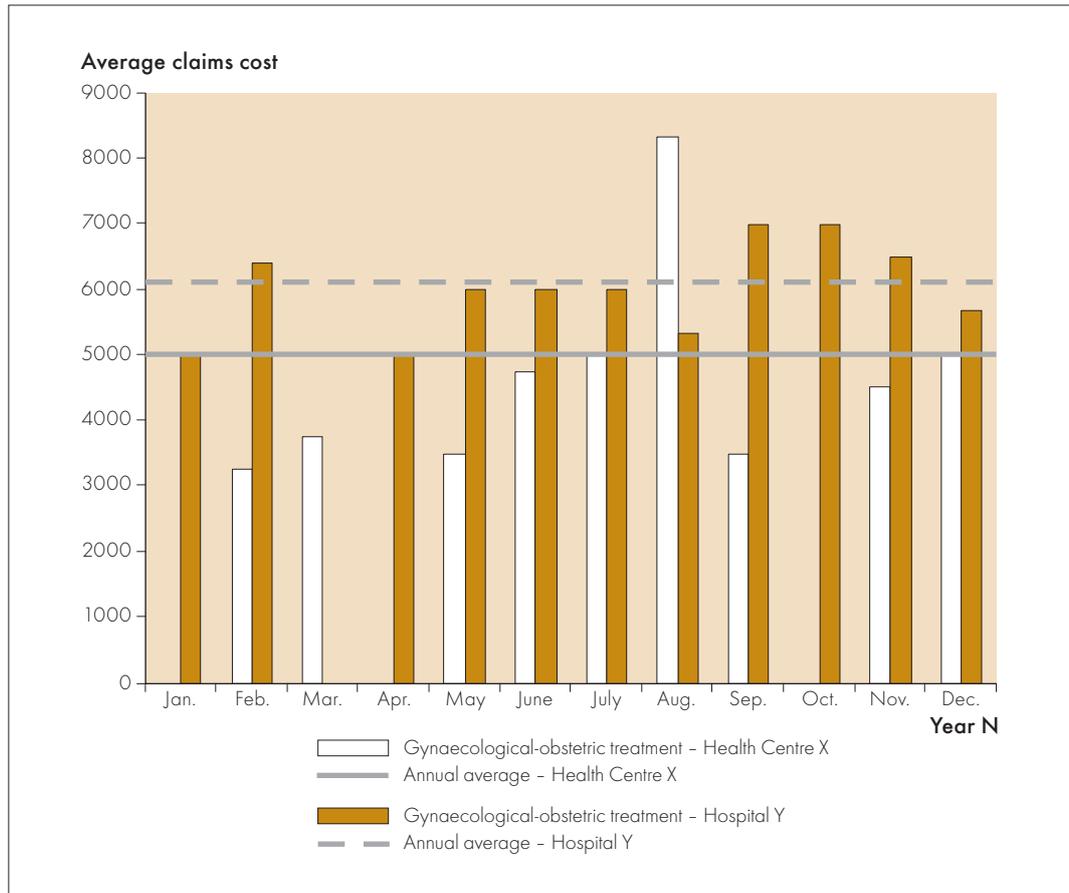
Indicator G.3.2, which compares the average costs of claims for beneficiaries and non-beneficiaries is obtained as follows:

$$G.3.2 = \frac{X+Y}{Z} \times 100$$

A rate higher than 100 per cent indicates that there is a possibility of over-prescription on the part of providers. To verify the existence of over-prescription, other analyses are required.

Examples

G.3.1. The following graph was constructed on the basis of data from the average claims costs monitoring sheet of the Sucura HMIS.



Analysis note. This graph shows that the costs relating to gynaecological/obstetric treatment provided at Hospital Y are fairly stable. The same cannot be said of Health Centre X, where average costs increased sharply in August. An analysis of this increase showed that the Health Centre did not refer a complicated case requiring costly treatment to the hospital, despite the referral arrangements agreed upon with the HMIS. As a result of ongoing monitoring carried out by the HMIS, the increase was quickly identified and the HMIS was able to contact the Health Centre about the matter in order to prevent such cases occurring in the future.

G.3.2. With the assistance of the Chief District Medical Officer, it was possible to estimate the average cost of a simple delivery for an HMIS beneficiary and for a non-beneficiary. For beneficiaries, the cost in year N was Rs 5,000; for non-beneficiaries, it was Rs 3,000. When asked about these differences, the midwife explained that she could not provide all the necessary care for non-beneficiaries – an argument that was not corroborated by the Medical Officer’s analysis of the medical files.

3. Evaluation indicators of functional viability

M.1. Overall membership growth rate

Reference Volume 1 – Part III, section 3.1

Sources of information

- Insured, premium and membership fee register
- Insured and premium file
- Beneficiaries monitoring sheet (Table 7)
- List of beneficiaries (or those excluded)

Method of calculation Three overall growth rates may be calculated on the basis of identical periods (e.g. months, years), depending on the data available, using the following formulas:²

M.1: Overall membership growth rate

$$M.1 = \frac{Members_{YearN} - Members_{YearN-1}}{Members_{YearN-1}} \times 100$$

M.1.1: Overall growth rate in the number of beneficiaries

$$M.1.1 = \frac{Beneficiaries_{YearN} - Beneficiaries_{YearN-1}}{Beneficiaries_{YearN-1}} \times 100$$

M.1.2: Overall growth rate in the number of dependents

$$M.1.2 = \frac{Dependents_{YearN} - Dependents_{YearN-1}}{Dependents_{YearN-1}} \times 100$$

Example

The overall growth rates of the Sucura HMIS in years N and N-1, calculated on the basis of the data in Table 7, are as follows:

Overall growth rate	Year N-1	Year N
Members (M.1)	$[(238 - 148)/148] \times 100 = +60.8\%$	$[(265 - 238)/238] \times 100 = +11.3\%$
Beneficiaries (M.1.1)	$[(1529 - 948)/948] \times 100 = +61.3\%$	$[(1705 - 1529)/1529] \times 100 = +11.5\%$
Dependents (M.1.2)	$[(1291 - 800)/800] \times 100 = +61.4\%$	$[(1440 - 1291)/1291] \times 100 = +11.5\%$

² For the sake of simplicity in presenting the formulas, the term "number" has not been included in the formulas. Thus the term "members" should be understood to mean "number of members".

M.2. Renewal rate

Reference	Volume 1 – Part III, section 3.1
Sources of information	<ul style="list-style-type: none"> ● Insured, premium and membership fee register ● Insured and premium file
Method of calculation	<p>The renewal rate corresponds to the rate of renewal of membership, and thus, to the renewal of contracts concluded between the HMIS and its members.</p> <p>The type of contract varies as a function of the type of HMIS concerned. In a commercial insurance scheme, the contract is concluded between the insurer and the insured person. In a mutual health organization, it is a tacit contract whose terms are contained in the statutes and internal rules of the organization.</p> <p>In all cases, the contract is usually concluded on an annual basis. Several particular situations need to be taken into account in calculating the renewal rate.</p> <ul style="list-style-type: none"> ● <i>For health microinsurance schemes with a closed enrolment period</i>, the indicator is calculated at the end of the enrolment period and corresponds to the ratio of the number of contributing members in year N-1 who renewed their membership in year N to the total number of members in year N-1, multiplied by 100. $M.2 = \frac{\text{Renewing members}_{\text{Year N}}}{\text{Members}_{\text{Year N-1}}} \times 100$ <p>When premiums are paid annually, contract renewals coincide with premium renewals, and the term “annual renewal rate” is used.</p> <p>When premiums are paid in instalments on a weekly, monthly, quarterly, etc. basis, premium renewals consist of the regular payment of premiums when billed by the HMIS. A distinction must then be made between the annual contract renewal rate and the premium renewal rate, the latter being measured by the rate of the collection of premiums.</p> <ul style="list-style-type: none"> ● <i>For health microinsurance schemes with an open enrolment period</i>, the indicator is calculated in two stages: <ul style="list-style-type: none"> – Each month, the HMIS calculates the rate of renewal of contracts concluded (or renewed) in the same month of the previous year by applying the formula provided above. – At the end of the year, the monthly rates are averaged to produce the renewal rate.

Example The following example illustrates the calculation of the renewal rate of an HMIS with a closed enrolment period for years N and N-1, given the following situations for each year:

	N-2	N-1	N
New members	100	250	160
Lapses	-	10	20
Total members	100	340	480

The renewal rates for years N-1 and N are as follows:

For year N-1: $M.2 = [(340 - 250)/100] \times 100 = 90\%$

For year N: $M.2 = [(480 - 160)/340] \times 100 = 94\%$

This indicator could also be calculated in the following manner:

For year N: $M.2 = [(340 - 20)/340] \times 100 = 94\%$

M.3. Internal membership growth rate

Reference Volume 1 – Part III, section 3.1

Sources of information

- Insured, premium and membership fee register
- Insured and premium file

Method of calculation This indicator measures the rate of growth in the number of members living in the old areas of operation of the HMIS. It is calculated using the following formula:

$$M.3 = \frac{\text{Members}_{\text{Year } N} \text{ in old MHIS areas of operations in year } N-1 - \text{Members}_{\text{Year } N-1}}{\text{Members}_{\text{Year } N-1}} \times 100$$

As was the case with indicator M.1, this rate may be calculated for beneficiaries and dependents using the above formula by replacing the number of members with either the number of beneficiaries or the number of dependents.

Example Using the addresses of registered members contained in the monitoring tools of the Sucura HMIS, it is possible to divide contributing members in year N-1 into two categories, based on their place of residence.

Contributing members	Year N-2	Year N-1
Old areas	148	135
New areas	0	103
Total	148	238

The internal growth rate in year N-1 is:

$$M.3 = [(135 - 148) / 148] \times 100 = -8.8\%$$

Analysis note. Indicator M.3 is negative, whereas the overall growth rate (M.1) is positive (+60.8 per cent). This indicates that there has been no growth in the number of members in the old area of operations, and that the growth in the total number of members is due to the geographic extension of the scheme.

M.4. External membership growth rate

Reference Volume 1 – Part III, section 3.1

Sources of information

- Insured, premium and membership fee register
- Insured and premium file

Method of calculation This indicator measures the percentage of members from the new areas of operation of the HMIS, using the following formula:

$$M.4 = \frac{\text{Members}_{\text{Year}N} \text{ in new MHIS areas of operations in year } N-1 - \text{Members}_{\text{Year}N-1}}{\text{Members}_{\text{Year}N-1}} \times 100$$

As was the case with indicator M.1, this rate may be calculated for beneficiaries and dependents using the above formula by replacing the number of members with either the number of beneficiaries or the number of dependents.

Example Using the addresses of registered members contained in the monitoring tools of the Sucura HMIS, it is possible to divide contributing members in year N-1 into two categories, based on their place of residence.

Contributing members	Year N-2	Year N-1
Old areas	148	135
New areas	0	103
Total	148	238

The external rate of growth of the Sucura HMIS in year N-1 is:

$$M.4 = (103/148) \times 100 = 69.6\%$$

Analysis note. The indicator shows that for year N-1, external growth accounted for a very large proportion of the enrolment trend.

M.5. Penetration rate

Reference Volume 1 – Part III, section 3.1

Sources of information

- Socio-demographic characteristics of the population of the area of operations and the target population (Table 5)
- Beneficiaries monitoring sheet (Table 7)
- Insured, premium and membership fee register
- Insured and premium file
- List of beneficiaries (or those excluded)

Method of calculation This indicator measures the percentage of beneficiaries among the target population. It is calculated using the following formula:

$$M.5 = \frac{\text{Beneficiaries}_{\text{Year N}}}{\text{Target population}_{\text{Year N}}} \times 100$$

The penetration rate may also be calculated for specific categories of beneficiaries and members of the target population. These categories may be based, for example, on gender, age or income.

Example The penetration rates for the Sucura HMIS in its first three years of operation are as follows:

	Number of beneficiaries and size of target population		
	Year N-2	Year N-1	Year N
Beneficiaries	948	1 529	1 705
Target population	10 000	10 200	10 300
Penetration rate	9.5%	15%	16.6%

M.6. Premium collection rate

Reference Volume 1 – Part III, section 3.2

Sources of information

- Insured, premium and membership fee register
- Insured and premium file

Method of calculation This indicator measures the percentage of premiums due that were actually collected by the HMIS (as of a given date). It is calculated using the following formula:

$$M.6 = \frac{\text{Amount of premiums received}}{\text{Amount of premiums due}} \times 100$$

Example The amount of premiums due of the VIMO HMIS is Rs 1,300,000 for year N, which covers the period from 1 January to 31 December. At the due date, it had actually collected Rs 1,250,000. The premium collection rate is:

$$M.6 = (1,250,000/1,300,000) \times 100 = \mathbf{96.2\%}$$

M.7. Average period for reimbursement of members and/or payment of providers

Reference	Volume 1 – Part III, section 3.3
Sources of information	<ul style="list-style-type: none"> ● Income statement ● Balance sheet
Method of calculation	<p>The rules in effect concerning the terms of reimbursement of members or the payment of providers (third-party payment) differ depending on the HMIS in question.</p> <p>Two indicators are provided below:</p>

M.7.1: Average period for payment of providers

This indicator is calculated on the basis of the amount of liabilities to service providers shown on the balance sheet (Table 2, line 12) and the total amount of claims shown on the income statement (Table 1, line G).

$$M.7.1 = \frac{\text{Liabilities to service providers}}{\text{Total claims}} \times 365 \text{ days}$$

The average period for the payment of providers must be evaluated in relation to the periods agreed upon with the provider or, failing this, according to practices observed, in the area concerned, relating to the payment of providers.

M.7.2: Average period for reimbursement of members

This indicator is calculated on the basis of the amount of liabilities to members shown on the balance sheet (Table 2, line 12) and the total amount of claims shown on the income statement (Table 1, line G).

$$M.7.2 = \frac{\text{Liabilities to members}}{\text{Total claims}} \times 365 \text{ days}$$

The value of this indicator should be compared with the lengths of periods observed in similar health microinsurance schemes. Managers should also look into any complaints members may have in this area. Lastly, the trend of this indicator can provide useful information in evaluating the functioning of an HMIS.

Example	<p>Based on its I/S and balance sheet (Tables 1 and 2), the indicator for the average period for the payment of providers of the VIMO HMIS, which operates a third-party payment system, is as follows:</p>
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$$\begin{aligned}
 M.7.1 &= (\text{line 12})/(\text{line G}) \times 365 \\
 &= (100,000/900,000) \times 365 \text{ days} = \mathbf{41 \text{ days}}
 \end{aligned}$$

4. Evaluation indicators of financial viability

F.1. Quick ratio

Reference	Volume 1 – Part III, section 4.1.1
Sources of information	Balance sheet
Method of calculation	<p>This ratio is calculated on the basis of readily disposable current assets, i.e. amounts in bank accounts and in cash (Table 2, line 1) and short-term liabilities (Table 2, line 12). Other current assets (receivables, investments and fixed assets) are not included because they are not readily disposable.</p> <p>To determine the quick ratio, the following formula is applied:</p> $F.1 = \frac{\text{Cash and due from banks}}{\text{Short term liabilities}}$

Example In the case of the VIMO HMIS (Table 2), the quick ratio is as follows:

$$F.1 = (\text{line 1}) / (\text{line 12}) \text{ or } (490,000 / 100,000) = 4.9$$

Analysis note. A high value for this ratio means that the HMIS will have no problem meeting its short-term liabilities; however, it is necessary to review the cash flow plan because the HMIS may be keeping too much cash.

F.2. Equity-debt ratio

Reference	Volume 1 – Part III, section 4.1.1
Sources of information	Balance sheet
Method of calculation	<p>This ratio is calculated on the basis of equity capital (Table 2, lines 16, 17 and 18) and total liabilities (line 14).</p> <p>To determine the equity-debt ratio, the following formula is applied:</p> $F.2 = \frac{\text{Equity capital}}{\text{Liabilities}} \times 100$

Example In the case of the VIMO HMIS (Table 2), the equity-debt ratio is:

$$F.2 = (\text{lines 16} + \text{17} + \text{18}) / (\text{line 14}) \times 100 \text{ or } (0 + 150,000 + 390,000) / 250,000 = 216\%$$

This ratio indicates that the overall solvency of the HMIS is excellent.

F.3. Reserve or cover ratio (of claims)

Reference	Volume 1 - Part III, section 4.1.1
Sources of information	<ul style="list-style-type: none"> ● Balance sheet ● Income statement (I/S)
Method of calculation	<p>This ratio is calculated on the basis of retained earnings, as shown on the balance sheet (Table 2, line 18), and claims (see Vol. 1, p. 21), as shown on the I/S (Table 1, line G).</p> <p>To determine the reserve or cover ratio (of claims), the following formula is applied:</p> $F.3.1 = \frac{\text{Retained earnings}}{\text{Claims}} \times 100 (\%)$ $F.3.2 = \frac{\text{Retained earnings}}{\text{Claims}} \times 12 (\text{months})$

Example In the case of the VIMO HMIS (Tables 1 and 2), and assuming that the entire amount of earnings is transferred to reserves, the reserve ratio is:

$$\begin{aligned}
 F.3.1 &= [(\text{line 18})/(\text{line G})] \times 100 \\
 &= [(390,000)/900,000] \times 100 \\
 &= \mathbf{43.3\%}
 \end{aligned}$$

$$\begin{aligned}
 F.3.2 &= [(\text{line 18})/(\text{line G})] \times 12 \\
 &= [(390,000)/900,000] \times 12 \\
 &= \mathbf{5.2 \text{ months}}
 \end{aligned}$$

F.4. Expense ratio

Reference	Volume 1 – Part III, section 4.1.2
Sources of information	Income statement
Method of calculation	<p>F.4.1. Operating expense to earned premium ratio</p> <p>This ratio is calculated on the basis of the operating expense of the HMIS for the relevant accounting period (Table 1, line J) and the earned premium (Table 1, line C).</p> $F.4.1 = \frac{\text{Operating expenses}}{\text{Earned premium}}$ <p>F.4.2. Total expense to earned premium ratio</p> <p>This ratio is calculated on the basis of the total expenses for the relevant accounting period (Table 1, line X) and the earned premium (Table 1, line C).</p> $F.4.2 = \frac{\text{Total expenses}}{\text{Earned premium}}$

Example In the case of the VIMO HMIS (Table 1), these ratios are as follows:

$$\begin{aligned}
 F.4.1 &= (\text{line J})/(\text{line C}) \\
 &= 365,000/1,200,000 \\
 &= \mathbf{0.30}
 \end{aligned}$$

$$\begin{aligned}
 F.4.2 &= (\text{line X})/(\text{line C}) \\
 &= 1,265,000/1,200,000 \\
 &= \mathbf{1.05}
 \end{aligned}$$

Analysis note. The HMIS was not able to achieve an adequate operating expense/earned premium ratio (lower than 0.2) and to cover all its expenses from earned premiums. The attractiveness of the HMIS may not be strong enough.

The ratio F.4.2 would have been higher than 1.05 if the HMIS had had to amortize equipment or buildings.

F.5. Claims ratio

Reference	Volume 1 - Part III, section 4.1.3
Sources of information	Income statement (I/S)
Method of calculation	<p>This ratio is calculated on the basis of total claims (Table 1, line G) and earned premium for the accounting period (Table 1, line C), as shown on the I/S.</p> <p>To determine the claims ratio, the following formula is applied:</p> $F.5 = \frac{\text{Total claims}}{\text{Earned premium}} \times 100$

Example In the case of the VIMO HMIS (Table 1), the claims ratio is as follows:

$$F.5 = (\text{line G})/(\text{line C}) = (900,000/1,200,000) \times 100 = \mathbf{75\%}$$

Analysis note. The value of the ratio shows that a major proportion of premiums is used to finance claims. This is a satisfactory level.

F.6. Gross operating expense ratio

Reference	Volume 1 - Part III, section 4.1.3
Sources of information	Income statement
Method of calculation	<p>This ratio is calculated on the basis of the total operating expenses (Table 1, line J) and total income of the HMIS for the relevant year (Table 1, line R), as shown on the I/S.</p> <p>To determine the gross operating expense ratio, the following formula is applied:</p> $F.6 = \frac{\text{Total operating expenses}}{\text{Total income}} \times 100$

Example In the case of the VIMO HMIS (Table 1), the gross operating expense ratio is as follows:

$$F.6 = (\text{line J})/(\text{line R}) = (365,000/1,205,000) \times 100 = \mathbf{30.3\%}$$

Analysis note. Although this ratio is high, almost half the operating expenses were attributable to training and promotion (200,000). It is normal for an HMIS in the start-up phase to undertake a major information and training effort. The trend of this ratio should be carefully monitored.

F.7. Investment concentration ratio

Reference	Volume 1 – Part III, section 4.1.4
Sources of information	List of investments (Table 14)
Method of calculation	This ratio is calculated on the basis of the list of investments shown in Table 14, using the highest percentage on the table, which is contained in column 4.

F.8. Asset-liability matching

Reference	Volume 1 – Part III, section 4.1.4
Sources of information	Management reports
Method of calculation	This indicator is either 1 or 0. If the HMIS practises asset-liability matching, then the indicator is 1. If it does not, the indicator is 0.

F.9. Financial risk management mechanisms

Reference	Volume 1 – Part III, section 4.2.2
Sources of information	<ul style="list-style-type: none"> ● Management reports ● Contracts with reinsurers and insurers
Method of calculation	This indicator is either 1 or 0. If the HMIS has some capacity, such as guarantee funds or reinsurance, to deal with a large co-variant risk, the indicator is 1. If it does not, the indicator is 0.

5. Method of estimating hidden costs and calculating operating income

Reference Volume 1 – Part III, section 4.3.1

Sources of information

- Role tables (Tables 19a and 19b)
- Income statement
- Balance sheet

Identifying and estimating hidden costs

Identifying hidden costs

Evaluators should identify activities whose costs are not included in the income statement and balance sheet.

Example. In its start-up phase, the VIMO HMIS was supported by a project. The following activities were carried out at no cost to the HMIS:

- Filling out membership cards. This activity was carried out by project staff and a secretary, who were made available to the HMIS.
- Preparation of the income statement and balance sheet. This was carried out by the project.
- Organization of three training sessions for officials in charge and managers of the HMIS. This activity was carried out by an NGO and was financed by the project.

Estimating hidden costs

To estimate the amount of hidden costs, a calculation is made of the cost of the activities that the HMIS would have had to perform in order to benefit from the same services that were provided to it free of charge.

Using the above example, the hidden costs for the various activities may be estimated as follows:

- *Filling out membership cards.* If the HMIS had had to contract the services of a person to fill out membership cards, this would have cost it Rs 20,000.
- *Preparation of the income statement and balance sheet.* The HMIS estimated the cost of having the financial statements prepared by a local certified accountant to be Rs 50,000.
- *Organization and financing of three training sessions.* The cost of the training sessions was estimated at Rs 100,000 (travel, accommodation for five people for four days).

In this example, hidden costs came to a total of:

$$\text{Rs } 20,000 + 50,000 + 100,000 = \text{Rs } 170,000$$

Calculating operating income

Taking hidden costs into account

After having identified hidden costs, those to be taken into account in calculating the operating income of the HMIS must be distinguished. This requires assessing the need to repeat these activities in the future, the sustainability of the external sources of financing used (project, public institution, community etc.), the level of autonomy desired by the HMIS, etc. It should be borne in mind that the primary objective of estimating hidden costs is to assess the capacity of the HMIS to meet all its expenses in the long term.

Calculating operating income

The operating income is equal to net income for the accounting period minus estimated hidden costs.

Example. In the case of the VIMO HMIS, net income for the accounting period is +Rs 90,000. However, the operating income for the same period is equal to:

$$\text{Rs } 90,000 - \text{Rs } 170,000 = -\text{Rs } 80,000$$

The HMIS has a negative operating income (after subtracting hidden costs) even though its income statement showed a positive net income (after subsidies). From the standpoint of this accounting period, the HMIS is not in a position to meet all the expenses required for its operation.

6. Evaluation indicators of economic viability

V.1. Self-financing ratio

Reference	Volume 1 – Part III, section 4.3.3
Sources of information	<ul style="list-style-type: none"> ● Income statement ● Reported hidden costs
Method of calculation	<p>The self-financing ratio assesses the ability of the HMIS to finance all of its expenses. It is calculated on the basis of the own revenue of the HMIS for the relevant accounting period (Table 1, line R), its total expenses, as shown on the income statement (Table 1, line X), and its estimated hidden costs.</p> <p>To determine the self-financing indicator, the following formula is applied:</p> $V.1 = \frac{\text{Total income}}{\text{Total expenses} + \text{estimated hidden costs}} \times 100$
Example	<p>In the case of the VIMO HMIS (Table 1), the self-financing ratio is equal to:</p> $ \begin{aligned} V.1 &= \{(\text{line R}) / [(\text{line X}) + (\text{estimated hidden costs})]\} \times 100 \\ &= [1,205,000 / (1,265,000 + 170,000)] \times 100 = \mathbf{84\%} \end{aligned} $

Analysis note. This ratio shows that the HMIS financed 84 per cent of its expenses (including hidden costs) from its own income (excluding subsidies) over the course of the relevant accounting period.

V.2. (Expense + hidden costs)/earned premium ratio

Reference Volume 1 – Part III, section 4.3.3

Sources of information

- Income statement
- Reported hidden costs

Method of calculation This ratio complements the total expense/earned premium ratio (F.4.2). Unlike that ratio, it takes hidden costs into account.

This ratio is calculated on the basis of total expenses and hidden costs for the relevant accounting period (Table 1, line X + estimated hidden costs) and earned premium (Table 1, line C).

$$V.2 = \frac{\text{Total expenses} + \text{estimated hidden costs}}{\text{Earned premium}} \times 100$$

Example In the case of the VIMO HMIS (Table 1), this ratio is equal to:

$$\begin{aligned} V.2 &= [(line X) + (\text{estimated hidden costs})]/(line C) \times 100 \\ &= [(1,265,000 + 170,000)/1,200,000] \times 100 = \mathbf{119\%} \end{aligned}$$

Analysis note. A financial analysis shows that the ratio of total expenses to earned premium (F.4.2) was 1.05. Indicator V.2 shows 119%, which is an even greater gap. The HMIS was not able to meet all its expenses for the accounting period from premiums.

The HMIS is in even less of a position to meet all its expenses from premiums when hidden costs are taken into account. This is illustrated by the value for ratio V.2.

7. Evaluation indicators of human resources

H.1. Staff administration tools

Reference Volume 1 – Part IV, section 1.2.1

Sources of information Staff administration tools

Method of calculation Indicator H.1 measures the existence and quality of the staff administration tools of the HMIS. Only two tools have been taken into account for the calculation of this indicator: the operating manual and the staff regulations. The same principle may be applied to similar tools.

Eight items of information have been selected because of their importance. One eighth of a point is attributed each time one of these items is contained in a tool. The total score multiplied by 100 produces the indicator value expressed as a percentage.

Items of information	Weighting coefficients
The operating manual contains the following information:	
1. The objectives of each function of the HMIS	1/8
2. The level of qualification required for the function	1/8
3. The unit (or organizational structure) to which the function is assigned	1/8
4. Description of the tasks corresponding to the function	1/8
The staff regulations contain the following information:	
5. Daily working hours	1/8
6. Dispute settlement	1/8
7. Staff rights	1/8
8. Staff obligations	1/8
Total	1

H.2. Investment in training

Reference	Volume 1 – Part IV, section 1.2.2
Sources of information	<ul style="list-style-type: none"> ● Income statement ● Invoices of organizations (or persons) who have provided training ● Estimated cost of training (delivered by support agencies, projects or other bodies).
Method of calculation	Two indicators are provided in order to take into account the fact that a third party often finances some amount of training costs. If the HMIS alone finances all its training costs, the two indicators are identical.

H.2.1. Gross investment in training

The first indicator estimates the cost of training with respect to total annual operating expenses, regardless of whether or not this cost was borne directly by the HMIS. To calculate this indicator, it is thus necessary to estimate the hidden costs relating to training (based on invoices or estimates) and to add them to the training costs shown on the income statement.

To calculate indicator H.2.1 for the relevant accounting period, the following formula is applied:

$$H.2.1 = \frac{\text{Total training costs}}{\text{Total operating expenses}} \times 100$$

H.2.2. Net investment in training

The second indicator is similar to the first, but takes into account only training expenses borne by the HMIS. It may be used to determine the percentage of HMIS expenses accounted for training.

To calculate indicator H.2.2 for the relevant accounting period, the following formula is applied:

$$H.2.2 = \frac{\text{Training expenses}}{\text{Total operating expenses}} \times 100$$

8. Indicators of effectiveness

E.1. Rate of utilization of health services by beneficiaries

Reference	Volume 1 – Part V, section 1.1
Sources of information	<ul style="list-style-type: none"> ● Beneficiaries monitoring sheet (Table 7) ● Claims listings by provider (Table 8) ● Risk frequency monitoring sheet (Table 11) ● Insured, premium and membership fee register
Method of calculation	<p>The indicator may be calculated for a health service or category of health services covered by the HMIS, for a provider and a group of providers. The data in the numerator and the denominator must correspond to the same period and concern the same beneficiaries. This point is important when the HMIS offers differing benefit packages.</p> <p>The formula for calculating the indicator, for a health service Z (or category of health services) during the period concerned, is as follows:</p> $E.1 = \frac{\text{Number of benefits Z covered}}{\text{Average number of HMIS beneficiaries}} \times 100$
Example	<p>Tables 7 and 8 for the Sucura HMIS show that:</p> <ul style="list-style-type: none"> ● 50 non-programmed medical hospitalizations were covered by the HMIS. ● The average number of HMIS beneficiaries for the same period was 1,705. <p>The rate of utilization of non-programmed medical hospitalizations by HMIS beneficiaries in year N was:</p> $E.1 = (50/1,705) \times 100 = 2.9\%$

E.2. Comparative rate of utilization of health services

Reference	Volume 1 – Part V, section 1.1
Sources of information	<ul style="list-style-type: none"> ● Beneficiaries monitoring sheet (Table 7) ● Claims listings by provider (Table 8) ● Risk frequency monitoring sheet (Table 11) ● Insured, premium and membership fee register ● Management information system for health services dispensed by providers ● Reference population of providers
Method of calculation	<p>The indicator may be calculated for a health service or category of services covered by the HMIS, for a provider or a group of providers. The data required to calculate the indicator can be obtained from the service provider, or by reference to a representative sample of non-beneficiaries living in the area of operations of the HMIS.</p> <p>The formula for calculating the indicator for a health service Z (or category of health services) for the relevant period is as follows:</p> $E.2 = \frac{\frac{\text{Number of benefits Z covered for beneficiaries}}{\text{Average number beneficiaries}}}{\frac{\text{Number of benefits Z covered for non-beneficiaries}}{\text{Average number non-beneficiaries}}}$
Example	<p>Using the example of non-programmed hospitalizations covered by the Sucura HMIS:</p> <ul style="list-style-type: none"> ● 50 non-programmed medical hospitalizations were covered by the HMIS. ● 2,400 non-programmed medical hospitalizations were provided by the hospital to the population of the area of operations who were not beneficiaries of the HMIS. ● The average number of HMIS beneficiaries for the same period was 1,705. ● For the relevant period, the population of the area covered by the hospital was 105,000, excluding HMIS beneficiaries. <p>The rate of utilization of non-programmed medical hospitalizations by HMIS beneficiaries in year N was:</p> <p style="text-align: center;">Rate of utilization by beneficiaries = $(50/1,705) \times 100 = 2.9\%$</p> <p style="text-align: center;">Rate of utilization by non-beneficiaries = $(2,400/105,000) \times 100 = 2.3\%$</p> <p style="text-align: center;">The comparative rate of utilization of health services: $E.2 = 2.9/2.3 = 1.26$</p> <p>Beneficiaries use non-programmed medical hospitalizations 1.26 times more often than non-beneficiaries.</p>

E.3. Comparative latent period

Reference Volume 1 – Part V, section 1.1

Sources of information

- Surveys of health care providers authorized by the HMIS
- Specific household surveys
- Surveys of HMIS beneficiaries using health services

Method of calculation This indicator may not be precise, inasmuch as it relies on statements (concerning the onset of illness) made by persons who have obtained treatment. It also requires that the dates on which services were obtained are known, which assumes that providers keep updated records on all patient visits.

This indicator is calculated on the basis of average times between:

- *The starting date of the illness (X) necessitating the treatment in question.*
- *The date on which services were obtained (Y) (consultation, hospitalization, etc.).*

The formula for calculating the indicator is as follows:

Latent period for HMIS beneficiaries

$$E.3.1 = \frac{\sum_{i=1}^n (Y_i - X_i)}{N}$$

Where N equals the number of beneficiaries surveyed during the period in question.

Latent period for non-beneficiaries

$$E.3.2 = \frac{\sum_{j=1}^m (Y_j - X_j)}{M}$$

Where M equals the number of non-beneficiaries surveyed during the period in question.

The comparative latent period is equal to:

$$E.3 = E.3.2 - E.3.1$$

Example For the sake of simplicity, in this example, information on only four beneficiaries is taken into account for the period from 1 January to 31 December.

Latent period

For beneficiary 1 = 20 March – 15 March = 5 days

For beneficiary 2 = 25 October – 12 October = 13 days

For beneficiary 3 = 12 April – 11 April = 1 day

For beneficiary 4 = 12 June – 9 June = 3 days

The average latent period for HMIS beneficiaries is equal to:

$$E.3.1 = (5 + 13 + 1 + 3)/4 = 5.5 \text{ days}$$

Similarly, information pertaining to four non-beneficiaries is taken into account for the same period.

Latent period

For non-beneficiary 1 = 30 March – 22 March = 8 days

For non-beneficiary 2 = 15 June – 2 June = 13 days

For non-beneficiary 3 = 12 October – 1 October = 11 days

For non-beneficiary 4 = 17 September – 2 September = 15 days

The average latent period for non-beneficiaries is equal to:

$$E.3.2 = (8 + 13 + 11 + 15)/4 = 11.8 \text{ days}$$

The comparative latent period is equal to:

$$E.3 = 11.8 - 5.5 = 6.3 \text{ days}$$

Beneficiaries wait, on average, six days less than non-beneficiaries before seeking treatment.

E.4. Comparative average length of stay for non-programmed hospitalizations

Reference	Volume 1 – Part V, section 1.1
Sources of information	<ul style="list-style-type: none"> ● Management information system of health care providers authorized by the HMIS ● Treatment certificates
Method of calculation	<p>This indicator must be calculated on the basis of a representative sample of beneficiaries and non-beneficiaries from the same area who have undergone a non-programmed hospitalization in the same health facility. The data are retrieved from the medical records of beneficiaries and non-beneficiaries.</p> <p>The indicator is calculated on the basis of average lengths of stay for non-programmed hospitalizations, i.e.:</p> <ul style="list-style-type: none"> ● The date of admission to hospital (X) ● The date of discharge from hospital (Y) <p>The formula for calculating the indicator is as follows:</p>

Average length of stay in hospital for beneficiaries

$$E.4.1 = \frac{\sum_{i=1}^n (Y_i - X_i)}{N}$$

Where N equals the number of beneficiaries surveyed during the period in question.

Average length of stay in hospital for non-beneficiaries

$$E.4.2 = \frac{\sum_{j=1}^m (Y_j - X_j)}{M}$$

Where M equals the number of non-beneficiaries surveyed during the period in question.

The comparative average length of stay for a non-programmed hospitalization is:

$$E.4 = E.4.2 - E.4.1$$

Example

For the sake of simplicity, in this example, information concerning only four beneficiaries and five non-beneficiaries is taken into account. All these individuals are from the same area and were admitted to hospital during the period from 1 January to 31 December.

Beneficiaries: (non-programmed hospitalizations)**Length of stay in hospital**

For beneficiary 1 = 25 March – 17 March = 8 days

For beneficiary 2 = 25 December – 14 December = 11 days

For beneficiary 3 = 12 March – 2 March = 10 days

For beneficiary 4 = 11 July – 6 July = 5 days

The average length of stay in hospital for beneficiaries is equal to:

$$(8 + 11 + 10 + 5)/4 = 8.5 \text{ days}$$

Non-beneficiaries: (non-programmed hospitalizations)**Length of stay in hospital**

For non-beneficiary 1 = 10 January – 2 January = 8 days

For non-beneficiary 2 = 25 November – 10 November = 15 days

For non-beneficiary 3 = 12 February – 3 February = 9 days

For non-beneficiary 4 = 12 June – 1 June = 11 days

For non-beneficiary 5 = 15 August – 3 August = 12 days

The average length of stay in hospital for non-beneficiaries is equal to:

$$(8 + 15 + 9 + 11 + 12)/5 = 11 \text{ days}$$

$$E.4 = 11 - 8.5 = 2.5 \text{ days}$$

Beneficiaries are hospitalized, on average, 2.5 days fewer than non-beneficiaries.

E.5. Comparative average costs of non-programmed hospitalizations

Reference	Volume 1 – Part V, section 1.1
Sources of information	<ul style="list-style-type: none"> ● Average claims cost monitoring sheet (Table 10) ● Management information system of health care providers authorized by the HMIS
Method of calculation	<p>The method of calculation of indicator E.5 is similar to that of indicator E.4. To calculate indicator E.5, the average length of stay in E.4 must be replaced by the average cost of a non-programmed hospitalization.</p> <p>The average costs of hospitalizations can be compared only if the same fees are applied to beneficiaries and non-beneficiaries.</p>

E.6. Rate of exclusion of beneficiaries

Reference	Volume 1 – Part V, section 1.1
Sources of information	Surveys of a sample of households of HMIS beneficiaries and of households of non-beneficiaries
Method of calculation	<p>The rate of exclusion of beneficiaries is estimated on the basis of observations of local morbidity and a comparison of the treatment-seeking behaviour of beneficiaries and non-beneficiaries.</p> <p>This requires carrying out a survey covering a relatively long period in order to include a sufficient number of cases of illness.</p> <p>The questions mainly have to do with the size of the household, the number of cases of illness (regardless of the type of illness), the means of treatment sought in each case and the reasons for seeking treatment (quality, proximity, money problems, etc.).</p> <p>A survey of this kind can provide a snapshot of:</p> <ul style="list-style-type: none"> ● Local morbidity, which is calculated by dividing the number of new cases of illness (irrespective of gravity) in the household during the period by the number of persons in the household; ● The utilization of different local health care providers and health facilities; ● The impact of the HMIS on the utilization of these providers and health facilities; ● The rate of exclusion (if any) of HMIS beneficiaries from the services covered, as well as the reasons for the exclusion, and comparison with the situation of non-beneficiaries.
Example	<p>An HMIS covers the health services (consultations, minor hospitalizations, maternity care and pharmacy) provided by a district health centre (DHC) (third-party payment system with a variable percentage co-payment, depending on the service).</p> <p>A survey of the target population of the HMIS (inhabitants of villages covered by the DHC) conducted in the context of an impact assessment produced the following results:</p> <ul style="list-style-type: none"> ● The rates of morbidity observed, projected over one year, were 1.2 cases of illness per person per year in beneficiary households and 1.3 in non-beneficiary households. ● The treatment-seeking behaviour observed is summarized in the table on next page.

Providers	Frequency with which treatment is sought from providers	
	Beneficiary households	Non-beneficiary households
Traditional self-medication (1)	5%	15%
Modern self-medication (2)	10%	50%
Traditional health practitioners (3)	7%	7%
"Charlatans" (4)	-	35%
Private health care providers (5)	-	3%
District health centre	95%	25%
Regional hospital (consultation)	-	3%
Regional hospital (hospitalization)(6)	4%	8%
Other health care providers (7)	-	-
Number of treatments sought per patient	1.21	1.46

- (1) Use of traditional pharmacopoeia at home
- (2) Purchase of medicines in the marketplace and in shops, and use of various medicines available at home
- (3) Traditional health practitioners
- (4) Tooth-pullers, peddlers and other "practitioners" lacking medical qualifications
- (5) Modern health care
- (6) The regional hospital has a health centre for the inhabitants of the district in which it is located and admits for hospitalization inhabitants of other districts who are referred by health centres, including the district health centre.
- (7) Other community health centres and providers outside the region.

Analysis note. With comparable rates of morbidity between beneficiaries and non-beneficiaries (1.2 and 1.3 cases of illness per person per year respectively), the HMIS has attracted 95 per cent of beneficiary patients to the district health centre, while only 25 per cent of non-beneficiary patients have utilized it.

Twenty-two per cent of beneficiary patients initially sought modern and/or traditional self-medication and traditional health practitioners. This may be a form of temporary exclusion, but the reasons given by households show that, when the case is considered mild, people prefer to seek treatment in the village first in order to save time or to avoid going to the district health centre. Many patients also continue to mix modern and traditional care.

The 5 per cent of beneficiary patients who used traditional self-medication, but who did not use the district health centre, may be broken down as follows:

- 2 per cent, owing to lack of enough money at the time of illness to pay the percentage co-payment;
- 3 per cent considered traditional self-medication to be better able to treat the illness concerned.

The rate of exclusion of beneficiaries for financial reasons was thus 2 per cent. The rate of exclusion of non-beneficiaries, based on their replies, was 32 per cent.

Four per cent of beneficiary patients were treated in the regional hospital (cases referred by the district health centre) as compared with 8 per cent of non-beneficiaries. When asked about this, the DHC nurse and the chief medical officer of the hospital explained that it was quicker and more direct for beneficiaries to seek treatment from the DHC, which accounted for the early management of illness, which contrasted with the behaviour of non-beneficiaries. The latter often arrived at the DHC in serious condition and more frequently required referral to hospital.

This lesser use of secondary health services by beneficiaries does not reflect a phenomenon of exclusion, but rather an earlier and more effective use of health care at the primary level.

9. Indicator of efficiency

C.1. Investment income

Reference	Volume 1 – Part V, section 2
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Sources of information	Income statement
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Method of calculation	<p>The ratio of investment income to total income is calculated on the basis of the investment income of the HMIS (Table 1, line E) and the total income for the accounting period (Table 1, line R), as shown on the income statement.</p> <p>This indicator is calculated using the following formula:</p> $C.1 = \frac{\text{Investment income}}{\text{Total income}} \times 100$
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Example	<p>In the case of the VIMO HMIS (Table 1), this indicator is equal to:</p> $C.1 = (\text{line E}) / (\text{line R}) = (5000 / 1,205,000) \times 100 = \mathbf{0.41\%}$
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10. Indicators of impact

I.1. Share of providers' health services accounted for by the HMIS

Reference Volume 1 – Part V, section 3.2.3

Sources of information

- Providers management information system
- Claims listings by provider (Table 8)
- Claims register

Method of calculation The formula for calculating this indicator for each service offered and for a given period is as follows:

$$I.1 = \frac{\text{Number of benefits Z covered}}{\text{Number of services Z provided by provider Y}} \times 100$$

It is useful to calculate this indicator for:

- The health services the most commonly covered by the HMIS;
- The providers the most frequently visited by beneficiaries.

Example A hospital Y dispensed 200 health services during the period concerned (column 2), 122 of which were covered by the HMIS (column 3). Indicator I.1, which is calculated for each service, appears in column 4.

Categories of services	Number of services dispensed by provider Y A	Number of health services covered by HMIS B	Indicator I.1 B/A
Non-programmed hospitalizations	80	50	62.5%
Surgical operations	45	25	55.5%
Gynaecological treatment	55	35	63.6%
Outpatient care	20	12	60.0%
Total	200	122	61.0%

I.2. Share of providers' income accounted for by the HMIS

Reference	Volume 1 – Part V, section 3.2.3
Sources of information	<ul style="list-style-type: none"> ● Accounting system of providers authorized by the HMIS ● Accounting tools of the HMIS ● Claims listings by provider (Table 8) ● Claims register
Method of calculation	<p>This indicator is relevant if the HMIS operates a third-party payment system. The objective is to determine the financial impact of the HMIS on the total income of a given provider (or all providers).</p> <p>For each provider (or all providers) and for a particular period, the following data is required:</p> <ul style="list-style-type: none"> ● X = Total amount of payments made by the HMIS to the provider. ● Y = Income received by the provider in the form of co-payments made by HMIS beneficiaries. This information must be obtained from the provider's accounting system. ● Z = Total income of providers for the relevant period. This information must be obtained from the provider.

The indicator is calculated using the following formula:

$$I.2 = \frac{X+Y}{Z} \times 100$$

I.3. Population coverage rate

Reference Volume 1 – Part V, section 3.3.1

Sources of information

- Management and monitoring tools relating to HMIS beneficiaries and to the population of the scheme's area of operations (Tables 3 and 4)
- Insured, premium and membership fee register
- Insured and premium file
- List of beneficiaries (or those excluded)
- Socio-demographic surveys carried out at the local level

Method of calculation The population coverage ratio is calculated in the same way as the penetration rate (M.5), i.e. by reference to the total population of the area of operations and not the target population (as the denominator). This indicator measures beneficiaries' share of the total population of the area of operations of the HMIS.

$$I.3 = \frac{\text{Beneficiaries}_{\text{Year N}}}{\text{Population of area}_{\text{Year N}}} \times 100$$

Example This example uses the same data as that used for the construction of the population penetration rate (M.5) of the Sucura HMIS:

	Year N-2	Year N-1	Year N
Total number of beneficiaries	948	1 529	1 705
Target population	10 000	10 200	10 300
Total population of the area	150 000	152 000	153 000
Penetration rate	9.5%	15.0%	16.6%
Population coverage ratio	0.6%	1.0%	1.1%

Analysis note. This example shows that despite a penetration rate of 16.6 per cent, the influence of the HMIS is very low in terms of the general population coverage (1.1 per cent).

I.4. Breakdown of beneficiaries by category

Reference Volume 1 – Part V, section 3.3.1

- Sources of information**
- Insured, premium and membership fee register
 - Insured and premium file
 - Socio-demographic surveys carried out at the local level
 - Surveys of specific households providing information by category

Method of calculation

This indicator measures and compares the relative proportion accounted for by certain categories of individuals with respect to all beneficiaries, on the one hand, and the population of the area of operations, on the other.

The table below shows one way of breaking down the beneficiaries and the population of the area of operations into categories. Other categories may be used, for example, those based on income, distance from home to the health centre (or HMIS), or occupation.

	Population of the area of operations		HMIS beneficiaries		Differences by category
	Number	Breakdown %	Number	Breakdown %	%
Total					
Male					
Female					
0-5 years					
5-15 years					
15-45 years					
45 years and over					

Example

The following table provides an example of a comparative breakdown of the beneficiaries of the Sucra HMIS and the members of the population of its area of operations into categories based on age and gender.

	Population of the area of operations A		HMIS beneficiaries B		Differences by category B – A
	Number	Breakdown %	Number	Breakdown %	%
Total	153 000	100	1 705	100	–
Male	75 000	49	887	52	+3
Female	78 000	51	818	48	–3
0-5 years	15 300	10	188	11	+1
5-15 years	38 250	25	409	24	–1
15-45 years	68 850	45	682	40	–5
45 years and over	30 600	20	426	25	+5

Analysis note. Depending on the category selected, variances between beneficiaries and members of the population of the area of operations are relatively low. However, it should be noted that the over-45 category is over-represented among beneficiaries.

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