
The role of health insurance and community
financing in funding immunization in
developing countries

Afsar Akal

and

Roy Harvey

August 2001

(FINAL)

Contents

PREFACE	3
SUMMARY OF FINDINGS	4
1 ANALYSIS AND MAJOR FINDINGS	5
1.1 GUIDE TO REPORT	5
1.2 ANALYSIS AND CONCLUSIONS	6
1.2.1 <i>Cost of Immunization Services</i>	7
1.2.2 <i>Health financing options</i>	8
1.2.3 <i>Comparisons of Financing Mechanisms against the Criteria</i>	9
2 CONTEXT	13
2.1 INSTITUTIONAL AND POLITICAL FACTORS	14
2.2 ORGANISATIONAL AND ADMINISTRATIVE FACTORS	15
2.3 ECONOMIC FACTORS	16
3 OVERVIEW OF HEALTH FINANCING OPTIONS	17
3.1 HEALTH INSURANCE	17
3.2 USER FEES AND HEALTH INSURANCE	21
3.3 COMMUNITY FINANCING	22
3.4 HEALTH SAVINGS ACCOUNTS.....	24
3.5 TAX FINANCE.....	25
3.6 OVERSEAS FUNDS.....	26
4 POLICY RELEVANCE OF HEALTH INSURANCE IN DEVELOPING COUNTRIES ..27	
4.1 INSURANCE FINANCE FOR ESSENTIAL IMMUNIZATION SERVICES AND VACCINE FINANCE GOALS...31	
BIBLIOGRAPHY	32
INDEX TO CASE STUDY MATERIAL*	
<u>BOX 1: FUNDING IMMUNIZATION SERVICES IN BULGARIA – SOCIAL INSURANCE AND MINISTRY OF HEALTH ROLES</u>	19
<u>BOX 2: USER FEES COMBINED WITH HEALTH INSURANCE – PHILIPPINES AND VIET NAM</u>	22
<u>BOX 3: COMMUNITY FINANCING: INDONESIA, PAPUA NEW GUINEA, LESOTHO, THAILAND, GUINEA-BISSAU</u>	23
<u>BOX 4: HEALTH SAVINGS ACCOUNTS – SINGAPORE AND CHINA</u>	25
<u>BOX 5: FUNDING IMMUNISATION VIA COMBINED LOAN, TAX AND INSURANCE FUNDING – PHILIPPINES AND VIET NAM</u>	26

* Additional material is included in the general body of the report.

Preface

This is a background paper on the role that health insurance and community financing can play in funding immunization in developing countries. Health insurance is taken as a group of persons contributing funds to a common pool, usually held by a third party. These funds are then used to pay for the part or all of the costs of health care of the members of the pool. This paper also discusses policy considerations for the financing of essential immunization programs from health insurance or similar forms of pre-payment schemes such as community financing and private health savings accounts.

This paper was prepared for the Financing Task Force of the Global Alliance for Vaccines and Immunization (GAVI). The purpose of this document is to provide the background for a fact sheet on health insurance and community financing of immunization for use by GAVI member agencies and others in advising governments on immunization finance. As such, the paper takes the form of a review of relevant and available materials and is not intended to be a thesis promoting a particular viewpoint. Conclusions are based on the results of that review.

Summary of Findings

Social Health Insurance

- Social health can be an efficient and equitable method of financing immunization services if the services are included in a program designed to provide health services to the entire population and if the benefit package includes primary health care services.
- Because of the administrative complexity, cost and the long lead time required to establish a social health insurance program, establishing a social health insurance is not a short term method of financing immunization services.
- Strengthening tax financing is likely to be a more efficient and less complex method of raising funds to support immunization services than developing health insurance schemes.
- Once effective immunization services are funded by other means, a social health insurance program can be an effective way of integrating the financing and operation of immunization services into the broader health services.
- No example was found of a country that established a Social Health Insurance program just to finance immunization services.

Private Health Insurance

- Private health insurance is an inefficient, and inequitable, method of providing immunization services to the poorer members of communities.
- Private insurance may be a politically acceptable method of mobilising resources of higher income groups to pay for their own health and immunisations services, thus freeing taxation or loan funds to provide services to poorer groups.

Community Financing

- Community financing schemes can provide a limited source of supplement financing for immunization services. Community financing schemes generally cannot raise sufficient revenues to finance the major logistic exercise required to establish and maintain the cold-chain and purchase and distribute vaccines necessary for an immunization service for the poorer sections of a population.
- Government finance may be needed to subsidise insurance/community premiums of the poorest members of communities. In the absence of such government subsidies, the required premiums for benefit eligibility become de facto user fees and discourage membership and hence lower utilisation of immunization services by poor people.

Multiple funding

- Almost all countries use multiple funding sources to finance their health care to ensure they meet the multiple objectives of efficiency and equity that most countries share. Developing countries should draw on these experiences rather than focus on a single financing mechanism.

1 Analysis and Major Findings

This section of the report contains the main analysis of the more detailed descriptive material in the remainder of the report, and the summary of findings. It is largely self-contained although it makes reference to additional material and analysis in the remainder of the report.

Section 1.1 provides a guide to the report;

Section 1.2 contains the main analytical section of the report and it presents the report's findings. It is in two parts:

- 1.2.1. To give some magnitude of the resources involved in providing immunization services, this section presents data extracted from other sources.
- 1.2.2 This presents the health insurance financing options and the other financing mechanisms that are generally used in health sector financing. It describes the set of criteria against which the different financing mechanisms and different health insurance options are compared. This section makes reference to Sections 3 and 4, and Section 4, but is essentially freestanding.
- 1.2.3 This compares the different financing mechanisms using the criteria proposed and summarises the strengths and weaknesses of health insurance and how it relates to other financing mechanisms.

1.1 Guide to Report

The report has two main analytical sections:

Section 2: This outlines the range of country specific factors that should be considered when making decisions about the role that health insurance can play in funding immunization services. The factors identified are grouped as follows: Institutional and Political, Organisational and Administrative, and Economic.

The Institutional and Political factors that should be considered include: the level of popular support and political support at all levels of government for the program to be funded; the mechanisms that exist to gather the necessary taxes or insurance premiums; the capacity of the current organisation of health services to support the program; and, the administrative capacity to develop, implement and manage the program being considered. These factors create the broader environment in which the financing mechanism will have to operate.

The organisational and administrative factors most directly influence the choice of financing mechanism. This paper identifies three separate functions, which need to be considered and coordinated: how is the money raised (Method of Financing), how are services delivered (the Method of Organising the Immunization services), and how are services paid for

(Method of Payment for Goods and Services). The interaction between these factors largely determines the success of the program.¹

The economic impact of different financing mechanisms also needs to be considered. Funds raised through payroll taxes, for example, can place a high burden on the formal employment sector, and in extreme circumstances, can destroy the basis for funding the program.

Section 2 seeks to make two points:

1. that the choice of financing mechanisms for immunization services must take account of the existing institutional, political and economic reality of the country concerned;
2. together, the method of financing and the method of payment for service delivery should provide incentives that encourage the delivery of high quality, efficient and equitable immunization services.

Section 3: This section describes the major methods used to finance health services and immunization services, as well as the health insurance options. Because the literature on funding immunization services is relatively limited, some of the evidence reviewed relates to funding health services in general. The section discusses some of the practical and theoretical issues that underpin the different financing mechanisms. It highlights that, in practice, the complex economic and social situations in many countries require a mixed financing strategy to ensure that the poor get the immunization services needed. Few countries rely on a single financing mechanism. While most countries have a principal financing strategy, the analysis shows that tax revenues often have to be used to ensure an equitable outcome for the poor.

Throughout Section 3 there are a number of boxed sections that describe health-financing methods used in developing countries to illustrate the theoretical discussion.

Section 4: Provides a review of a number of background papers and highlights a number of issues relevant to the financing of immunization services in developing countries.

1.2 Analysis and Conclusions

While the main focus of this report is on the role that health insurance can play in financing immunization services, it is unrealistic to consider health insurance in isolation. Most countries use at least three mechanisms for financing their health services. Generally there is a principal financing mechanism that raises the bulk of health finances: tax financing in the UK, social health insurance in Germany, and private health insurance in the USA. In addition user fees are charged for some or all services, there are generally tax subsidies to ensure that the poor have access to services, and other aspects of their health systems are community financed (by local government, community based organisations or charities). While the use of multiple

¹ In this paper, health insurance is treated as a financing mechanism only. Some papers use the term health insurance to refer to the Method of Financing and the Method of Payment for goods and Services. See Section 2.2 for further discussion of this point.

funding sources is partly historical, it also reflects the complexity of achieving the multiple objectives that all health systems face.

It is likely that developing countries will also have to 'mix and match' different financing mechanism according to the specific circumstances that they face.

Section 1.2.2 starts with a general discussion of all the major financing options, and Section 1.2.3 then compares different financing mechanism with four criteria selected for the purpose. Particular attention is paid to:

- i. the role of health insurance as a funding mechanism for immunization services, and
- ii. how the other financing mechanism relate to insurance.

1.2.1 Cost of Immunization Services

To provide some concrete information for later discussion, this section provides some limited data about the costs of immunization services and the capacity of developing countries to finance these resources. In *Immunization Financing Resources*, Kaddar et al (2000) state that few studies on the cost of immunization programs in developing countries have been carried out in the 1990s, but they go on to say

"One generally accepted average cost for fixed facilities is \$15 per fully immunized child² for the traditional six EPI antigens (BCG [Bacille Calmette-Guerin Vaccine], DTP [diphtheria, tetanus and pertussis], polio, and measles vaccines)(page 3)."

This includes the local costs of personnel, and vaccine procurement and distribution, but does neither include the cold chain establishment and maintenance nor the costs of mobilisation.

Population growth rates in the developing countries is 3-5% per year³, and the countries with the highest population growth rates are amongst the poorest of countries. The World Bank *Health, Nutrition, and Population Sector Strategy Paper* (2000, Page 8-9) points out that countries with per capita incomes in the range \$300 to \$800, usually spend 1.5-3% of income on health. It goes on to say that countries with per capita incomes greater than \$800 per year, and that spend 3-5% of GDP on health, that

This is usually more than sufficient to pay for care that goes well beyond essential preventive and clinical services for the poor.

² DeRoeck and Levin (1998) document methodological problem in how a "fully immunized child (FIC)"— the most common measure of cost-effectiveness of immunizations—is defined. In some cases, it includes all children fully immunized, regardless of age, while in others it refers only to children who are fully immunized by the age of one year.

³ The United National Population Division (UNPD) reports that the 10 countries with the highest rate of growth of populations 2000-2005 are Afghanistan, Angola, Burkina Faso, Burundi, Liberia, Mali, Niger, Somalia, Uganda, Yemen. They have population rates of growth of 3-5.5% per year. These countries also have the highest rates of fertility ranging from 6.8-8 live births per woman.

On the Bank's assumptions, in countries with incomes of \$300-800, governments spend between \$4.5 and \$24 per capita on health. The Bank says that these countries

‘may need to mobilize additional finances from community sources and international donors to pay for public health interventions with large externalities and essential programs for the poor (i.e. over an above the tax financing).’

The \$15 cost per fully immunized child would be large enough to deter poor people from paying for the services. The payment for public health services from taxation is supported on theoretical grounds by public finance economists (eg Musgrove 1997) on the grounds that public health services often provide ‘external benefits’ to the whole community as well as to the individuals that receive the services. As the cost-effectiveness of vaccines is very high (Bhushan, 1999, Table 2, p14) it could be argued that the financing of immunization services should be the first priority for government expenditures.

1.2.2 Health financing options

Section 3 provides a review of six methods of financing health services:

- Health Insurance (social, private)
- User Fees (formal co-payments, informal payments)
- Community Financing
- Health Savings Accounts
- Tax Revenue (income tax, sales tax, value added tax etc)
- Overseas Funds⁴ (international loans, foreign aid).

It was considered that all of these methods should be brought into the discussion of financing of immunization services because most health systems do not use a single mechanism to finance health services.

Criteria for comparing financing mechanisms

Four main criteria are used in this paper to compare financing mechanisms for funding immunization services:

Equity of a financing mechanism is assessed by the extent to which people contribute to the fund according to their *ability-to-pay*.

*Efficiency of a financing mechanism*⁵ is measured by the percentage of the total revenue generated that is taken up in collecting the revenue.

⁴ There is only a limited discussion of the use of Overseas Funds because the issues it raises are significantly different to those raised by the health insurance mechanism. It is outside the scope of this paper.

⁵ Efficiency of services delivery is not included as a criterion as it is not directly related to the method of financing. It is the method of paying for goods and services that provides the incentives for efficient service delivery.

Equity of access to services is the extent to which the financing mechanism results in rich and poor have equitable use and access to services.

Administrative feasibility – is it feasible to implement the financing mechanism.

Though ability-to-pay is not strictly defined, financing mechanisms in which the rich pay more than the poor are regarded as more equitable than those in which all people pay the same (or less) to the financing pool. If the rich pay a higher proportion of their incomes into the fund than the financing mechanism is said to be *progressive*. If the rich pay a lower proportion of their income than do the poor, the financing mechanism is said to be *regressive*.

1.2.3 Comparisons of Financing Mechanisms against the Criteria

Health Insurance - Social, Private

Table 1-1 and 1-2 summarize characteristics of social and private insurance and compare each financing mechanism against financing criteria.

Table 1-1 Characteristics of Typical Insurance Types

Characteristic	Social Insurance	Private Insurance
Coverage of population	Universal Coverage	Persons/families willing and able to pay
Determination of contributions	Based on ability to pay – often fixed proportion of income	Risk-rated - based on expected cost of services used.
Method of collection of contributions	For employed - with Payroll Taxes Social Security/Unemployed – through Ministries Self-Employed, Farmers - Special arrangements, direct payment to agency Poor – sometimes tax financed subsidy	Employer based schemes – through employer Others – Direct Payments to insurer, bank transfer etc.
Cost of collection of contributions	Generally 1-2% of revenues for comprehensive health insurance	Generally ~ 5% of revenues for comprehensive health insurance
Administrative complexity	Depends on range of services insured and extent to which health sector reform is tied to introduction of program.	Generally only undertaken for relative high cost coverage

A detailed discussion of the two forms of insurance is provided in Section 3.1. While both social health insurance and private health insurance often cover immunization services there is no guarantee that this is always the case (see Box 1 and Box 5 for examples). If health insurance were used solely to fund immunization services, the administrative costs of collecting revenue for that purpose would be very high. It is unlikely that any private insurer would offer such a package.

Table 1-2 Comparison against Criteria

Criteria	Social Health Insurance	Private Health Insurance
Efficiency of Financing	Very efficient for comprehensive insurance Low efficiency - High cost if collection method is only for funding immunization services	Policy for only immunization services probably would not be offered. If so, costs would likely to be higher than for social health insurance.
Equity of Funding	An equitable, method of funding. According to ability-to-pay.	Inequitable: risk rated – larger, sicker families pay more than rich, well families.
Equity of access to services	Good financial access for poor since every one is insured. (Physical access will depend on availability of service providers)	Poor equity of access since the poor will not take up this type of insurance.
Administrative feasibility	Difficult to implement without long lead-time, and relatively sophisticated resources.	Can be implemented for a high income/formal sector population.

Social Health Insurance:

- can be an efficient and equitable method of financing immunization services if the services are included in a program designed to provide health services to the entire population and if the benefit package includes primary health care services.
- Because of the administrative complexity, cost and the long lead time required to establish a social health insurance program, establishing a social health insurance should is not a short term method of financing immunization services.

Because private insurance is risk rated, the poor, who generally have larger families and are likely to be in worse health than the rich would have to pay higher premiums than the rich. It is therefore inequitable. In addition, as discussed in Section 3.1 the administrative costs of operating private health insurance, are, for a number of reasons likely to be higher than those of a social health insurance program. Because it is likely to be higher cost, it would not be efficient to subsidise the poor to take out this form of health insurance.

As shown in table of Section 4, in many developing countries there are government sponsored health insurance organisations for the defense forces, the public sector, and private sector and private insurers for the private sector. In some countries these insurers provided 15-60% of total health expenditure. If there are existing health insurance organisations in a country, it will almost certainly be the middle/upper income groups who are members. The government should ensure that these groups do not get tax/loan subsidies for immunization services or for most other services for which they are insured. This could be done by having appropriately structured user fees for insured persons, while exempting the poor. This can be both difficult and expensive to administer. However, if the poor are mainly rural based, or are provided services at locations or in a manner that the upper income groups would not use them, it may be possible to raise some additional revenue inexpensively while providing few disincentives to the poor to use the services. Alternately, if the

government did not want the individuals to be charged for immunization services, it could require the insurance organisations to pay in a block payment based on the number of persons eligible to be immunized each year. This later strategy would not pose a deterrent to individuals but would be a low cost method of recovering the costs of providing the immunization services.

Private Health Insurance

- Private health insurance is an inefficient, and inequitable, method of providing immunization services to the poorer members of communities.
- Private insurance may be a politically acceptable method of mobilising resources of higher income groups to pay for their own health and immunisations services, thus freeing taxation or loan funds to provide services to poorer groups.

Health Savings Accounts

Health Savings Accounts (HSAs) are a form of self-insurance whereby individual save regularly so that they have money to pay for almost all health services when they need it. HSAs may operate as a compulsory national scheme as in Singapore as voluntary community financing schemes as in China (See Box 4 for more details).

The Singapore HSAs provides significant government subsidies to the poor for high expensive services, but even then, the standard of service is much lower than the upper income groups receive.

If the scheme is compulsory, as in Singapore, it becomes a form of social health insurance except that it is more inequitable, since there is no pooling of risk as in social health insurance, and many of the poor may not be able to pay contributions at all – thereby losing access to services.

Community Financing

There is no single model of community financing. Section 3.3 and Section 4 report on a number of community based initiatives that range from pre-payment models of financing to provision of labour and in-kind goods for health related activities. The reports of community financing initiatives are very varied, with some initiatives being relatively successful, while other reports show an increasing unwillingness to provide free labour and in-kind support.

The success of community financing initiatives will be country specific depending on the strength of community/clan/tribe bonds and the extent that urbanisation and market developments have undermined these bonds.

Careese and Bennett (1997), in their report on rural risk-sharing strategies conclude:

“Well-designed insurance schemes may have even greater potential for improving health system performance-particularly quality and efficiency-than for raising substantial additional finance. This is particularly likely in poor communities, where there simply is not a lot of extra money available.

Because of the variety of financing mechanism that is labelled as community financing, there is no report on their performance against the four criteria.

Community Financing

- Community financing schemes can provide a limited source of supplement financing for immunization services. Community financing schemes generally cannot raise sufficient revenues to finance the major logistic exercise required to establish and maintain the cold-chain and purchase and distribute vaccines necessary for an immunization service for the poorer sections of a population.
- Government finance may be needed to subsidise insurance/community premiums of the poorest members of communities. In the absence of such government subsidies, the required premiums for benefit eligibility become de facto user fees and discourage membership and hence lower utilisation of immunization services by poor people.

User Fees (Formal Co-payments, Under-the-table payments)

It is widely recognised that user fees can deter people from using services. In most private health insurance and some social health insurance programs user fees are explicitly designed to deter over-use by patients or over-servicing by doctors. With immunization services, which have fixed schedule of immunizations, neither of these issues is a concern.

Another function of user fees is to raise revenue. As discussed earlier, for governments that have difficulties in paying for immunization services for the poor from tax or loan financing, there is a case for direct user charges, or for levies on social or private health insurers to cover the costs of these services.

There is another situation that consideration should be given for the introduction of formal co-payments. This is the common situation where health service providers expect to receive 'under-the-table payments' for the provision of services that are supposed to be free. In many countries – Romania, Indonesia and the Philippines to name a few – it is considered that these under-the-table payments are the major cause of poor individuals and families using only a fraction of the services of higher income people. Under-the-table payments have exactly the same effect of deterring poor people from using services as formal user fees do.

If a health service program introduces formal co-payments with exemptions for the poor, the additional funds raised could go to providers as part compensation for loss of the under-the-table payments. Publicity surrounding the introduction of the co-payments and its purpose, and professional sanctions, could work to reduce the deterrent effect that under-the-table payments have on the use of services by the poor.

Tax Revenue

Almost every financing mechanism discussed requires the use of taxation revenue to improve equity of financing and equity of access to services. Few countries subsidise premiums for poor people to join private health insurance, for the good reasons discussed above. However, if there were a strong commitment to using private sector insurers, it would be tax revenues that were used to pay or subsidise the premiums for the poor.

Social health insurance is, in fact, taxation under another name. Because it is compulsory, and premiums are according to ability-to-pay, there is no real distinction between tax revenue and social health insurance revenues. The cost of collecting the additional tax revenue is likely to be less than the cost of collecting social health insurance revenue.

Insurance systems would always keep membership records and track of individual contributions. Both of these activities are costly to undertake. Tax has the advantage that it has greater flexibility in being able to target where the money is – it does not have to rely on premiums paid by individuals. So long as due attention is paid to the incidence of tax on individuals and on the possible economic and commercial consequences of the taxes levied, the tax office can identify major flows of funds that it may not be able to trace to individuals. For example it may be possible to identify the total income of agricultural cooperatives, but not how the funds are distributed to members.

Probably more important than how the funds are raised for immunization services is how they are spent. The real improvements in both equity and efficiency come from well-designed Methods of Payments for goods and services, rather than re-design of financing mechanism.

2 Context

It is generally recognised that immunization is an extremely cost-effective method of reducing death and disease from a number of causes (Bhushan, 1999), but many countries continue to have difficulties to develop and/or maintain immunization services. There are many reasons for this, including political and military instability, but in many cases the principal cause is poverty. There is a review, in Section 4, of some of the difficulties of establishing sustainable financing methods in developing countries. While it is possible to undertake a general review of the possible role of health insurance in poor countries, any more detailed analysis has to be undertaken on a country-by-country basis since even the most basic information that could support further analysis is absent. Kaddar et al (*Immunization Financing Resources, 2000*) reports that there is a lack of even the most basic information about financing of immunization services such as the cost of ‘vaccines, syringes, transport, cold chain maintenance, and social mobilization’ (p 3). Much of this report then has to deal in generalisations that may assist country specific studies to identify financing strategies.

The main focus of this paper is on the possible contribution that health insurance can make to finance immunization services in developing countries. But before discussing health insurance options in detail, it is desirable to place the choice of financing methods, and the role that health insurance may be able to play, into a broader context of developing an effective National Immunization Program.

There are three broad sets of factors that governments need to consider when making decisions on the development and maintenance of an efficient and equitable National Immunization Program. In making the choice of the method(s) of funding immunization services, policy makers need to consider how the different funding methods relate to these other factors. The choice cannot be made on the basis of a theoretical analysis of financing alternatives only.

The sets of factors that will influence the long term success of a National Immunization Program may be grouped into three types: Institutional and Political, Organisational and Administrative, and Economic Impact.

2.1 Institutional and Political Factors

Institutional: The factors to be considered here relate to the structure of the health services in general and of the immunization services in particular, and to social and employment structures within the country concerned.

Factors relating to the organisation of health services include: is there a single national health service or regional health services; what is the public/private mix of services and their existing roles. These have obvious implications for what there is to build immunization services around. Can existing immunization services be strengthened or does there need to be a reform of the whole health sector to ensure the success of the immunization services.

The government needs to consider the *Administrative Capacity* of its public service and NGOs when deciding how to fund and operate its immunization services. Experience in the Philippines, Romania, Bulgaria and Viet Nam, have shown that it can take 5-10 years (or longer in the case of the Philippines and Viet Nam) to develop the legislation, steer it through the political process, and make operational, a social health insurance that caters for the needs of the poor members of its community. The *Health Care Systems in Transition: Armenia* (WHO 1996, page 14) said that, for Armenia, it was estimated that the development of compulsory national health insurance system might take at least 10 years.

"A comprehensive compulsory insurance system is only feasible if the following pre-conditions are met:

- That the annual per capita GDP has increased from the current \$500 to approximately \$4000.
- That the informal payment practices in the health sector have reduced significantly.
- That the general workforce receives mainly formal salaries, instead of the current system of low formal salaries and high informal payments.
- That the tax system has improved, and in particular the compliance with the payment of income tax."

The plan in Armenia is to encourage the population to organize themselves in local pre-payment schemes or to privately insure themselves in packages, which would include immunization services.

The administrative complexity of different methods of financing immunization services needs to be considered when making the choice of which method(s) to use.

The capacity to collect contributions to health insurance will be determined by the structure of employment and/or of social and community structures, and the existing administrative structures that the government currently uses to collect taxes, social security contributions etc. The prospects for being able to collect revenue with certainty and efficiently will be improved if a significant proportion of the population are in formal employment, or if most of small farmers who sell their produce through co-operatives of a limited number of buying agents. If there are traditional or stable communities that have a clear sense of social identity and social cohesion then the prospects for being able to

collect contributions will also be good. However, if most of the population live in large urban centres with high rates of unemployment or under-employment, and little formal employment, then the prospects of collecting health insurance from these groups will be small.

If there are existing administrative structures that collect government revenues then they can be built upon to collect health insurance revenues. Similarly, if there are existing health insurance organisations (eg for the defence forces, government employees, formal sector employees), then this also increases the likelihood of being able to efficiently collect additional health insurance revenue.

If a significant proportion of a country's Gross National Product is generated from a limited number of mining, manufacturing or primary producers, then the prospects of generating revenue will be good, even if the work force is itinerant or casual. In these cases, health insurance would not be the preferred option, but taxation or royalty payments could be used to generate income that the government could use for funding immunization services.

Political: These factors include: what roles will *different levels* of government play in financing or providing immunization services [in the Philippines the Health Insurance of 1995 planned to enrol about 20 million poor people in insurance by 2002. Lack of cooperation between levels of government, together with the economic crisis of 1998 has resulted in less than 2 million people being enrolled by 2001]; are there *ethnic or cultural factors* that need to be considered [eg if the rich and poor are from two different ethnic groups the transfer subsidies from the rich to the poor may provoke political problems]; are interests of *professional groups* threatened by plans to strengthen immunization services? Are there traditional clan or tribal structures that can be used in developing community based initiatives, or have the forces of urbanisation and market forces broken down these structures?

2.2 Organisational and Administrative Factors

There are three main elements of a National Immunization Program: the Method of Financing (ie raising funds to pay for the immunization services); the Method of Organising the Immunization Services; and the Method of Payments for Goods and Services. The *equity* and *efficiency* of the overall National Immunization Program will be determined by the *equity* and *efficiency* of each element of the National Program and in the ways in which the methods of financing, provision and payments interact with one another.

Methods of Financing: these are discussed in detail in the next sections.

Methods of Organising the Immunization Services: these can be highly varied. Services can be provided through publicly or privately owned facilities; staff can be government employees, NGO or privately employed, or self-employed. Some of the activities may be provided by voluntary labour (eg through Community Based activities supplemented by Community Finance). There are many different ways of organising mechanisms of delivery of goods as well (eg the cold chain could be established and maintained in a variety of ways).

Methods of Payment for Goods and Services: these can also be very varied. Staff (whether publicly or privately employed) may be paid by wages and salaries, by fee-for-service, or on a capitation basis. Goods (vaccines, syringes etc) can be purchased through national procurement contracts, by local manufacture, by purchase from the private sector on an ad hoc basis (eg each doctor could purchase their own vaccines and syringes, or individual families could purchase vaccines from public or private pharmacies)

Each method of *financing immunization services* will provide greater or lesser incentives for individuals and organisations to avoid paying their contributions (eg in Eastern Europe some employers have avoided paying employer contributions to social insurance on behalf of their workers by claiming their workers were contractors and not employees). If user fees are used as a method of financing immunization services, poor people may not use the services.⁶

Each method of *paying for goods and services* provides incentives and disincentives to those who pay for the services, those who ‘manage the finances’ and to those who provide the services. Care needs to be taken to ensure that the incentives provided by the financing and payment systems encourage the provision of high quality, low cost immunization services, especially to the poor.

Policy makers need to identify the specific barriers to the delivery of effective immunization services. The barriers may relate to social acceptance of immunization programs, social acceptance of the financial methods necessary to provide the funding of immunization services for the poor, willingness of different levels of government to support financially or in kind immunization services, capacity to finance services, status of cold chain equipment and other logistic problems, methods of service delivery (inclusion of immunization into routine health care or use of National Immunization Days etc) and labour-force issues. Having identified the key social, organizational and financial issues, the policy makers then need to identify the alternative methods of overcoming each of these barriers, and then determine the interaction between alternative financing methods and service delivery mechanisms.

2.3 Economic Factors

Different methods of generating funds to pay for immunization services can have different effects on the economy. Raising revenue from pay roll taxes can increase the costs of the formal employment sector to such an extent as to increase the general rate of inflation and reduce the competitiveness of local producers with damaging consequences to employment and national production as occurred in Hungary during the early 1990s.

The World Bank recommends that governments seek to mobilise ‘additional’ resources to supplement taxation revenues. Care needs to be taken in providing incentives to do this. For example, incentives could be given to individuals to enrol in private health insurance with the intention of allowing the government being able to directing tax funding more to the poor. However it is possible that, under such a

⁶ Some authors use the term ‘health insurance’ to refer not just to the method of raising funds, but to the organisation and method of payment used. This usage greatly reduces the capacity to distinguish between financing mechanisms. In this paper, health insurance refers only to the method of raising funds – See Section 3.1 for the definition of health insurance.

scenario, the private sector could grow to the extent that it bids up wages and salaries of doctors and nurses, and that these staff could move out of the public sector, and away from rural areas. This would reduce services to the poor and increase the cost of providing services to them. The longer-term implications of each policy option need to be considered before finalising a financing strategy.

3 Overview of Health Financing Options

This section defines the main terms used in this paper and discusses some of the issues and experiences of the use of these different methods.

Methods of Financing: the methods available to a government to raise funds to pay for or provide for specific purposes - in this case to pay for or provide for immunization services. There are six main methods of financing:

- Health Insurance (social, private)
- User Fees (formal co-payments, informal payments)
- Community Financing
- Health Savings Accounts
- Tax Revenue (income tax, sales tax, value added tax etc)
- Overseas Funds (international loans, foreign aid).

While each financing method is discussed separately, three points should be noted from the discussion and from some of the examples referred:

- to achieve universal access to services it may be necessary to use different funding methods for different sections of the populations (eg high income groups could be charged user fees while the poor could be provided with tax subsidised services for free);
- different funding methods may be used to fund different sections of the immunization service (eg taxation could fund a national purchasing authority to buy vaccines and syringes, insurance may pay for the provision of the immunization services to urban populations, and community based finance could organise Immunisation Days for rural populations);
- taxation subsidies are required to be paid to the *health insurance*, *Health Savings Accounts*, and probably to *community financing*, if the poor are to get equitable access to immunization services

This section provides a brief review of the major financing options available to fund immunization services. The major focus of this section is on the potential role of health insurance and community financing options.

3.1 Health Insurance

Supakankunti (2000) defines health insurance as:

“...a means of financial protection against the risk of unexpected and expensive health care.”

The Working Definition of health insurance⁷ is

‘A group of persons contributing funds to a common pool, usually held by a third party. These funds are then used to pay for *part or all of the costs of a defined set of health services* for the members of the pool. This third party can either be a governmental social security, a public insurance fund pool, employer-sponsored pool, or a private insurance fund pool.’

This definition emphasizes that most health insurance programs pay for only a limited range of health services and many do not pay for the entire costs of those services.

In practice there are two major types of health insurance: social (*community-rated*) health insurance and private (*risk-rated*) health insurance. Both types of insurance meet the costs, or part of the costs, of providing a defined range of health care to the insured population. Using health insurance as a funding mechanism does not define the method of organising and paying for services. Both types of insurance can support a fee-for-service, salaried or capitation system. Likewise each insurance mechanism can support public, private or mixed ownership of institutions and services in the health sector.

Social health insurance is the major form of insurance in Europe, while Risk-rated health insurance is a significant form of private insurance in the USA.

The following discussion on health insurance refers to insurance for general health care – not just for funding immunization services. No example was found of a country that introduced health insurance just to finance immunization services. Establishing and operating population-based health insurance is a complex and administratively costly activity that would be difficult to justify just for immunization services only.

Social Health Insurance is a mechanism for pooling contributions from a whole population to meet the costs of providing defined health services or to reimburse individuals for all or part of the costs of services that they use. Social health insurance is usually compulsory and universal (ie all citizens of the country are entitled to insurance, and provision is often made for some coverage for non-citizens provided they pay their contributions). In general the premiums (contributions) individuals pay are based on their ability to pay – the rich pay more than the poor and the very poor often make no payment for insurance cover. Premiums are not risk stratified – that is they are not based on the health or the individual or on the expected use of services by individuals (this is sometimes referred to as *community rating*).

Social Health Insurance Contributions are, in fact, a form of taxation in that it is a compulsory expenditure made by individuals and the level of that expenditure is determined by the government. The fact that most citizens of most countries choose to have Social Health Insurance ‘imposed’ on them by their governments does not alter the fact that it is a de facto form of taxation.

Contributions to social health insurance are generally collected through pay-roll tax mechanisms for employed people, and through Ministries of Social Security and Labour for pensioners and the unemployed. Special mechanisms are usually established for the self-employed, for farmers and farm workers. In some social health insurance models the government (or different levels of government) pays a defined premium to the health insurance fund on behalf of poor individuals or families. These

⁷ Adapted from Chawla and Berman (1996).

contributions are often based on the national minimum wage, the poverty income or some politically agreed basis.

In general the costs of collecting contributions for social health insurance is relatively low because they can usually be run in parallel with existing systems. Because social health insurance is usually universal, the costs of maintaining membership records and entitlement to benefits is generally low as almost everyone will be entitled to benefits. If the poor are given exemptions from user fees this can increase the cost of administration, but the size of the cost will depend in part on exactly how the exemptions are given, at how the services are organised and paid for.

Box 1: Funding Immunization Services in Bulgaria – Social Insurance and Ministry of Health Roles

Immunisation services in Bulgaria⁸ are provided free of charge by a cost-share arrangement between Ministry of Health and National Health Insurance Fund. A particular ordinance defines the types, and scheduled administration times of essential immunizations. The immunizations are delivered by the general practitioners (primary care) who are contracted via National Health Insurance Fund but the vaccines are financed by the Ministry of Health. Institute of Hygiene and Epidemiology within the structure of the MOH through its regional offices carries the responsibility on the supply of vaccines and other bio-products however the supply is managed centrally. In relation with their immunization activities, general practitioners make annual plans for immunizations according to the number of immunisation-aged children in their register. Every year the annual plans for immunizations are submitted to the regional offices of the Institute of Hygiene and Epidemiology according to the types and administration schedules. The regional offices of Institute of Hygiene and Epidemiology in every district allocate the bio-products on the basis of the aggregated plan for the region. The vaccine and bio-product collection is organised by the general practitioners according to the schedule. The general practitioners deliver the immunizations and re-immunizations to the persons on their register according to the calendar for immunizations. All the activities of the GPs related with the immunization are included in their package of services and they are paid by the National Health Insurance Fund. The payment for immunization activity of general practitioners is part of the monthly capitation sum they receive for every person in their register weighted by the age structure.

Private (Risk-rated) health insurance is a mechanism for pooling contributions from a group of individuals who have similar characteristics that are expected to be related to the use of health service, and for paying for part of all of defined health services costs incurred by members. This type of insurance then pools the contributions within these risk-stratified populations. In general, within each risk pool, premiums are the same for all persons regardless of income or ability to pay.

The characteristics that influence contribution rates may be related to family size, health status, age, employment etc. Payments from the pool may be directly made to providers of services or as re-imburements to insured members for (part of) the health costs incurred. Because poor people often have larger families, and worse health than do higher income people, private health insurance premiums for the poor

⁸ Based on personal communication with Albena Andreeva, National Health Insurance Fund Bulgaria, Division of Financial Technologies.

are likely to be higher than for the rich. The effect of this is to exclude the poor from private health insurance.

Contributions to private insurance are usually paid through arrangements with employers, direct bank transfers, or through regular periodic payments by individuals directly to the insurers offices. Contribution collection costs are generally higher than for social health insurance because the mechanisms are usually more costly and the scale of operation is generally much lower. Similarly, record keeping costs for private health insurance are higher than for social health insurance because of the commercial nature of private insurance.

Private health insurance is sometimes referred to as ‘voluntary’ insurance. In many countries there are specific taxation benefits and subsidies available to employers who offer health insurance as an employment benefit, or to individuals who take out insurance. The taxation benefits to employers are generally to allow employment related health insurance contributions to be treated as a ‘cost of business’ – thus they reduce the amount of taxation the company pays. These private health insurance taxation benefits generally go to higher income individuals and employees and can be large in comparison to the direct taxation payments for health services to the poor.

Private health insurers generally do not undertake the purchase of vaccines and equipment – it is generally left to individual service providers, or individual patients to purchase these from private suppliers. Unless there is a national purchaser of vaccines and equipment, the cost of immunisation services is – likely to be higher for poor people than it would be – if provided through a national program. In most developing countries, private health insurance do not directly provide health services, they generally pay cash benefits for costs incurred. In developed countries, HMO – Health Maintenance Organisations – do undertake bulk purchasing of supplies, as well as employing staff to provide services. The Indonesian experience described in Box 3 with trying to establish Managed Care/HMO organisations suggested that:

"It is very difficult to get efficient HMO type organisations operating in countries that lack the extensive health service/financial management experience compared to countries like the USA can deploy."

The World Bank *Health, Nutrition, and Population Sector Strategy Paper* (2000) commented that private voluntary insurance is ‘particularly prone to a number of market imperfections’ that greatly reduce its usefulness in providing health insurance for the poor.

Providing Private Health Insurance to the Poor. To provide the poor with access to cheap and efficient private health insurance would require either subsidies from taxation to pay their premiums or a high degree of regulation of private insurers.

Payment of subsidies to private insurance for the poor would almost certainly cost more than direct government provision of services. This is because private health insurance contribution collection costs and membership administration costs are likely to be higher than government costs of doing so, and, in most developing countries private provision is generally relatively expensive. Also, payment of the premium would not insure that the poor received the immunization services – only that their costs would be met – if they could obtain the services. The poor often live in areas where there are few private or public providers of services. In addition, private health insurance often requires that insured persons meet some of the cost of services – again, a deterrent to the poor to use the services.

Private insurers could be regulated by government to ensure that they enrolled a specified percentage of the poor and covered their costs of services. This could jeopardise the viability of the private insurers, and, again, would not guarantee access to immunization services for the poor.

Freeing Taxation Resources by Regulation of Private Health Insurance: In many countries, the charges levied by government run health services (especially hospitals) are often less, and often significantly less, than the actual cost of providing the services. Insured persons are therefore receiving indirect taxation subsidies. This has been the case in Turkey, the Philippines and Indonesia.

One option that governments could undertake would be to charge privately insured persons for services provided at public health services. This would free taxation funding that could be re-directed to the poor for immunization services and other services.

If there is a concern that user fees might deter the higher income groups from using immunization services, the government could levy private insurers for the full cost of providing immunization services to their enrolled members and yet provide services free to the insured members. This could be a simple and inexpensive process. Using the national immunization schedule, insurers could analyse their membership records to determine each year how many children should be immunised. Each insurer would then make a single payment each year to the immunization service.

Almost all feasible private health insurance options still require the government to continue to purchase vaccines and equipment, and probably to manage the cold chain, as few insurers in developing countries would want to take on such a large task.

3.2 User fees and health insurance

This section discusses the role of user fees, by which individuals pay for part or all of the cost of services provided to them at the time of receiving the services. The paper *'Practice and policies on user fees for immunization in developing countries'* by England et al (2000) highlights the fact that user fees can discourage people from seeking vaccinations. However in many countries, both social and private health insurance charge user fees for some or all services. Low-income families are often exempt from paying user fees or pay very low fees.

In many health insurance programs, social or private, the rationale for charging user fees is to deter over-use of services. In some other programs, user fees are explicitly for generating an additional source of funds. Higher income groups can be levied user charges without deterring them from using essential services like immunization. The revenue raised by user charges can provide additional resources that can support the immunization program for the poor.

In other circumstances, the introduction of formal user fees could be used as part of a program to reduce the impact of under-the-table payments to health providers that exist in many health systems. Under-the-table payments also deter the poor from using services. An insurance system could set publicly defined co-payments and make it illegal for service providers to require additional payments. The co-payments could be used to increase the formal payments to service providers while exempting the poor from paying them. If formal user fees deter the practice of charging under-the-table payments, this may be in the overall interest of the poor.

Box 2: User Fees combined with Health Insurance – Philippines and Viet Nam

In the Philippines, governments are enrolling low-income people into the national health insurance program (administered by the Philippines Health Insurance Corporation) by paying premiums for them. The poor are issued with Health Passports, which exempt them from a wide range of user charges and entitles them to free immunisation services also.

In Viet Nam eligible poor people are insured by the government for a range of health services (administered by Viet Nam Health Insurance Agency). This category of people is identified with a special code in their membership cards. Such mechanisms can be used to exempt the poor from co-payments, hence avoiding the deterrent effects of user payments on the use of services.

3.3 Community Financing

Community Financing is generally a form of social health insurance. Chawla and Berman (1996) describe community or cooperative financing, and its advantages as:

‘...Established by the common will of the people rather than the market forces, these programs permit a variety of resource mobilization methods, such as payment in cash or kind, payment in part or full, payment in the form of labor contribution, idle land, etc. This flexibility in the community-sponsored plans has been useful in limiting the effects of seasonal income fluctuations on access to care in some countries in sub-Saharan Africa.’

Careese and Bennett (1997) note that community schemes usually focus on primary care, especially drugs, but also may include referral services and often have a broad community development orientation. Examples include Guinea-Bissau's Abota, Indonesia's Dana Sehat, Taiwan's (China) Farmer's health Insurance, and Viet Nam's Quang Nam Da Nang (QNDN).

The capacity of poor communities to generate sufficient cash to make a significant contribution to an immunization program is generally limited. Many community financing initiatives in the health area rely on the provision of in-kind resources, while others are directed at providing financial help to a small number of people who need medical services not available locally.

While Chawla and Berman (1996) were able to report some successes with community financing arrangements, others point to the limited capacity of poor communities to raise extra money. Careese and Bennett (1997), in their report on rural risk-sharing strategies conclude:

“Well-designed insurance schemes may have even greater potential for improving health system performance - particularly quality and efficiency - than for raising substantial additional finance. This is particularly likely in poor communities, where there simply is not a lot of extra money available.”

The experience in immunization services requires the establishment of significant national infrastructure to develop and maintain the cold chain. In addition, national action is also required if vaccines and supplies are to be purchased at the low cost and with reasonable quality.

Community financing may be a useful addition to a national program, but the extent to which the poorest communities can contribute cash resources to tax-financed provision of immunization services will be limited.

Box 3: Community Financing: Indonesia, Papua New Guinea, Lesotho, Thailand, Guinea-Bissau

Community financing may be developed from traditional self-help arrangements. In Indonesia many villages traditionally had ‘community pots’ whereby people in need, (often of health care) could receive financial support from the village from contributions gathered within the village. Traditional payments were generally used to pay for acute health care services. Since the 1980s, villages have been encouraged to make regular (small) payments into locally held funds to cover health care costs of village members. These Dana Sehat programs were an early start towards more complex health insurance arrangements, which aimed to establish managed funds to provide health services for village and urban populations. Indonesian Law #23 was enacted in 1992 to establish JPKM (Managed Care adapted to Indonesian requirements). These sought to build on traditional practices and the Dana Sehat program.

By 1994-95 JPKM/Dana Sehat programs were meeting less than 3% of total health expenditure, even though they covered about 20 million people. By 1998, while a considerable amount of experimentation had been carried out (sometimes with USAID support) little progress had been made over the 1994-95 level (Harvey 1998). The complexity of the health insurance arrangements, poorly directed government subsidies, and increasingly difficult financial circumstances all contributed to the poor success of the attempt to build on traditional community financing arrangements in Indonesia.

In Papua New Guinea, there had been a practice over the middle decades of the 20th century for villages to provide significant in-kind support for the development of health facilities and for the provision of voluntary work to undertake a range of local health tasks. By 1995, local in-kind help could not be relied upon because of the increasing involvement of village people in the cash-crop economy. Village women were not as ready, or not allowed, to undertake some of the health education tasks and health monitoring tasks that they had previously carried out⁹.

Lesotho as documented by DeRoeck and Levin (1998) uses cost recovery for immunization through a prepayment system set up by the NGO (Chal). Through this system, all children coming to this NGO's clinics for the first time must pay to be weighed and to receive a health booklet before they are provided services, including immunizations. The entrance fee allows them to receive successive curative and preventive services free of charge. However, the authors note that the level of cost recovery by this funding mechanism is rather low.

Khoman (1997) document a community pre-payment scheme that was piloted in rural Thailand that covered immunization services:

“In Thailand Health Card Program was started in 1983 to promote maternal and child health. It was an innovative program because it involved selling health cards to

⁹ Information provided by Provincial Health Officers to one of the authors during field trip to PNG during 1995.

villagers who had been accustomed to receiving free care. Card buyers paid a fixed annual premium in return for free services. Proceeds from card sales went into a health card fund that was managed by a village committee.

The program was initiated in eighteen villages in seven provinces. At its inception the program's primary objective was to improve health among rural populations, with an emphasis on primary care-including health education, environmental health (sanitation and water supply), maternal and child health, family planning, nutrition, immunization, prevention and control of diseases, treatment of common ailments and provision of essential drugs.”

Guinea-Bissau's Abota scheme is generally perceived to be successful (Eklund and Stavem 1996). For many years, community health insurance was the sole finance for drugs in many communities but stocks comprised just twelve basic essential drugs and were sold to health posts at donor-subsidised prices. Careese and Bennett (1997) note that one of the main reasons for implementing prepayment (as opposed to user fee) system in Guinea-Bissau was its administrative simplicity:

“A village leader would simply visit each household once a year and ask for payment of a fixed amount. After an initial learning period, villagers managed the scheme well, although increasing economic pressures eventually led to misuse of funds that threatened the credibility of the scheme.”

It should be recognised that payments to schemes such as some of those described above may deter the poor from joining such schemes in the same way that user fees may deter the use of services.

3.4 Health Savings Accounts

Health Savings Accounts provide incentives for, or compel, people to pre-pay for their own future health expenses. People can draw of their Health Saving accounts to meet the costs, or part costs, of health services.

Health savings accounts are used in Singapore and are being experimented in China under a compulsory insurance scheme. Creese and Bennett (1997) classify health savings accounts as the most systematic inter-temporal risk-distributing mechanism such as Singapore's Medisave, an individual earmarked medical care savings account that is available over a lifetime. This program allows people to build up credit for health care when they are well, to cushion or cover the increasing costs of care in old age.

There is no pooling of funds between rich and poor and between healthy and sick people with Health Savings Accounts. Unless there are subsidies from taxation to the poor and the sick, the poor would be unlikely to be able to contribute sufficient to Health Savings Accounts to provide for any reasonable level of protection against health care costs. Health Savings Accounts are an inequitable way of funding health services, and if the poor cannot contribute they would receive no benefit at all.

No record was found of Health Savings Accounts being used to fund immunization services.

Box 4: Health Savings Accounts – Singapore and China

Medisave Scheme in Singapore was introduced in 1984. It is funded by compulsory contributions from employers, employees and the self-employed. Medisave covers both primary and hospital services, but it is primarily used to pay for hospital services. All hospital services have co-payments 'to avoid the pitfalls of medical services being perceived to be "free"'. Medisave is supported by MediShield and Medifund. MediShield provides additional insurance for catastrophic medical costs and annual contributions vary from S\$12 (~ US\$6.5) for persons less than 30 years old to S\$240 (~US\$130) for persons 74 years and over. It does not cover the full costs of services. Medifund provides further assistance to poor persons in meeting their health care costs. Introduced in 1993, and funded by the Singapore Government, Medifund pays benefits from the income earned from the fund. The standard of care provided to the poor in Singapore is much lower than that provided to higher income groups.

In the Chinese experimental-scheme, both employers and employees contribute to personal health savings accounts in the form of payroll deductions. According to interim arrangements in China, health savings accounts are for covering ambulatory medical expenses however no clear policy direction is set for whether these accounts can be used for dependents of account holders which immunization-aged children form a major group. There is also no clear policy direction for whether these accounts can be used for primary health care services or to what degree the policy makers exercise control on roll-overs to ensure that account holders accumulate sufficient savings to cover future health care needs especially after retirement.

3.5 Tax finance

Tax-financed health services are services funded directly by government (or governments if more than one level of government is involved) from taxes levied on individual taxpayers and businesses. The taxes may be on income, on goods and sales excise on alcohol and tobacco, capital gains, payrolls and many other sources. Some taxes, such as those on food, generally fall more heavily on the poor than on the rich (regressive taxes), since the poor spend proportionately more of their incomes on food than the rich. Other taxes, such as those on capital gains and income, generally fall more heavily on the rich than on the poor (progressive taxes), since the rich gain a much higher proportion of their total incomes from these sources. The equity of raising funds from taxation depends on the mix of taxes that a particular country has. On balance, most countries have taxation systems that are 'progressive'.

The payment for public health services from taxation is supported on theoretical grounds by public finance economists (eg Musgrove 1997) on the grounds that public health services often provide 'external benefits' to the whole community as well as to the individuals receiving the services. Tax financed services are generally seen as the most equitable way of raising funds for the provision of services to the poor. It is generally considered that taxation revenue is raised according to the ability of individuals to pay, although this assumption should be tested in each country.

The World Bank *Health, Nutrition, and Population Sector Strategy Paper* (2000, Page 8) points out that countries with per capita incomes in the range US\$300 to US\$800

‘may need to mobilize additional finances from community sources and international donors to pay for public health interventions with large externalities and essential programs for the poor (i.e. over an above the tax financing).’

Immunization services meet the World Bank criterion for ‘public health interventions with large externalities’. Some of the options for raising additional revenue have been discussed in the section above on health insurance funding.

So long as they are provided in an efficient manner, the funding of immunization services through tax financed methods are likely to be lower cost and can be more clearly targeted than immunization services that are provided through direct or indirect subsidies and incentives to general health service providers.

Box 5: Funding Immunisation via combined Loan, Tax and Insurance funding – Philippines and Viet Nam

In both Philippines and Viet Nam there are programs to extend social insurance to the entire population. In the Philippines, for poor people who have been issued the Health Passport, immunization services will be provided through both public and private providers using vaccines purchased through a national supply contract with a combination of Loan and Tax revenue. The National Insurance program had been unable to mobilise any significant additional resource in a period of almost six years, so loan funds are still being used.

In Viet Nam a similar initiative is underway to distribute free-health care cards for the poor. The scheme mainly aims to cover high-cost secondary and tertiary services. Premiums of the free-health care cards for the poor are paid by provincial governments to the Viet Nam Health Insurance Agency and therefore general taxation constitutes the real source of premiums for this insurance scheme. Although immunisation services are provided free-of charge funded by general taxation, providers can receive additional revenue from insurance funds for immunization services as Viet Nam Health Insurance Agency arranges fee-for-service payments to services provided to insured members.

3.6 Overseas Funds

Overseas Funds (international loans, foreign aid) – are additional sources of financing available to governments for the provision of immunization services. This source of funding raises a completely different sets of issues to the mechanisms discussed above. The issues raised by insurance funding, community financing and tax funding relate to the equity and efficiency of the different mechanisms or raising funds and providing services. The major issue raised by the use of international loans relates to the capacity of the country to repay the debt at the same time as raising additional funds to continue the immunization services on a sustainable basis.

Foreign aid funding does not raise the repayment issue. The main issue with aid funding is how to most effectively use the funds either in an emergency situation or how to best use the funds so as to establish a sustainable immunization services using internal funding.

The issues associated with the use of overseas funding are sufficiently different to the issued discussed in here that they require a separate paper to discuss them. They will not be discussed in any more detail here.

4 Policy Relevance of Health Insurance in Developing Countries

Creese and Bennett (1997) define a context for health insurance in developing countries:

“In 1988, 74 percent of Asia's population (including China and India) and 73 percent of Sub-Saharan Africa's was rural; in the least developed countries as a group, this figure was 80 percent, with 69 percent of the rural population below the poverty line (Jazairy, Alamgir, and Panuccio 1993). It will be well into the third decade of the next century before more than half of Africa's population is urban (UN 1993). The size of the formal sector, and its rate of expansion or contraction, has been argued to be an important background factor in the success and demise of national health insurance schemes (WHO 1995, Preker and Feachem 1995). Industrialisation, urbanisation, high and rising per capita incomes, and population density-typically urban characteristics- facilitate the growth of insurance (Ensor 1997).”

An important characteristic of least developed and developing world is relatively large size of informal employment, which creates substantial difficulties in the development of health insurance. Identifying beneficiaries to assess their incomes, and to collect contributions are often difficult and mandating coverage, which offers substantial advantages in terms of the size of the risk pool and control of adverse selection, is also much harder for informal than formal sectors.

Public funding is generally viewed as the most equitable way to finance essential immunization (England et al 2001). The arguments in support of government action in financing are stronger than those for direct government provision of services (Musgrove, 1997, Berman and Chawla 1999). The equity considerations are perhaps the most important reason for government support for immunization. Immunization programs provide more than proportionate benefits to the poor (Bhushan, 1999). Bhushan also predicts government budgets to be the single most important source to increase internal resources. Financing of immunization programs through the government budget-mostly through taxes-has positive equity implications. Tax-financed public health programs are implicitly equitable, since healthy people pay for the sick, working-age adults pay for children and the elderly, and the rich pay for the poor (Bhushan 1999).

Health insurance in the lower income countries has been mainly government or employer provided, with limited coverage. Private insurance is not very common (Chawla and Berman, 1996). As the levels of development and income in a country largely determine prevalence of health insurance, option to finance essential immunizations from insurance should be preceded by a larger policy concern. In that regard, implementation of a sector-wide health financing reform that embodies establishment of an insurance scheme in a country comes prior to policies that aim to change financing of immunizations from insurance premiums. Social insurance and prepayment systems can be effectively put in place to cover large populations in several middle-income countries. However, these mechanisms do not hold much promise in low-income countries and economies based on rural and informal sectors (Bhushan 1999).

Setting up pre-payment or insurance schemes just for immunizations or more broadly for primary health care services is not a coherent approach, as members value the return on their premium investment only if the benefits associated with the randomness of high-cost illness outweigh the costs of joining. From community perspective, immunization service benefits compared to high-cost tertiary care services carry marginal value. Therefore, they can only be incorporated as an add-on to a broadly defined benefit scope.

England et al 2001 report that a WHO technical paper in 1996 noted the use of systematic insurance system in China for preventive care, which combines aspects of user fees and risk pooling. According to this technical paper, the systematic health insurance system is described as an annual prepayment for a package of mandatory services including immunization for children, family planning and post-natal care. In some provinces, the parents pay an amount for each child, which covers a full course of immunization, and reimbursement of treatment costs for any of the target diseases, up to the age of seven years. However a co-author of this study note that the systematic insurance system has resulted in serious gaps in population coverage as a result of unwillingness or inability to pay, despite the fact that it is theoretically mandatory.

For pre-payment schemes operating through community financing arrangements, government finance is still needed to subsidise insurance premiums of poverty-stricken members. In the absence of such government subsidies, the required premiums for benefit eligibility start to serve as de facto user fees and discourage membership and hence lower utilisation of immunization services.

Least developed countries have immunization financing problems far greater than the boundaries of insurance reform. In that regard, policy makers cannot easily act on using this funding mechanism unless they have interim financing options until the insurance schemes become fully operational.

In the developing countries where health insurance reform is underway, per capita incomes are comparatively higher than countries that do not have any kind of health sector finance reform implementation in place. In most low-income countries, other government priorities hinder thoroughness to consider health insurance reform or too much emphasis is placed on immediate term issues such as service delivery and access rather than long-term sustainability of a well-functioning health-financing system. Developing countries that have started to implement health insurance reform have almost invariably created systems that take care of financing essential immunization services often by ways of government funding.

Many Eastern European countries in economic transition have implemented insurance schemes with universal access principle while still retaining financing of vaccines directly from government sources. In Bulgaria and Romania, the purchasing of vaccines are undertaken by the government and delivery of immunization services are undertaken by primary health care units that are fully paid by the social insurance schemes.¹⁰

¹⁰ Based on personal communication with National Health Insurance House (Romania) and National Health Insurance Fund (Bulgaria) finance managers.

Viet Nam on the other hand is a low-income country with a dynamic population growth. It also has more pressing needs for immunization finance compared to Bulgaria and Romania where the latter two countries have declining populations and lesser immunization finance needs. Health insurance in Viet Nam has been experimented for almost a decade and despite low insurance coverage ratios, essential immunization services are still provided free-of-charge from tax funding to the whole of country population regardless of recipients' membership status with 95% immunization coverage.

Insurance finance for essential immunizations can effectively be used only if the schemes are designed to provide universal health cover in a given population and the benefit package includes primary health care services.

DeRoeck and Levin (1998) based on a survey report that, the majority of countries that do not finance any of their vaccine needs are in Sub-Saharan Africa.

<i>Contribution to Recurrent Health Expenditures in Sub-Saharan Africa, % by Source</i>							
	<i>Year</i>	<i>MOH Budget *</i>	<i>Social Security</i>	<i>Foreign Ad</i>	<i>Out-of-pocket</i>	<i>Private Insurance</i>	<i>Other Private</i>
Burkina Faso	1981	47	2.2	25.4	25.4		
Burundi	1986	36.6	14.1	31	18.3		
Cameroon	1983	77.5	1.2				21.3
Cote d'Ivoire	1985	42	0.4		56.8	0.8	
Ethiopia	1986	32	66		0.2	1.8	
Ghana	1987	29			58		13
Guinea	1983	70	30				
Kenya	1984	48	3.8	2.5	41	1.2	3.5
Lesotho	1986	39			17.4	0.7	42.9
Madagascar	1985	43		11	34		12
Malawi	1986	75		18	7		
Mali	1986	22.8	2.1	3	72.1		
Mozambique	1985	92.6	7.4				
Niger	1984	52.2		21.7	26.1		
Nigeria	1985	49.9			45.3		4.8
Senegal	1981	43	0.6	16.4	25	15	
Sudan	1986	21.2			77.6		1.2
Tanzania	1987	85	15				
Uganda	1988	25.7			70.1		4.2
Zaire	1986	4.8			20		75.2
Zambia	1981	81			15.5		3.5
Zimbabwe	1987	52.6		11.7	10	16.7	9

* Includes other government ministries, states, and local government budgets as well.

Source: Vogel, Ronald J. (1993): Financing Health Care in Sub-Saharan Africa. Greenwood Press, Connecticut. (Republished Chawla M, Berman P (1996) Resource Mobilization: Methodological Guidelines Harvard School of Public Health.

In their survey: "... 70 percent of countries (14 of the 20) are in Africa. Of the 26 African countries responding to the survey, 14 (54 percent) reported no government contribution towards the financing of vaccines, while only three countries—

Botswana, Ivory Coast, and South Africa—reported that the government financed 100 percent of their vaccine supply. Other countries in the survey that are totally dependent on donors for vaccines are the low-income, small Asian countries of Lao PDR, Bhutan, and North Korea, and poorer Eastern European countries (e.g., Albania, Bosnia) and Central Asian countries (e.g., Tajikistan). These findings are similar to those cited by Hausdorff, who reported that, in 1996 36 African countries and five Asian countries were completely dependent on donors for their routine vaccine needs (Hausdorff, 1996).”

The above table shows an analysis of sources of funding for all health services in Sub-Saharan Africa. Although this data are old, the table shows the information that can be gained by undertaking a National Health Accounts study for individual countries.

The table shows two areas in which funding for immunization services may be strengthened. Several countries in this table had existing social security programs and private insurance programs however out-of-pocket expenses constituted one of the major sources of funding. A number of countries have undertaken household surveys of income and expenditure. In Indonesia attempts are being made to develop measures of the ability-to-pay by households of different incomes. This could be used as the basis for developing a user charge program for the households in the mid to high end of the income distributions. These user charges could form the basis of additional sources of revenue.

In the DeRoeck and Levin (1998) survey of immunization finance, coverage of immunization through social insurance programs was reported in only a small number of countries, since most social insurance programs cover mainly curative and hospital care. The authors also report that this fact was true even in the Latin America region where social security programs can play an important role in health care financing. Only two countries—Panama and Costa Rica —reported that their social security systems financed or provided immunization services. However, the authors of the study believed that immunization coverage by social insurance was under-reported in the study.

The conduct of national health accounts studies and household income and expenditure surveys could assist in identifying and quantifying additional sources of funding for immunization services.

4.1 Insurance finance for essential immunization services and vaccine finance goals

Goal	Option: Insurance/Pre-payment Schemes
<i>Equity</i>	If there is universal coverage, all segments of the population benefit from essential immunization services. If there is partial coverage concentrating in formal sector contributors however, informal sector, rural-poor may be excluded from essential immunization services.
<i>Cost-effectiveness</i>	<p>The costs of raising funds through health insurance can vary with the method chosen to generate the income. Mandated social health insurance can have relatively low administrative costs as compared to mandated private insurance arrangements.</p> <p>If the introduction of social health insurance is accompanied by general health sector reform, considerable efficiencies may be achieved, but reform of the health sector can be undertaken without changing the funding arrangements.</p>
<i>Coverage</i>	Coverage depends on general membership to insurance schemes and the accessibility to insurance funded primary health care services. If the scheme is not based on universal cover principal, coverage will be low especially if there is no alternative full-government funded service provision.
<i>Speed</i>	The introduction of a health insurance program can take five years or longer from first planning to smooth operation. It is more prudent to maintain tax funding of immunization services (where they exist) and phase in health insurance payments for immunization services once the insurance is operating smoothly.
<i>Feasibility</i>	It may not be practical to implement a health insurance scheme just for immunization services, as the administrative costs would be a significant proportion of total costs. A health insurance program should be structured to include immunization services, primary health care services, as well as tertiary treatments.
<i>Transparency</i>	Monitoring of immunizations may be difficult if the delivery system is not supported by national campaigns. Even if immunizations are provided free of charge by using insurance funded pools, there is no guarantee for all population to exercise their eligibility rights.
<i>Simplicity</i>	Funding of Social Health Insurance programs can be relatively simple where it can be integrated with an existing tax or payroll tax collection. If the scheme is universal, the costs of maintaining records of persons who are entitled to benefits can be kept low.
<i>Sustainability</i>	Social insurance is consistent with universal coverage goals and the financing arrangement is likely to become more sustainable after experimental implementation period is completed.
<i>Independence (self-sufficiency)</i>	Insurance arrangement may require dependence to government co-ordinated vaccine procurement and distribution using internal funds or external donor funds.

Bibliography

Berman, Peter and Mukesh Chawla. April 1999. *A Model for Analyzing Strategic Use of Government Financing to Improve Health Care Provision*. Major Applied Research 4, Technical Paper 1. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

Bhushan Indu, *Financing Immunization Programs in the Asia and Pacific Region: Issues and Options*, Asian Development Bank, Keynote Address "Expanding and Sustaining Immunization 21-24 November 1999", Brisbane Australia.

Chawla Mukesh and Berman Peter, *Resource Mobilization: Methodological Guidelines* August 1996.

Creese Andrew and Bennett Sara, March 1997, "Rural Risk-Sharing Strategies". Innovations in Health Care Financing, Proceedings of a World Bank Conference, World Bank Discussion Paper No 365.

DeRoeck D., Levin A., *Review of Financing of Immunization Programs in Developing and Transitional Countries*(1998). Partnerships for Health Reform Special Initiatives Report 12.

Eklund, P., and Stavem K. 1990 "Prepaid Financing of Primary Health Care in Guinea-Bissau: An Assessment of Eighteen Village Health Posts." Policy Research Working Paper 488. World Bank, Washington D.C.

England S., Kaddar M., Nigam A., and Pinto M., 2001 "Practice and policies on user fees for immunization in developing countries.", World Health Organization Department of Vaccines and Biologicals.

Ensor T., 1995 "Introducing Health Insurance in Viet Nam." Health Policy and Planning

Harvey R, 1998 "Evaluation of Indonesian Rural Health Insurance" World Bank, Jakarta. July-August 1998

Kaddar, Miloud, Jo Dickison and Mona Khan. March 2000. *Immunization Financing Resources*. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

Khoman, S. 1997 "Rural Health Care Financing in Thailand." Innovations in Health Care Financing, Proceedings of a World Bank Conference, World Bank Discussion Paper No 365.

LaForgia G. M., Charles Griffin and Randall Bovbjerg LaForgia G. M., (1993) "Extending Coverage and Benefits of Social Financing Systems in Developing Countries Phase One". USAID/HFS, Abt, Associates, Bethesda, M.D.

M. Mahmud Khan and Richard A. Yoder 1998, "Expanded Program on Immunization in Bangladesh: Cost, Cost-Effectiveness, and Financing Estimates."

Musgrove, P. 1997. "Public and Private Roles in Health." Washington, DC: The World Bank.

Mwabu, Germano 1990: *Financing Health Services In Africa: An Assessment of Alternative Approaches*. Working Paper Series #467. The World Bank, Washington, D.C.

Preker A., Feachem R., 1995 "*Market Mechanisms and the Health Sector in Central and Eastern Europe.*" World Bank Technical Paper 293. Washington, D.C.

Saltman, R. 1995 "*Applying Planned Market Logic to Developing Countries' Health Systems: An Initial Exploration*" Discussion Paper 4. World Health Organization, Geneva.

Supakankunti S., 2000 "*Development and Sustainability of Community Health Insurance in Thailand*". Paper presented to the FICOSSER Meeting on Health Care Financing, Athens, Greece, June 16-18, 2000)

WHO (1996) *Health Care Systems in Transition: Armenia* Copenhagen 1996

World Bank "*Health, Nutrition, and Population Sector Strategy Paper 2000*" Washington D.C.