Table 28 Milestones for health insurance evolution in Yemen

Year	Health insurance milestones	Institution building	Advise
2007 2008	Support by CHIC intensifies Approval of HIA law Expansion of military scheme Joint venture with polices designed Pilot-testing for teachers Support for micro-insurances Pilot-testing for self-employed MoPH&P increases prevention programmes MoF pays contributions for the poor International auditing and evaluation Increased international support	Centre for Health Insurance Competence (CHIC1)	Advisory board & Donors
2009 2010	All security schemes (SS) are unified SS tests contracting of external providers HIA supports security schemes Teachers HI in Sana'a and Aden Voluntary scheme for self-employed Harmonization plan for company schemes Support for micro-insurances MoF pays contributions for the poor MoPH&P increases prevention programmes International auditing and evaluation Increased international support	National Health Insurance Authority & CHIC1 splits into think tank of HIA and independent centre for HI training, research and consultancies	Supervisory board & Advisory board & Donors
2011 20012	Evaluation studies on experiences Full review of HIA Teachers in one entire Governorate SS at national level MoF pays contributions for the poor Micro-insurances strengthened Company schemes for all private sectors International support diminishes	National Health Insurance Authority & CHIC2	Supervisory board & Advisory board
2010 2014	Gradual expansion of all schemes MoF pays contributions for all poor MoPH&P increases prevention programmes Throughout audit and evaluation International support review	National Health Insurance Authority & CHIC2	Supervisory board & Advisory board
2015	Review and planning – participatory approach of all partners and clients		

4. Macro-financial projections of the proposed National Health Insurance[15]

4.1 Introduction

A number of financial projections were made using the WHO-GTZ health insurance simulation model SimIns-version 2[16]. SimIns is a health insurance simulation tool that analyses the basic mechanisms of health insurance. It projects the development of incomes and expenditures under certain assumptions over a 10 year period. Its principal use is in the financial forecasting of social health insurance (SHI) schemes, but it can also be used for community-based health insurance (CBHI). Key variables in health insurance - population coverage, incomes, health insurance contributions, co-payments, health

[15] Prepared by Guy Carrin, Ole Doetinchem and Belgacem Sabri, WHO

[16] See G.Carrin & C.James (2005). *SimIns health insurance simulation model (Eschborn: GTZ and Geneva: WHO), forthcoming..*

care costs and utilisation rates - can be varied according to six population groups and up to fifteen health service categories.

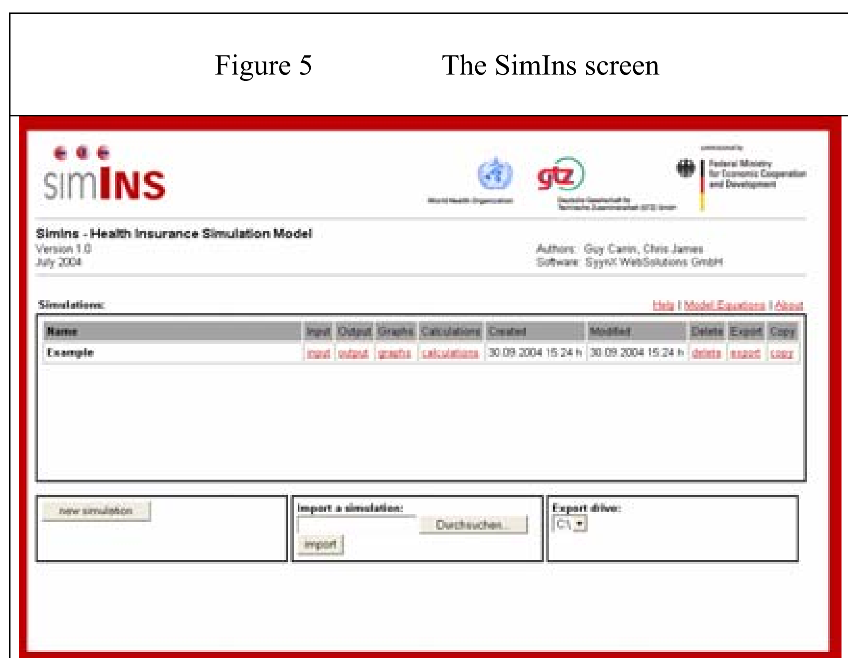

Figure 5 The SimIns screen

SimIns has three principal uses:

1. To illustrate the implications of initial policies with respect to key health insurance variables, thus reflecting (as opposed to setting) different policy options.
2. To determine what sets of contributions and/or utilisation patterns and/or health care costs can ensure financial equilibrium in a dynamic, changing environment.
3. To illustrate the impact of health insurance on the overall structure of health financing.

The basic output includes estimates of health care expenditures for the non-insured and insured. These are based on cost estimates (for different health service categories) multiplied by associated utilisation rates (for different population groups, further separated into non-insured and insured). Financing of these health expenditures comes from the government health budget, user fees, health insurance contributions, co-payments and government subsidies to health insurance. Special attention is paid to the revenue-expenditure account of social health insurance, the surpluses or deficits, and ways to finance deficits especially by the government.

4.2 Purpose of the financial projections and broad alternatives

4.2.1 Introduction

The financial projections presented in this study are to be understood as very preliminary (as further fine-tuning of data to be inputted is required).[17] They give a first approximation of different scenarios among which policy-makers would have the select one that is most feasible from an economic, social and political point of view. Further in-depth costing studies and more refined actuarial studies need to be undertaken further, and their results used in more reliable scenario analysis.

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[17] It will be a continuous task for the Centre for Health Insurance Competence or for the Planning Group of a National Health Insurance Authority to fine-tune data inputs and to use the results of such projections for dialogues with partners and policy makers. We consider simulation models as valuable inputs for discussion processes.

4.2.2 Basic characteristics of the alternative scenarios

The main characteristics in the projections undertaken are: the speed of implementation, the cost of the benefit package, the utilisation rates and the government subsidies into the health insurance scheme. Alternative combinations of these characteristics will lead to the building-up of the alternative scenarios.

The speed of implementation

An important characteristic in the scenario analysis is the speed of implementing health insurance coverage. An immediate implementation scenario could be calculated and analyzed. However, as outlined above (chapter 7.2), the implementation strategy of immediately covering the whole formal sector by 2007 (referred to as “big push”) encapsulates a number of problems. The most critical being a large health insurance deficit (when implementing an enterprise-based benefit package for all citizens) and no coverage of the self-employed and the poor at all, thus not providing any equity. Another major concern is that coverage of half the population within one year is most probably not technically feasible.

From an equity point of view, the self-employed which include a large fraction of the poor, would need to be considered right from the start of the implementation process. Still, government subsidies may be required to financially support health insurance coverage for the self-employed, especially the poor. The state of public finance may not allow policy-makers to adopt a fast implementation, however. Given those considerations, a gradual implementation of health insurance coverage is the most feasible, both for technical and economic reasons. In line with chapter 7.4.2., the financial projections therefore take into account a more realistic implementation time frame of at least 5 years for the so-called formal sector and more years for the self-employed.

The benefit package

Two types of benefit packages are considered. The first is based on the current level of health spending as presented in the National Health Accounts[18]. The cost of the benefit package offered is set equal to the average out-of-pocket spending per capita (after deducting 33 bn YR for treatment abroad and 10 bn YR from self-treatment).

It stands to reason that, assuming a status quo in utilisation rates, this package is financially feasible at the macroeconomic level. With such a package, however, one would not improve the overall quality of health services. In addition, the employees that currently benefit from a better enterprise-based package would of course loose health insurance benefits; however, the implicit assumption is that the difference between the enterprise-based package and the lower benefit package (based on the current level of health spending) would be covered by private health insurance arrangements at the individual or company level.

The value of the second benefit package, called enterprise-based benefit package, is based on the value of the benefit package offered by the Public Telecommunication Corporation minus 33 bn YR for treatment abroad. In the scenarios that use this package, all citizens that were not insured hitherto, especially the self-employed, would thus receive a better insurance coverage.

In SimIns, we enter the value of these alternative benefit packages via a maximum of 15 types of health services. However, due to insufficient data, we distinguish only outpatient and inpatient care in the current projections. It is important to stress here, however, that in future projections, this type of input needs to be improved. An in-depth study on the benefit package that National Health Insurance (NHI) could offer and on the costs of the health services within that package is required. In addition, the utilisation rates of the health services in such a package would need to be collected or estimated.
The utilisation rates

[18] "Expenditure on Health" WHO template, WHO NHA Table- Yemen (nha@who.int)

With the gradual implementation of health insurance coverage for all, utilisation rates are not likely to stay the same. For those that are newly insured, the out-of-pocket payments would go down drastically. A 'price effect' is likely to be observed, with the insured demanding more health services than before. For a number of insured, especially the poor, the demand would even go up drastically: they would find themselves in a situation whereby health insurance gives them claims on health care services, as compared to the previous situation where their demand for health services was chiefly determined merely by their capacity to pay.

In view of the previous considerations, two alternatives are considered for the scenario analysis: 1. low utilisation rates which can be qualified as 'current'; 2. 'increasing' utilisation rates (3 outpatient visits per capita, and a 3% inpatient admission rate). The latter alternative is likely to be the more realistic of the two, after introduction of health insurance.

Government subsidies

Governments subsidizing social health insurance is fairly common in established SHI schemes, especially to cover the health care costs of the poor, the unemployed etc. who themselves cannot pay in regular contributions into such schemes. Of course, the amount of government subsidies depends on what government as a whole can afford and is willing to transfer to the SHI.

In the four of the five scenarios, we will present the level of government of subsidies (as a % of total government revenue) that would be needed to achieve a financial equilibrium in health insurance. Of course, one would still need to judge whether the 'needed' subsidies are financially feasible for the government. In the fifth scenario, we illustrate what might happen if there is an overall constraint on government subsidies, equivalent to 1% of total government revenue.

Overview of scenarios

Below we present the 5 scenarios analysed. They cover the period 2004-2014. They are differentiated here according to the level of benefit package, of the utilisation rates and of government subsidies. There are other differences in variables and parameters inputted; these will be available upon request.

Table 29 Main features of scenarios

SCENARIOS	**Benefit package**	**Utilisation rates**	**Government subsidies**
Scenario 1a	Based on current level of health spending	Current	Implied subsidies for financial equilibrium of SHI
Scenario 1b	Based on current level of health spending	Increasing	Idem
Scenario 2a	Enterprise-based package	Current	Idem
Scenario 2b	Enterprise-based package	Increasing	Idem
Scenario 3	Enterprise-based package	Increasing	1% of Total government revenue

4.3 Data used

4.3.1 Gradual implementation of insurance coverage

The projection scenarios share the same data reflecting the policy decision of gradual implementation. Coverage in four out of the presented five scenarios is expanded according to table 30 and figure 6 below.

Table 30 Coverage: time path of expansion, gradual implementation (millions)

At the end of the simulation period: coverage of the formal sector 100%; coverage of informal sector 85%

in millions	2007	2008	2009	2010	2011	2012	2013	2014
Total insured population	2.294	9.431	12.908	15.461	18.15	20.545	22.613	24.784
Of which								
Dependants SE	0	2.584	3.723	4.925	6.194	7.533	8.944	10.43
Self-employed	0	0.606	0.873	1.155	1.453	1.767	2.098	2.447
Govt. employees	0.436	0.942	1.154	1.187	1.222	1.257	1.293	1.331
Employed	0	0.168	0.288	0.415	0.549	0.628	0.646	0.665
Pensioners	0	0.112	0.231	0.238	0.244	0.251	0.259	0.266
Other dependants	1.858	5.018	6.639	7.54	8.488	9.109	9.373	9.645
Population coverage (%)	10.36%	41.38%	55.04%	64.06%	73.09%	80.40%	86.00%	91.60%

This reflects coverage of the formal sector in stages according to institutional setup and a gradual inclusion of the self-employed sector.

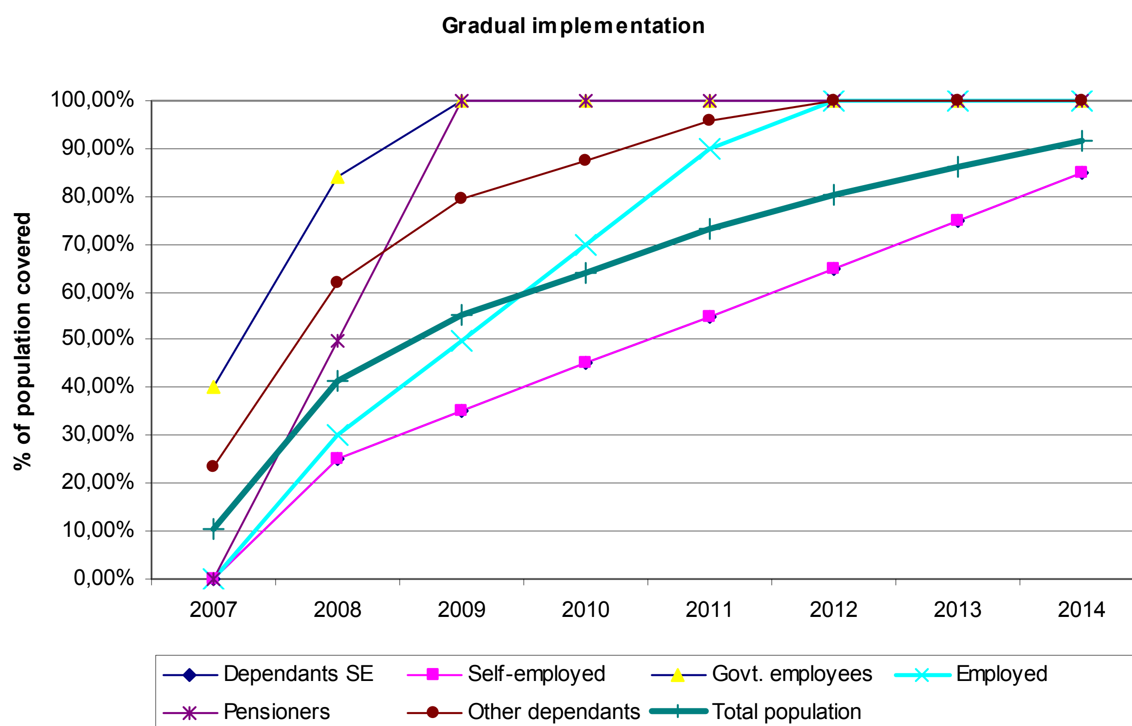
Government employees: We assume that in the initial year the health insurance covers the military only (ca. 400,000 staff plus dependants). The military is a highly organised body that is known to favour the introduction of health insurance and will therefore facilitate its introduction. This initial year can also be used to find and correct technical problems arising during implementation. The second year sees the inclusion of the police and other security personnel (ca. 200,000 staff) as well as the Ministry of Education (ca. 240,000 staff), dependants included each time. Finally, in the third year all government employees and their dependants would be covered.

Formal sector employees: Starting with the second year, the model assumes the gradual coverage of formal sector employees and their dependants, starting with 30% and reaching full coverage over a period of 5 years.

Pensioners: Coverage of pensioners, too, starts in the second year and includes all within 2 years.

Self-employed and the poor: The scenarios model the efforts to provide equity and include the self-employed and the poor population over time. In the second year, a quarter of the self-employed and poor are covered. This is then increased by 10% per year reaching 85% by the end of the given simulation period. Within this, half of all the self-employed are exempted from paying a contribution to account for poverty. The fifth scenario presented here differs in its coverage projection of the self-employed and poor; this is explained in that section.

Figure 6
Coverage: time path of expansion, gradual implementation (% of total population)



4.3.2 National Health Accounts, 2003-2004

The data and assumptions presented below in table 31and table 32 are used to construct the 'baseline' data.

Table 31 National Health Accounts data and assumptions

Variables	Data and assumptions
General Government expenditure on health (current prices)	46,745 mill R (2003) This figure is adjusted for inflation and the real GDP growth rate to obtain: 54,317.7 (2004)
Private expenditure on health (current prices)	85,993 mill R (2003) This figure is adjusted for inflation and the real GDP growth rate to obtain: 99,923.9 (2004)
General government expenditure	929,916 mill (2004)
GDP (current prices)	2,531,635 mill R (2004)
Exchange rate (R per US$)	184.78 (2004)
Total population (in thousands)	20,239

4.3.3 Other macroeconomic data used in the baseline year, 2004

Table 32 Macroeconomic scenario data

Variable	Value	Source
Population growth rate	2.9%	WB, Yemen Rep. at a glance
GDP real growth rate	3.7%	WB, Yemen Rep. at a glance
Total government revenue as a % of GDP	33.9%	WB, Yemen Rep. at a glance
Composition of total government revenue - taxes on income, profit and capital gains - indirect taxes - taxes on international trade - other fiscal revenues - non-fiscal revenue - grants	 15,257.6 mR 78,227.5 mR 87,341.4 mR 1,518.9 mR 511,390.3 mR 12,911.3 mR	- estimate of total government revenue in 2004, based on GDP of 2004 and the ratio of 33.9% (WB, Yemen Rep. at a glance) - distribution of total government revenue in its components, using the public finance structure of 1999 (see IMF Government Finance Statistics Yearbook, 2004: pp.487.
Inflation	12.5%	WB, Yemen Rep. at a glance
Utilisation of GDP (in %) - household consumption - government consumption - gross fixed capital formation - exports of goods and services - imports of goods and services	 63.6% 17.6% 21.0% 30.8% 39.9%	 Based on WB, Yemen Rep. at a glance

4.4 Key Findings

4.4.1 Scenario 1a: Gradual implementation at current spending level and constant utilisation rate

In the initial projection scenario, we studied the overall impact of a gradual implementation strategy while providing benefits commensurate to current overall spending levels in the country. In this setup, the health insurance makes a profit such that this is the only scenario in which contributions from the formal sector are lowered from the initial assumption of 11%. The health insurance manages to keep financial equilibrium with formal sector contributions beginning at 8% of wages and rising to 10% by the end of the simulation period (see figure 7). Consequently, no government subsidies are required in this projection. For details of the financial results, refer to table 33.

Although eventually covering the whole population and requiring no subsidies, there are a number of caveats to this scenario: The benefit package that can be offered at a cost equivalent to current spending levels in the country as a whole means that benefits will be lower than and different to those that some employees in the formal sector are getting today. With the inclusion of the poorer and rural population, the benefits offered must take into account the overall health needs of the population, especially primary and preventive services as well as maternal and child health. Formal sector staff not wanting to forego some of the benefits they enjoy now (such as treatment abroad) would be able to buy supplementary private insurance. With contribution rates that undercut the amount that these employees are willing to pay and the inclusion of the self-employed and poor this may be attractive. Of course, a big caveat here is that the scenario uses low utilisation rates and may therefore not be realistic.

Figure 7

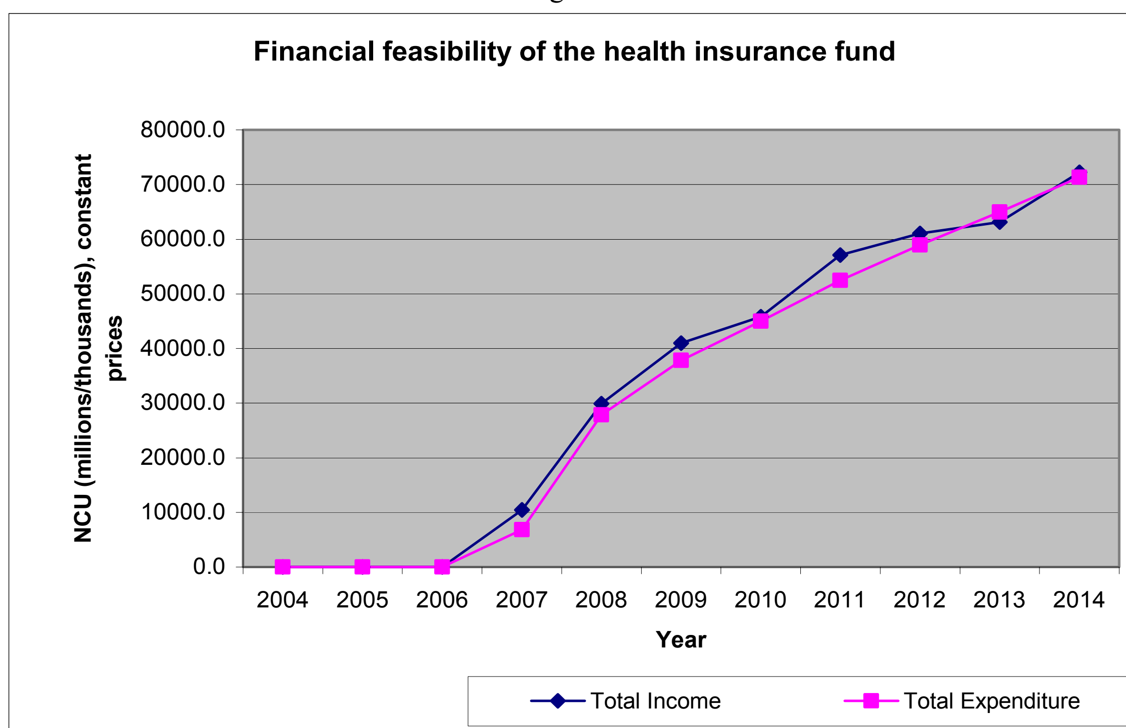


Table 33 SimIns Projection

Scenario 1: Gradual implementation (current spending level)
Scenario 1a: current utilisation levels
Scenario 1b: rising utilisation levels

Scenario 1a	Current spending levels / current utilisation rates		
millions YR (constant prices)	**2007**	**2009**	**2011**
Expenditure	6821.1	37818.8	52431.7
Revenue	10459.7	40965.1	57123.5
Balance	34.80%	7.70%	8.20%
Government subsidies[1]	0.0%	0.0%	0.0%

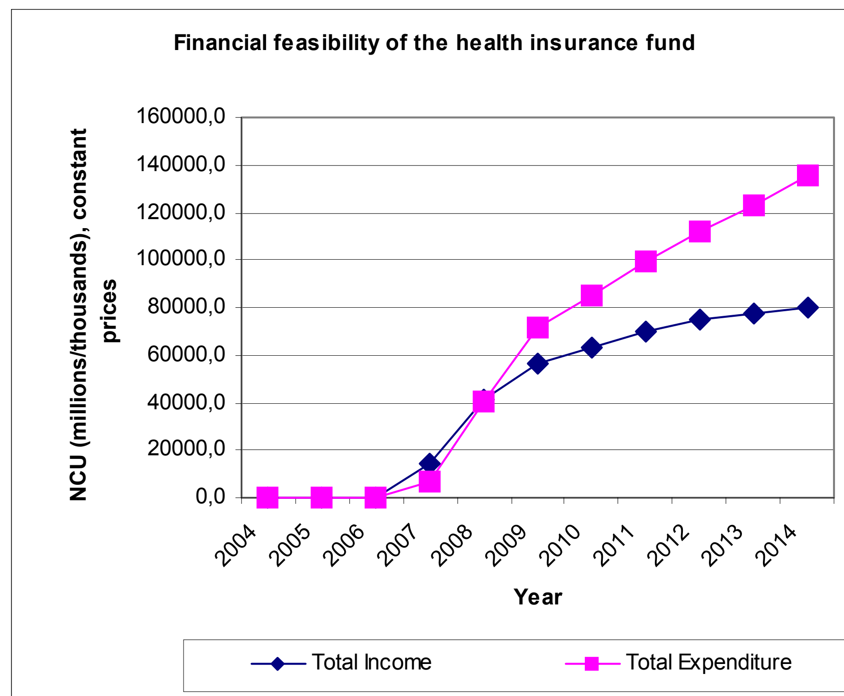
Scenario 1b	Current spending levels / rising utilisation rates		
millions YR (constant prices)	**2007**	**2009**	**2011**
Expenditure	6821.1	71769.6	99400.8
Revenue	14382.1	56162.8	69837.1
Balance	52.60%	-27.80%	-42.50%
Government subsidies[1]	0.0%	1.0%	2.5%

Note:
1 - Government subsidies required for financial equilibrium as percentage of total government revenues

4.4.2 Scenario 1b: Gradual implementation at current spending level and rising utilisation rate

Scenario 1b implements the expected increase in utilisation rates as access to health services increase with coverage. The resulting costs of health service provision pushes the insurance considerably into the red, the resulting deficit rising to over 40% of revenue by 2011 (see table 34 and figure 8). To correct this deficit, a government subsidy to the health insurance would be needed of 1% of general government revenue in the third year of operation rising to 4% in the 8th year. Note that unlike the previous scenario this already incorporates formal sector contributions of 11% of wages.

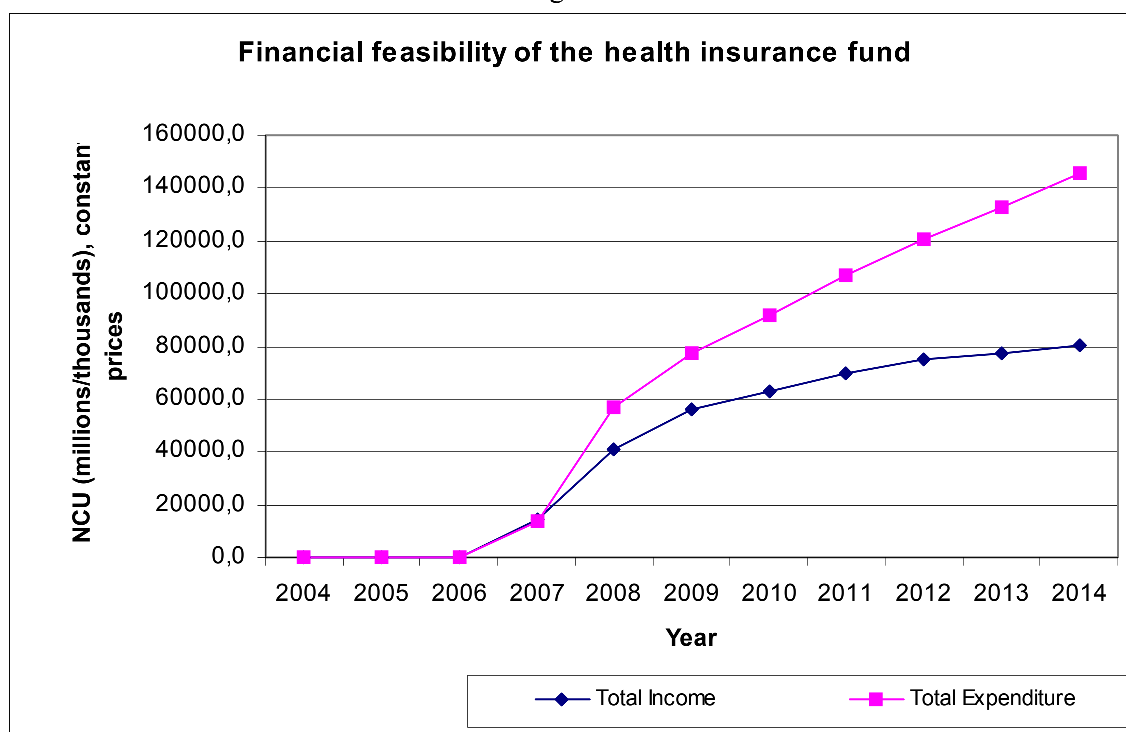
Figure 8



4.4.3 Scenario 2a: Gradual implementation with enterprise based benefit package and constant utilisation rate

For scenario 2a we based the calculations on higher health care costs, which is equivalent to the health insurance covering a benefit package based on current enterprise offerings (based on the Public Telecommunication Corporation health benefits). Under this regime, formal sector employees could be offered the same benefits as they are receiving now, although without treatment abroad. For the majority of the population the money should be spend on a package reflecting their health needs, as they are probably different from the average (male) employees'.

Figure 9



As can be seen in figure 9, with virtually the same earnings as in the previous scenario but significantly higher expenditures, the health insurance manages to break even in the first year only (during which only the military is covered). The financial results are presented in table 34. The deficit in percentage-terms is higher than even in scenario 1b, even though utilisation rates are kept constant at current levels. To balance the books, a subsidy would be necessary as soon as coverage is extended to the self-employed and the poor. The amount needed would be equivalent to 2% of government revenues in the third year of operation, rising to 3.5% in the fifth year.

Table 34
SimIns Projection: Scenario 2: Gradual implementation (enterprise based benefit package)
Scenario 2a: current utilisation levels
Scenario 2b: rising utilisation levels

Scenario 2a	Enterprise based benefit package / current utilisation rates		
millions YR (constant prices)	**2007**	**2009**	**2011**
Expenditure	13958.4	77388.3	107290.5
Revenue	14382.1	56234.2	69930.6
Balance	2.95%	-37.60%	-53.40%
Government subsidies[1]	0.0%	2.0%	3.5%

Scenario 2b	Enterprise based benefit package / rising utilisation rates		
millions YR (constant prices)	**2007**	**2009**	**2011**
Expenditure	13958.4	146041.3	202470.5
Revenue	14382.1	56313.3	70446
Balance	3.00%	-159.30%	-187.40%

Table 34
SimIns Projection: Scenario 2: Gradual implementation (enterprise based benefit package)
Scenario 2a: current utilisation levels
Scenario 2b: rising utilisation levels

Government subsidies[1]	0.0%	8.0%	11.0%

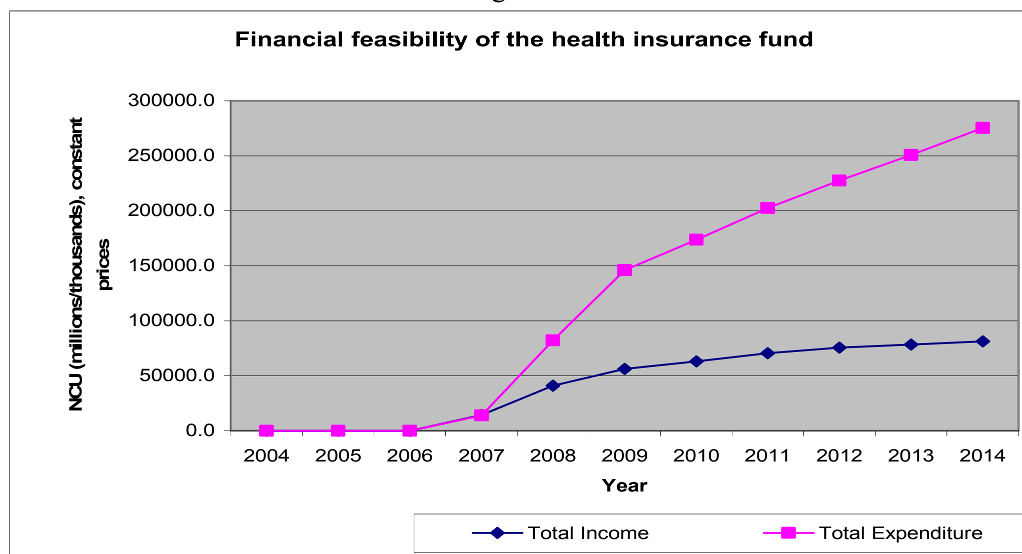
Note:
1 - Government subsidies required for financial equilibrium as percentage of total government revenues

4.4.4 Scenario 2b: Gradual implementation with enterprise based benefit package and rising utilisation rate

With the health insurance offering a higher benefit package than what the majority of the population is currently receiving, we are assuming that people will soon start to make more use of health services. Scenario 2b reflects this increasing utilisation rate, while the benefit package is, as in the previous scenario, financially equivalent to enterprise based health benefits.

A quick glance at figure 10 will make evident the financial unsustainability of such a scenario. The financial results are shown in table 35: the ensuing deficit would amount to more than 1½ of the insurance's revenue in its third year of operation already. Theoretically, this deficit could be eliminated by subsidising the health insurance with 8% of government revenue in 2009, which would rise to 11% in 2011.

Figure 10



4.4.5 Scenario 3: Gradual implementation with enterprise based benefit package and public finance constraint

For scenario 3 we approached the question of financial equilibrium from a different angle. Government subsidies are now fixed at 1% of government revenue, reflecting a possible public finance constraint. We then adjust other parameters to see how close we can get to a financially balanced but also equitable scenario of health insurance.

As many formal sector workers may resist paying into a health insurance that offers fewer benefits than what they are accustomed to, the expenditure is kept at enterprise level (equivalent to scenarios 2a

and 2b). Contributions of the formal sector are kept at the maximum of 11%. As such a setup would still result in a very large deficit, further measures are taken to decrease costs and to increase revenue.

- Co-payments are increased to 20%
- The contributions of the self-employed are split into two:
  - 1,000 YR for the average person in this category (2004 figures, inflation adjusted in the following years)
  - 500,000 rich self-employed pay a contribution equivalent to 4% of a salary that is twice that of the average government salary
- In the first year of operation, fewer people in the self-employed category are exempted from paying a contribution
- The extension of coverage of the self-employed and poor is slowed down considerably, so that by the end of the simulation period only half is covered (see table 36).

Table 35 Coverage of the self-employed and the poor in scenario 3: slower expansion (in %)

Year	2007	2008	2009	2010	2011	2012	2013	2014
SE coverage	0%	10%	20%	30%	35%	40%	45%	50%

The overall results are presented in figure 11 and in table 36. Although the scenario does manage to keep expenditures below and revenues above the levels of the previous scenario, a wide financial gap still appears as by the third year of operation. These figures already take into account the 1% government subsidy. Nevertheless, the health insurance deficit amounts to 63% of revenues in 2007 and 84% in 2011.

Figure 11

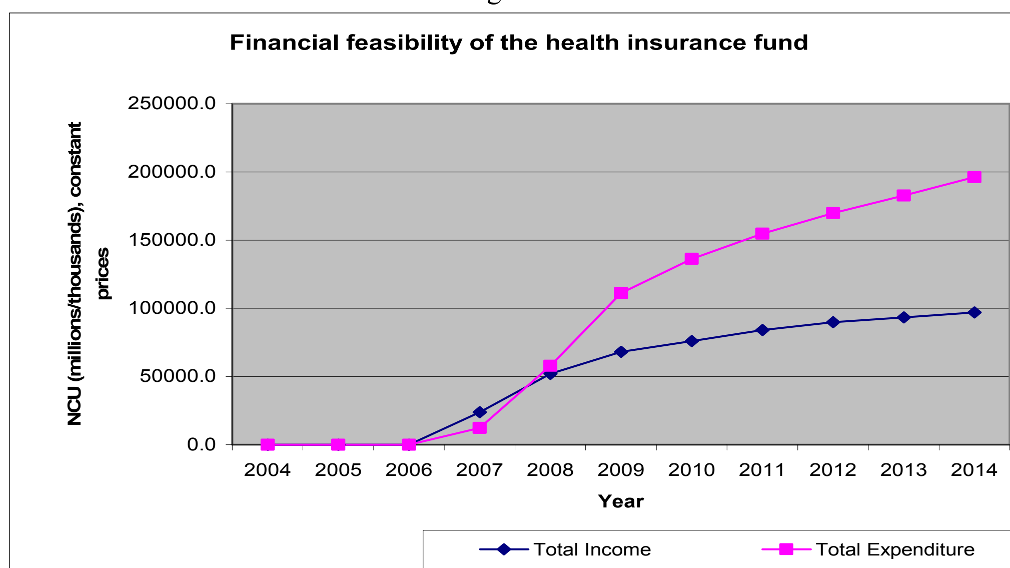


Table 36 SimIns Projection:
Scenario 3: Gradual implementation (enterprise based benefit package and public finance constraint and rising utilisation levels)

Scenario 3	Enterprise based benefit package /public finance constraint / rising utilisation rates		
millions YR (constant prices)	**2007**	**2009**	**2011**
Expenditure	12407.4	111108.9	154808.4
Revenue	23938.4	68127.1	84072.8
Balance[1]	48.20%	-63.10%	-84.10%
Government subsidies[2]	1.0%	1.0%	1.0%

Notes:
1 – Balance after government subsidy of 1% of total government revenues
2 - Government subsidies locked at 1% of total government revenues (public finance constraint)

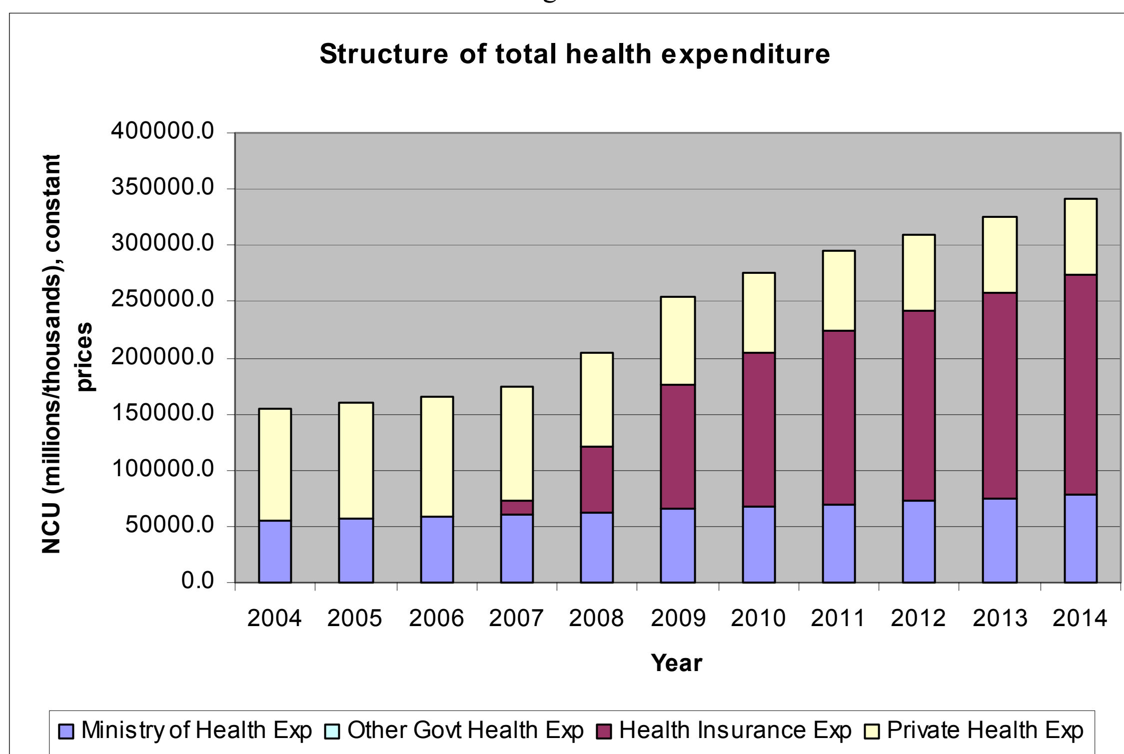
In this scenario we incorporated a ceiling to subsidies to the health insurance coming from outside it. This is probable, as there are many competing claims to whatever funds can be used for subsidies, be they from government or other sources. We adjusted the contribution levels to try and gain the maximum plausible revenue from within the health insurance system. We sacrificed equity and solidarity in several areas, namely higher co-payments, fewer exemptions, lower (or slower) coverage of the self-employed and the poor. Still, this did not result in a financial equilibrium for this health insurance projection.

To go on from here some important questions need to be asked: how much does Yemen orientate its health insurance policy along the normative goal of providing an equitable system and access to health care for all? Financial equilibrium is certainly easier to find, when coverage is limited to the formal sector. However, the health insurance system will ultimately be judged in terms of how much it has contributed to a healthier and better off society. For this equity is important. Solidarity between those that earn more and those who have less is important. Coverage and access to all at prices they can afford is important. As we have seen in these scenarios, achieving a sustainable and equitable health insurance system is difficult, not least from a financial perspective. The degree of solidarity, of cross-subsidisation, of inclusion of the self-employed, of exempting the poor from paying and of subsidising the system from government or other sources is for Yemeni society to discuss. The financial implications of these choices can then be modelled with further SimIns scenarios.

4.4.6 Structure of overall health expenditure

Figure 12 below is taken from scenario 3 and illustrates one of the fundamental characteristics common to all five projections: as health insurance is implemented and coverage is gradually extended across the population, the structure of health expenditure changes. Health expenditure shifts from private, out-of-pocket spending to prepayment into the health insurance and the share of health care expenditures transacted through the health insurance increases while private spending decreases. Furthermore, as an ever larger share of the population gains access to a more extensive package of health services through insurance, overall spending in the health sector increases.

Figure 12



4.5 Key challenges

Securing the necessary financial resources

Increasing the quality of health services (with its subsequent impact on costs of services), improving the utilisation of health care and extending overall access to health services to all of the population are important objectives in the context of Yemen. Social health insurance can be used as a major vehicle to work towards these objectives. However, financial resources would need to be identified. Even the introduction of the first (low) benefit package, while assuming a higher utilisation of health care, leads to important financial deficits. The government subsidies that would be needed, theoretically, represent major amounts; it follows that the opportunity costs of such subsidies are likely to be sizeable. The introduction of the better enterprise-based benefit package together with higher utilisation rates increases further the need for government subsidies, which now are projected to be even higher than the current Ministry of Health budget. Finally, once one introduces a constraint on government subsidies (see the fifth scenario), financial deficits rise further.

From our preliminary scenario analysis, we conclude therefore that financial feasibility of the assumed gradual implementation of social health insurance scheme is most problematic.

Possibly adapting the structure of social health insurance

From a financial point of view, it may be worth looking into the feasibility of a multi-fund structure for social health insurance. For instance, one could further develop the coverage of the formal sector population, letting them benefit from an existing enterprise-based benefit package. This could be done within a Employee and Civil Servants Sickness Fund. Then, there could be a Self-Employed Sickness Fund whereby the lower benefit package would be introduced. Special measures would have to be taken for the medium and high-income self-employed who are registered and for whom there are reasonable estimates of income (so that they can pay in contributions). A further fund could be composed of a federation of community-based health insurance schemes.

Benefit packages in the different funds could be different at the start, due to the different capacity to pay of the contributors. Yet, with economic growth and an improving income distribution, these packages could converge over a certain number of years to a common benefit package. Financially speaking at least, this would seem to be more doable.

The organisation of such a structure may cause further concern, however. In many countries with a multi-fund structure, funds operate under the umbrella of a National Health Insurance Board or Agency. The latter would need to exercise important stewardship for such a multi-fund structure to respond to common national objectives. In addition, it has to regulate any transfers between the different funds; for instance, a certain percentage of the revenues of the better-off funds (usually the Employee and Civil Servants Sickness Fund is one of them) could be siphoned off in favour of the less well-off funds. In addition, such an umbrella Agency would have to negotiate with Government about the Government subsidies that would financially support the various funds, especially the least well-off.

Working Group on the financing of social health insurance[19]

In this chapter, we presented a first set of preliminary projections for different scenarios. Further work needs to be done in order to define under which conditions social health insurance in Yemen could eventually be considered:

1. All data currently inputted in the SimIns simulation model need to be reviewed:
    - (i) Categories of health services, together with their unit costs and utilisation rates (thereby making sure that utilisation rates of women and children are properly considered
    - (iii) Updating of the macroeconomic accounts and public finance to the baseline year of the projections, namely 2004.
2. New scenarios to be explored:
    - (i) the possibility of adjusting the tax structure together with a study of its n macroeconomic variables such as employment, investment and economic growth)
    - (ii) the possibility of international grants to help sustain the financing of the social health insurance programme.

This work could be undertaken by a technical Working Group (that could be established by a National Steering Committee for social health insurance). Such a group would need to include national experts from ministries of health, finance and labour, and would also have to include a national legal expert. This group would in turn be supported by international technical assistance.

The interaction within this Working Group would significantly enhance the realism of further alternative scenarios. For example, it would be easier to study the financial implications of any changes in the currently proposed law. Or, constraints defined by the Ministry of Finance could be considered from the start.

5. Roadmap towards international co-operation for a health insurance system in Yemen

5.1 Demand for technical assistance

Keeping with former studies (i.e. Fattah 2003), this investigation has shown that a series of essential preconditions for implementing a national health insurance system are not met yet in Yemen. On the one hand side, this applies to the given situation in the health care system as well as to the persisting lack of a reliable information system. On the other hand side, most of the prerequisites for implementing and conducting a national health insurance system are not in place and have not yet been initiated although recommended clearly in former reviews and analysis.[20] Most of the

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[19] Within the proposed Centre of Health Insurance Competence or a National Health Insurance Authority.

[20] For instance, point 5 of the review performed by an EMRO-expert three years ago states the following: An intensive training programme should be adopted from the start for all levels of health insurance staff particularly in management,