The role of community-based health insurance within the health care financing system: a framework for analysis

SARA BENNETT
Abt Associates, Bethesda, MD, USA and Health Policy Unit, London School of Hygiene and Tropical Medicine, London, UK

There is increasing advocacy for community-based health insurance (CBHI) schemes as part of a broader solution to health care financing problems in low-income countries, but to date there is very limited understanding of how CBHI schemes interact with other elements of a health care financing system. This paper aims to set out a preliminary conceptual framework for understanding such interactions, and highlights the kind of research questions raised by such a framework. A basic conceptual map of a CBHI scheme is developed, and extensions added to this map that incorporate (1) effects upon non-members of schemes, (2) government subsidies to providers, (3) government subsidies to schemes, and (4) issues raised by the existence of multiple risk-pooling schemes in a particular context. The utility of a broader approach to analyzing/assessing CBHI schemes is illustrated through examination of two policy issues, namely (1) coordination of CBHI risk pools and government risk pools, and (2) equity implications of CBHI schemes and the role of government subsidies in such schemes. It is concluded that there is a strong need for empirical work to explore how CBHI schemes and the broader health care financing system interact, and that even if individual schemes achieve their own objectives (in terms of equity, efficiency etc.), this does not necessarily imply that such objectives will be achieved at the system level.

Key words: community-based health insurance, equity, risk pooling

Introduction

‘The objectives of policy relate to the entire population and thus the overall health care system: insurance ‘schemes’ should be assessed in terms of how the schemes contribute to the system-wide insurance objective... policies that can improve the financial sustainability of individual insurance schemes can, at the same time, detract from the efficiency and sustainability with which the insurance objective of the entire health care system is pursued.’ (Kutzin 2001)

While there is substantial force to the logic of the argument presented in the quotation above, to date much of the research on community-based health insurance (CBHI) has focused upon individual CBHI schemes themselves and the extent to which particular schemes are equitable, sustainable or efficient (e.g. Diop et al. 1995; Jakab and Krishnan 2001; Schneider and Diop 2002). To date, there has not been a clear and comprehensive exposition of the nature of the interactions between CBHI schemes and the broader health care financing system. For example, a recent review of 258 community-based health financing schemes asserts the need for analysts to adopt a societal view in evaluating the impact of CBHI schemes, but found that: ‘Almost all studies are focused on the scheme and the scheme members with only marginal or no analysis of the impact of the scheme in the population at large and the possible effects of the schemes beyond their members’ (ILO 2002a: 46).

A broad working definition of a CBHI scheme is any scheme managed and operated by an organization, other than a government or private for-profit company, that provides risk pooling to cover all or part of the costs of health care services. There is increasing advocacy for CBHI schemes as part of a system-wide solution to improving access for health care services. CBHI schemes appear particularly appropriate for providing insurance coverage to persons with limited protection from other sources, such as those who are not engaged in formal sector employment. They also seem particularly relevant to low-income countries where government revenue is limited and there is currently extensive reliance upon out-of-pocket payment. For example, the report of the Commission on Macroeconomics and Health states: ‘The Commission recommends that out-of-pocket expenditures by poor communities should increasingly be channeled into “community financing” schemes to help cover the costs of community-based health delivery’ (WHO 2001: 60).

National governments are increasingly recognizing that CBHI schemes can be part of a national financing strategy: Ghana is in the process of developing a health financing policy that will, most likely, give a key role to CBHI schemes, and Tanzania has already done so. However, even where CBHI schemes are not explicitly viewed to be part of government financing policy, in most cases they implicitly interact with government financing policy. While CBHI schemes still tend to cover a small proportion of a nation’s population, in some countries this picture is changing – and changing fast. In Ghana, it is now estimated that there are 157 Mutual Health Organizations (MHOs) (one particular form of CBHI scheme), up from just four 2 years ago (personal communication, Chris Atim).
The purpose of this paper is to provide a conceptual framework for analyzing how CBHI schemes interact with other components of the health care financing system in terms of financial flows (revenue collection, pooling, purchasing) and the related issues of population coverage and benefit packages. The focus is upon what are frequently incidental, unplanned interactions between CBHI and other financing schemes; other papers have addressed how governments may explicitly attempt to influence the behaviour of CBHI schemes through a variety of mechanisms (Ranson and Bennett 2002). Given the fact that, to date, virtually no studies have discussed CBHI schemes from a system-wide perspective, this paper is not designed to present lessons, but rather to highlight the types of questions that need to be addressed, and begin to illustrate an organizing framework for addressing them.

A conceptual framework for examining interactions between CBHI schemes and other aspects of the health care financing system is important both to guide research in this area and to help governments identify some of the key policy issues faced as CBHI schemes become an increasingly common feature of health financing environments. In order to explore the implications of interactions between CBHI schemes and the rest of the health care financing system, this paper:

- Sets out a series of conceptual maps that illustrate how CBHI schemes may relate to the broader health care financing system;
- Uses the maps to explore how CBHI schemes may (or may not) contribute to national policy objectives, and how different features of CBHI schemes, and government policy may interact to affect achievement of policy objectives.

As this paper is largely conceptual in nature, it does not draw heavily upon empirical data. However, throughout the text, references are made, for illustrative purposes, to four different CBHI schemes. Table 1 summarizes key features of the four CBHI schemes discussed here. These schemes were not selected because they were thought to be representative of the population of CBHI schemes, but because they are relatively well documented, and because they illustrate different ways in which schemes can interact with government financing systems. Of the four schemes discussed, two are from Asia and two from Africa. Relatively few Latin American CBHI schemes appear to exist. Information about the schemes was collected through literature review and supplemented by contacts with analysts who have researched the individual schemes.

From the table, the diversity of CBHI schemes is evident: schemes differ markedly in terms of their ownership structures, funding flows, benefit package composition, and membership. Scheme objectives and origins are also diverse. For example, some schemes (such as Nkoranza in Ghana) were initiated by private non-profit providers seeking initially to secure their revenue base; others (such as SEWA in India) grew from micro-credit schemes that added health insurance activities to protect their members; still others sprung from the traditional 'mutuelle' movement in West Africa (Atim et al. 1998). The diversity of CBHI schemes means that different schemes will contribute to the overall financing system in different ways.

It is only recently that governments in developing countries have begun to articulate the role they see CBHI schemes playing within the bigger health-financing picture. Of the schemes listed in Table 1, the Community Health Fund in Tanzania and the Health Card Scheme in Thailand are both schemes that their governments helped to develop and shape. Yet even in these cases, there has not always been an attempt to explore thoroughly the nature of interaction between various forms of risk pooling. For example, in Tanzania it has simply been stated that the Community Health Fund will cover rural communities while complementary employer-mandated insurance funds will cover urban-based workers and civil servants (Ministry of Health, Tanzania undated).

For schemes such as SEWA and Nkoranza, where there has been no attempt to ensure complementary roles between government financing systems and the scheme, the role that the CBHI scheme plays in practice varies with the scheme population coverage and the socio-economic-demographic profile of members. If schemes had a clear understanding of their intended role with respect to the broader health care system, then various mechanisms could be employed to influence who enrolled. For example, how schemes set their premiums, define their benefit packages, market their services, etc., will affect enrollment patterns. But in most cases, neither schemes nor government have thought clearly about this or communicated about it; consequently, actual population coverage is somewhat ad hoc, and the relationship between the CBHI scheme and the broader system is frequently incidental rather than planned. A conceptual framework is required to help policymakers understand and analyze how CBHI schemes interact with the broader health care financing system.

Scheme objectives versus government objectives

In principle (or in theoretical terms), the primary purpose of any insurance scheme is to share risk between individuals and hence extend financial protection to members of the scheme (Mills 1983). In practice, different stakeholders in a risk-pooling scheme may have different perspectives on the objectives of a scheme, and stakeholder objectives will also vary according to the type of CBHI scheme. This section is concerned with how government (or social) objectives for CBHI schemes may differ from the objectives of key stakeholders in specific schemes (namely scheme managers and scheme members).

Table 2 identifies three types of criteria (equity, financial sustainability/revenue raising and efficiency) that are commonly used to assess health care financing systems, and identifies how precise objectives across these dimensions will vary according to whether a scheme-level or government (social) -level perspective is adopted.

In many cases, there is not a clear alignment (and sometimes there is even conflict) between scheme-specific objectives
and social ones. For example, reasonable administrative costs at the scheme level may be achieved, but administrative costs at the system level may be exacerbated by the challenges inherent to regulating multiple insurers. Similarly, while promoting sustainability is an obvious objective at the scheme level, it is not clear that, in and of itself, this should be a government policy objective. For example, individual scheme sustainability may be achieved through dumping severe or chronic cases into the public health care system, or through reliance upon government subsidies – both of which may potentially detract from the overall sustainability of the broader health care system.

There is also tension between the different objectives identified in Table 2. Government and individual schemes may place different emphasis on different objectives. For individual schemes, ensuring sustainability is likely to be a dominant objective: without sustained operations no other objectives can be achieved. Yet mechanisms to promote individual scheme sustainability can conflict substantially with equity concerns. Exclusion of high-risk individuals from scheme membership will affect the sickest and probably most vulnerable members of the population. Increasing premium levels will discourage the poor from joining. Placing limitations on a benefit package will most likely reduce the level

<table>
<thead>
<tr>
<th>Scheme and location</th>
<th>Nature of ownership</th>
<th>Providers and relationship with providers</th>
<th>Benefit package</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEWA, Ahmedabad, India</td>
<td>Women-owned micro-credit agency</td>
<td>Private for-profit, private non-profit or public providers. Bills paid by member who then seeks reimbursement from the scheme.</td>
<td>Predominantly primary care. Some hospital benefits with cap on total benefits.</td>
<td>Ranson (2002) ILO (2002b)</td>
</tr>
<tr>
<td>Nkoranza, Ghana</td>
<td>Initially the mission hospital in Nkoranza district, more recently ownership and management has been transferred to the local community. St Theresa’s mission hospital (that initiated the scheme). Hospital bills scheme directly on a fee-for-service basis.</td>
<td>Hospital services</td>
<td>Atim and Madjiguene (2000)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
<th>Scheme level perspective</th>
<th>Government-level perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>– Poorer members of society join schemes</td>
<td>– Equitable access to (a basic package of) services throughout the population</td>
</tr>
<tr>
<td></td>
<td>– Equitable access to benefits by members under the scheme</td>
<td>– Progressive distribution of government subsidies</td>
</tr>
<tr>
<td></td>
<td>– Premiums are progressive</td>
<td></td>
</tr>
<tr>
<td>Financial sustainability/revenue raising</td>
<td>– Scheme revenues outweigh expenditures</td>
<td>– Adequate total resources mobilized to ensure an acceptable level of care</td>
</tr>
<tr>
<td></td>
<td>– Adequate enrollment levels</td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>– Reasonable administrative costs to scheme</td>
<td>– Reasonable administrative costs for system as a whole</td>
</tr>
<tr>
<td></td>
<td>– Purchase of appropriate services</td>
<td>– Appropriate service mix in system as a whole</td>
</tr>
</tbody>
</table>

There is also tension between the different objectives identified in Table 2. Government and individual schemes may place different emphasis on different objectives. For individual schemes, ensuring sustainability is likely to be a dominant objective: without sustained operations no other objectives can be achieved. Yet mechanisms to promote individual scheme sustainability can conflict substantially with equity concerns. Exclusion of high-risk individuals from scheme membership will affect the sickest and probably most vulnerable members of the population. Increasing premium levels will discourage the poor from joining. Placing limitations on a benefit package will most likely reduce the level
of effective protection provided against financial risk. While this will affect all income groups, it may have the most severe consequences for the poorest.

Health policy analysts have been significantly more optimistic about the potential for CBHI schemes in low-income countries compared with for-profit private insurers (Carrin 1987). The non-profit nature of CBHI schemes appears to have led to the assumption that the objectives of CBHI schemes are more closely aligned with government objectives. While there may be some truth to this, CBHI schemes must be driven by similar imperatives to for-profit schemes in order to ensure their sustainability. So while in principle it may be anticipated that there is considerable alignment between government health care financing goals and CBHI scheme goals, in practice (1) individual schemes by necessity may have to focus more on sustainability issues than equity issues, and (2) even if individual CBHI schemes share government goals, this does not necessarily mean that their overall system-wide impact contributes to government goals. The question of the extent to which pursuance of individual scheme goals contributes to government goals is clearly context specific and needs to be empirically examined rather than assumed.

The basic model

Figure 1 illustrates the most basic (limited) model of CBHI schemes. It shows that households enrolled in the scheme pay premiums into the CBHI fund. In turn, the scheme pays health care providers for services, and in return, these providers offer health care services to scheme members.

This limited model considers only what happens within the CBHI scheme. Of course, no CBHI scheme can offer a benefit package that is truly comprehensive; thus, certain services will always be provided outside of the benefit package and paid for by other means (such as by private out-of-pocket payments or by government). The effective degree of risk protection offered by an individual CBHI scheme will depend upon the extent to which the benefit package offered covers a comprehensive package of services, particularly higher cost services. If certain commonly used, high cost services are omitted from the benefit package, then effective risk protection may be limited. Furthermore, many CBHI schemes involve some form of co-payment for services within the benefit package, and this will also affect the extent of risk protection.

Even for those services covered entirely within the benefit package, there are multiple questions about how individual CBHI schemes for these services interact with the broader health care financing system:

1. What happens to people who are not members of the scheme? Do they pay user fees? Are they excluded from care?
2. Do health care providers receive additional financial support? For example, do they receive government subsidy in one form or another? How does this differ between public and private providers?
3. Does the CBHI scheme receive additional financial support? For example, are there government subsidies paid directly to the fund? Do donors support the operating costs of the fund?
4. How are the above issues affected when there are multiple risk-pooling schemes? How equitable is government support to these schemes, and what if any tensions arise between the multiple risk pools?

These four sets of questions drive the extensions to the basic model discussed in the following section. For ease of presentation these extensions to the basic model do not address services outside the package or co-payment issues for services covered by CBHI schemes, however some of these issues are returned to in the penultimate section.

Extending the basic model

Payments by non-members – no government subsidy

The most basic extension to the model is to consider the position of non-members of the scheme (see Figure 2). It is rare that CBHI schemes achieve universal coverage of their target population. Accordingly, there are non-members who will also need to seek health care services. The evidence available (largely anecdotal) suggests that it is primarily the rural middle-class that joins such schemes (Bennett et al. 1998; ILO 2002a).

In most instances, non-members are not excluded from service use but must pay a separate fee (normally to the health care provider) to use services. By implication, providers fully recover their costs through a combination of insurance payments and user fees. This model is common amongst schemes that utilize unsubsidized private providers, who are also used by non-members. For members of the SEWA scheme using private for-profit providers, the model would look similar to Figure 2. In most countries, public facilities receive some sort of government subsidy and in many Sub-Saharan African contexts, non-profit private providers also receive some form of government subsidy (Gilson et al. 1994). Accordingly, schemes such as Nkoranza in Ghana do not, strictly speaking, fall into this model.

![Figure 1. The basic model: how CBHI schemes operate](image_url)
This amendment to the basic model gives rise to a set of empirical questions:

**Population coverage**
- What proportion of the target population join the scheme?
- How do members’ and non-members’ profiles differ?

**Financial flows (pooling and purchasing)**
- If supply is limited, what happens to the distribution of services between members and non-members?
- What proportion of a particular provider’s revenue comes from user fees versus payments from the CBHI? What, if any, implications does this have for the CBHI’s ability to influence provider behaviour?
- Do amounts paid for similar services for members and non-members differ? How does this affect the quality and quantity of services provided to each? Is there a cross-subsidy between scheme members and non-members, or vice versa?

### Payments by non-members and government subsidy to providers

Figure 3 shows the next extension to the basic model. Not only are there non-members who must pay something to access care, but government also provides a subsidy to health care providers. This scenario is very widely prevalent in Sub-Saharan Africa where, in effect, many CBHI schemes are risk pooling only for the cost-sharing element of what are primarily government-funded health care services. Many Sub-Saharan African systems (particularly those in East and Southern Africa) have moved from fully government-funded public health care systems to a national system of cost sharing through user fees, and even to (on a limited scale) risk pooling through CBHI for the cost-sharing element. To date, governments have not necessarily stepped back to consider whether the resulting pattern of subsidies is optimal. Government subsidies are not only received by public health care facilities. In many Sub-Saharan African countries (such as Ghana, Kenya, Malawi, Tanzania and Zambia) governments provide subsidies to private non-profit (mission) facilities (Gilson et al. 1994). In general, private for-profit providers receive close to no subsidy from government at all.

The map of financial flows illustrated in Figure 3 is very close to what occurs in the Nkoranza scheme in Ghana; however, the Nkoranza scheme does not offer insurance for primary care or outpatient services. St. Theresa’s hospital, the primary provider under the scheme, does however receive certain subsidies (such as staff salaries) from the government of Ghana. In Nkoranza, the CBHI scheme essentially provides a mechanism for the population to pool risks for the user fees associated with government-subsidized care at the hospital.

This addition to the model also gives rise to a separate set of questions:
Population coverage

- What is the impact of the scheme on the capture of government subsidies? Does the scheme enhance access for members who are then better able to access government subsidies?

Financial flows (pooling and purchasing)

- Where does the primary risk pooling occur within the system (on the part of government or on the part of the CBHI scheme) and how does this vary according to delivery level?
- What is the relative magnitude of the different financial flows (CBHI, government, out-of-pocket payments) to the provider? How does this vary between different levels of the health care system?

Benefit package

- How do the different benefit packages covered by CBHI and government relate? To what extent is there potential for cost shifting?

Government subsidies direct to the scheme

The third extension to the basic model (Figure 4) shows, in addition to the features mentioned above, direct government subsidy to the CBHI fund. This type of arrangement does not appear particularly common at the moment, but does occur in a number of countries. For example, in the Health Card Scheme in Thailand, the government now makes matching contributions to the premiums paid by households to the scheme. Similarly, the Tanzanian government matches contributions made by households to the Community Health Fund.

In Thailand, the rationale for government to provide direct subsidies to the fund is based on equity. Government subsidizes the cost of social health insurance (targeted at formal sector workers): tri-partite contributions to the Social Security Scheme are made by employer, employee and government. Therefore, it was argued to be inequitable for government not to subsidize premiums for informal sector workers (a generally less affluent group) who chose to enroll in the Health Card Scheme. In Tanzania, the government matching grant was introduced when it was realized that estimated premium costs would be too high for the average household to enroll. Matching grants were seen as a way to reduce premiums, therefore increasing enrollment (Shirima 1996). Besides making scheme membership more affordable, subsidies may be used to offset risk differences between schemes or compensate for regional income inequities (Busse 2002). However, in practice these other rationales for government subsidy to schemes have not been observed in developing countries.

Many existing CBHI schemes have received some external donor support. Sometimes this has supported technical assistance to the scheme, or has covered certain operating costs (such as the printing of insurance cards), and on some occasions this has been used to ‘bail out’ failing schemes. In most cases, donor contributions to schemes constitute one-off investments (unlike government subsidies), but nonetheless donor contributions raise many of the same issues as government subsidies that are presented below.

This further amendment raises additional questions, for example:

Population coverage

- Are subsidies to the scheme used to extend population coverage to poorer groups, or do they constitute a general subsidy to the scheme which might simply enhance benefits for members?

![Figure 4. Extension 3: adding government subsidies to the scheme](image-url)
Financial flows (pooling and purchasing)

- How does the magnitude of government subsidies to the scheme compare with government subsidies to providers and with revenues from premiums?

Benefit package

- Are subsidies to the scheme used to extend and to help purchase services that individuals might be unwilling to pay for (e.g. health education, public health services)?

Multiple risk-pooling schemes

The fourth and final extension to the basic model concerns the situation where there are multiple risk-pooling schemes present in the same country. This situation is depicted in Figure 5. This Figure depicts the case where there are multiple CBHI schemes; however, the other risk pools could be social health insurance schemes or government financing of services.

In practice, the implications of multiple risk pools will depend considerably on the extent to which there is clear market segmentation between them, and the extent to which behaviour of CBHI schemes is regulated. In Tanzania, multiple risk pools already exist, with the Community Health Fund operating in parallel with a social security scheme, and with different Community Health Funds in different districts. However, there is fairly clear market segmentation between these risk pools, and limited or no competition. In Ghana there is a burgeoning number of CBHI schemes, and pending government legislation would further complicate the scenario by requiring the establishment of district-level CBHI schemes. If this goes ahead as envisaged, then competition between schemes is likely to occur, and many of the questions raised below would seem very pertinent.

Overall, there is very little empirical evidence about the consequences of multiple risk pools in developing country contexts. Thailand, where in addition to the Health Card Scheme there is a variety of other schemes covering different parts of the population, is perhaps an exception to this, with growing evidence about equity implications and cost shifting on the part of the provider. Cost shifting arises due to the fact that different insurance schemes are likely to provide different benefits and modes of payment, and therefore there are incentives for health care providers to play one insurance scheme against another in order to increase revenues (Sullivan 2001). This may simply take the form of subsidizing care for members of one type of scheme by over-charging another scheme (this is a common practice for public hospitals in Thailand treating patients under the low income scheme (Supachutikul 1996)). In some instances, one patient may be covered by more than one scheme and this may create incentives for providers to re-classify patients or their condition. For example, there is evidence from Thailand of health care providers reclassifying illnesses and injuries as ‘work related’ so that they can be covered under the Workmen’s Compensation Fund (that pays providers on a fee-for-service basis) rather than the Social Security Scheme (that pays providers on a capitation basis) (Varophan 1992).

Other common consequences of the existence of multiple risk-pooling schemes are evident from industrialized country literature. For example, schemes may try to cream skim, dumping higher risk patients into other risk pools. Government mechanisms to address this problem include mandating acceptance of all enrollees, restricting choice of insurer, development of high-risk pools (targeted specifically at high-risk individuals and generally heavily government subsidized), and risk equalization or adjustment approaches (Soderlund and Khosa 1997). None of these mechanisms are without problems in terms of restricting consumer choice, the complexity of their informational requirements or in terms of enforcement. For example, mandating acceptance of all who present to enroll appears straightforward, but there are
concerns that schemes can still cream skim through adjustments in benefit packages, premiums or bureaucratic requirements that deter higher risk people from enrolling. The mechanisms listed have been experimented with mainly in the context of high-income countries (and to a limited degree in middle-income countries). It would seem that in most low-income country contexts, their implementation is even more problematic due to limited government capacity.

There has also been substantial discussion in the United States of how multiple, fragmented risk pools limit purchasing power and strengthen the relative power of providers vis-à-vis insurers (Reinhardt 1990). There is great diversity in developing countries in terms of risk pool size in CBHI schemes (ILO 2002a); however, there is limited understanding of the impact of multiple risk pools upon purchasing or financial sustainability, or how the mix of payment systems used by such schemes affects outcomes.

The issues identified above are likely to arise when there are multiple competing risk pools. If there is geographically based market segmentation of risk pools (as with the various district-level Community Health Funds in Tanzania) then the problems are likely to be less severe. It should be recognized, however, that in any situation where CBHI schemes co-exist with significant government subsidies to providers, then there are de facto at least two risk pools.

The type of questions that arise with this latest modification to the basic model include:

**Population coverage**
- Are there distinct profiles for members joining different types of schemes? To what extent do the different schemes serve segmented markets (e.g. markets segmented by geographical area or type of employment) versus competing for members?

**Financial flows (pooling and purchasing)**
- Do government subsidies to different risk-pooling schemes vary, and if so how? Do differences in government subsidies to different schemes enhance or detract from equity?
- How fundamentally different are the premiums and payment mechanisms, and what incentives do these differences create for patients and providers?

**Benefit packages**
- How do benefit packages vary between schemes? Do different schemes essentially provide the same benefit package or are benefit packages complementary (so that people might join more than one scheme)?

Understanding the implications of more complex models of CBHI for policy objectives

The questions presented above raise a substantial number of policy issues for government. It is not possible to explore all of these implications here. Instead, this section focuses upon two key policy areas: how the combination of risk pools extends financial risk protection and issues of equity.

**Financial risk protection: coordinating risk pools**

Standard insurance theory suggests that insurance schemes should focus upon unpredictable, low risk, high cost events – in practice however, CBHI schemes cover a bewildering variety of benefit packages, as evidenced by the benefit packages of the schemes referred to in this paper. A systems-wide approach to understanding CBHI would suggest that even if there is no formal coordination between CBHI and the government financing system, individuals will seek out and prefer CBHI schemes that offer complementary risk protection to that provided by government. There are three key variables determining what constitutes 'complementary' risk protection: the extent of co-payment (user fees) for government-subsidized services, the extent of the benefits package or essential package provide by government, and user perceptions of relative quality of care in public and private sectors. Figure 6 illustrates the first two of these dimensions.

Frequently, governments offer a range of health services at subsidized prices. This range of services is sometimes referred to as the 'essential package'. Although many governments used to offer a basic package of services free to the population (i.e. fully subsidized), during the past two decades in Sub-Saharan Africa there has been increasingly widespread adoption of supplementary user fees. Accordingly, government risk pooling in many Sub-Saharan African countries, including Tanzania and Ghana, is now limited to the shaded area (A) in Figure 6. In such contexts, CBHI risk pools may cover the co-payment element (B) or services outside the essential package (C) or some combination of these. In environments where government subsidies are low and user fees are high compared with household incomes, there may be demand for a focus on B.

The nature of demand for CBHI schemes is likely to vary within a country depending upon the supply environment and local income levels. In urban areas where access to non-essential services (either through private providers or higher level government facilities) is greater, demand for additional insurance coverage is more likely to focus on services outside the essential package (area C). In poor areas, communities will find user fees relatively less affordable and therefore seek CBHI schemes that focus more upon quadrant B.

In India, the SEWA scheme complements government health care financing in a different way. The government of India (together with state governments) offers an extensive package of services, with (at least in principle) zero co-payment. In practice, however, the quality of these services is widely perceived to be low (and informal charges are widespread). Benefits under the SEWA scheme cover most primary care services, but allow members to seek private sector care (where quality of care is frequently perceived to be better) (ILO 2002b; Ranson 2002). SEWA also provides some coverage of hospital services, but caps on the benefit package mean that more severe cases are thrown back into
the government risk pool where they are entitled to free hospital care (albeit of low quality).

This discussion suggests that in any context where government-financed services are an important source of care, demand for risk protection through CBHI schemes will be significantly influenced by government’s own funding patterns, and CBHI schemes will need to adjust to reflect changing government financing policies. For example, one of the stimuli to recent discussions of reinsurance in Ghana has been government plans to devolve teaching hospitals and require them to become more financially autonomous (reducing the essential package). Conversely, how government develops policy towards CBHI schemes may depend somewhat on what type of risks the schemes are covering. For example, government subsidies to CBHI schemes may better target the poor if they focus upon CBHI schemes that risk pool for area B (co-payments) rather than area C (services outside the package).

This discussion of coordinating risk pools also has implications for the recent discussion regarding reinsurance of CBHI schemes (Dror 2002). Where schemes focus upon co-payment for the essential package (B), reinsurance is unlikely to be necessary, as most services within this package face predictable demand and are low cost. Schemes that focus upon area C are much more likely to require reinsurance. Based upon the extent to which poor members of the community do join. While getting the poor to join CBHI schemes seems likely to promote their access to basic services, it is not clear that this is the best strategy through which to promote the progressive distribution of subsidies, and it is also a matter of concern as to what happens to the poor who do not join.

In order to be able to explore the equity implications of existing CBHI schemes, we need to understand more about what happens to non-members and, more broadly, the effectiveness of government targeting strategies. For example, the Thai Health Card scheme explicitly targets the rural middle-class (Supachutikul 1996). The government operates a parallel system of programmes to provide free health care services for the elderly, school children and the poorest households. In this context, high membership amongst very poor households in CBHI schemes would be counter to equity goals. In most contexts where there are CBHI schemes however, it is unlikely that there are other social safety nets that guarantee access for those who do not join.

It is possible that non-members might actually be made worse off by a CBHI scheme than before. This might occur in a number of ways:

- Establishment of the scheme may be associated with an increase in prices for health care for non-members (as was the case in the Community Health Fund in Tanzania);
- In a context of restricted supply, access for non-members to providers may be adversely affected as members may receive preferential access;
- Faced with differential reimbursement/payment rates, providers may reduce the quality of care provided to non-members (depending on the incentives inherent in the reimbursement schedule);

**Equity implications**

Table 2 hypothesized that core equity objectives for government were (1) to create equitable access to a basic package of health care services, and (2) to promote the progressive distribution of government subsidies. Some prior studies (e.g. Jakab and Krishnan 2001) have made an implicit assumption that it is desirable for poorer people to join CBHI schemes, and indeed have measured the ‘equity’ of CBHI schemes based upon the extent to which poor members of the community do join. While getting the poor to join CBHI schemes seems likely to promote their access to basic services, it is not clear that this is the best strategy through which to promote the progressive distribution of subsidies, and it is also a matter of concern as to what happens to the poor who do not join.

In order to be able to explore the equity implications of existing CBHI schemes, we need to understand more about what happens to non-members and, more broadly, the effectiveness of government targeting strategies. For example, the Thai Health Card scheme explicitly targets the rural middle-class (Supachutikul 1996). The government operates a parallel system of programmes to provide free health care services for the elderly, school children and the poorest households. In this context, high membership amongst very poor households in CBHI schemes would be counter to equity goals. In most contexts where there are CBHI schemes however, it is unlikely that there are other social safety nets that guarantee access for those who do not join.

It is possible that non-members might actually be made worse off by a CBHI scheme than before. This might occur in a number of ways:

- Establishment of the scheme may be associated with an increase in prices for health care for non-members (as was the case in the Community Health Fund in Tanzania);
- In a context of restricted supply, access for non-members to providers may be adversely affected as members may receive preferential access;
- Faced with differential reimbursement/payment rates, providers may reduce the quality of care provided to non-members (depending on the incentives inherent in the reimbursement schedule);
• Government may redirect its budget from direct support to public health care services to support to CBHI schemes, leading to lower quality care for non-members at government providers;
• If a large proportion of the middle class join CBHI type schemes then, in the medium term, pressure upon govern-
ment to maintain public funding for health care services may be reduced.

Again, whether or not these effects occur is an empirical question, which future analyses of CBHI schemes really need to address.

The complex flows of government subsidies to CBHI schemes described in the previous section further complicate the analysis. Clearly if CBHI scheme members are much better able to access a service heavily subsidized by govern-
ment, then it means that they are more likely to capture the government subsidies flowing to providers than non-
members. Similarly, if large parts of the population cannot afford to join a CBHI scheme, even with government subsi-
dies to the scheme, then those who can will capture the subsi-
dies. In the Community Health Fund in the Hanang district of Tanzania, scheme membership remained very low (less than 5% of the district population) and those who did join the scheme benefitted from two sets of government subsidies: (1) those provided directly to providers and (2) subsidies provided directly to the Fund (Chee and Smith 2002).

For both types of government subsidies the precise rules regarding use of subsidies are also important in terms of understanding equity impacts. Government subsidies to either the health care provider or the CBHI scheme could be specifically targeted at providing services for the poor, and specifically those who cannot afford to purchase membership of the CBHI scheme. It seems rare, in practice, that this is the case. Subsidies to providers tend to reflect historical patterns rather than anything else. In most cases providers appear under no compulsion to use such subsidies for services for the poor, but simply absorb them into their general operating budget. It would seem that in order to benefit the poor, much more targeted approaches are required.

While it appears likely that CBHI schemes will change the allocation of government resources, the acceptability of the outcomes is unclear. For example, in contexts where the urban middle-class generally captures subsidies, subsidies to rural CBHI schemes, even if they are not targeted to the very poor, may represent an improvement in terms of equity. Similarly, societies may perceive it to be acceptable for CBHI schemes to improve the position of scheme members if the position of non-members is not adversely affected as a conse-
quence, but if CBHI schemes actually make non-members, and potentially poorer community members, worse off, then this is unlikely to be acceptable.

Conclusions
This paper has argued that analysts and policymakers contemplating CBHI schemes need to move away from a scheme-specific perspective to a system-wide one. This is important not only in contexts where government intends to contribute to or in some way interact with CBHI schemes; the implications of CBHI and broader health care system interaction need to be better understood in virtually all contexts. While there is a growing body of evidence about the impact of individual schemes, there is virtually no infor-
mation about the role that CBHI schemes can and do play in terms of the broader health care financing system. The paper has tried to illustrate how, even if an individual CBHI scheme appears to be achieving its own goals in terms of equity, efficiency and financial sustainability, it is far from certain that the scheme is contributing to social objectives across these dimensions. Given the lack of evidence and under-
standing about how CBHI schemes contribute to overarch-
ing health financing/health system goals, recent advocacy for increasing prepayment via CBHI schemes is probably best understood in terms of abhorrence for the most apparent alternative, i.e. high levels of out-of-pocket user fees.

The frameworks set out here point to a substantial agenda for research. At the most basic level, far greater empirical evidence is required about how CBHI schemes do indeed interact with the broader health care financing system; the models described here need to be populated with data. The frameworks presented also suggest a number of other priority areas for policy-oriented research, including:

• What types of risk pooling is government best positioned to provide vis à vis CBHI-type schemes? While there has been theoretical discussion of the types of services government should subsidize (see Hammer 1997), this question has not been examined with a specific eye to how CBHI and government risk pools may complement each other. Basic cross-scheme data on how CBHI benefit packages and population coverage vary with government financing patterns would help inform this discussion.

• How should government target subsidies in contexts with CBHI schemes? In supporting the development of CBHI schemes, government must think carefully about how to make best use of scarce government resources. As the conceptual maps demonstrate, there are multiple financing roles that government could play with respect to CBHI schemes, but at this point there is little clarity about what sorts of subsidy are most desirable in which contexts.

• How do CBHI schemes affect non-members? Social policy regarding CBHI schemes may be particularly affected by the degree to which such schemes improve or detract from the situation for non-members. More information is needed about the effects of schemes upon non-members.

While the need for further research to enhance our understand-
ing of how CBHI schemes link to system-wide goals seems relatively uncontroversial, it is less clear how successful efforts to better integrate or regulate CBHI schemes will be. Some CBHI analysts anticipate an evolutionary path for CBHI schemes, whereby they gradually become more regi-
mented and integrated into a comprehensive social safety net structure (Carrin et al. 1999; Arhin-Tengkorang 2001). This possible evolutionary path reflects what has occurred in Korea and Thailand (Peabody et al. 1995; Supachutikul 1996). While development of a regulatory framework could
bring CBHI goals into greater alignment with government goals, in practice, in many of the contexts where CBHI schemes now thrive there is rather limited trust in government and limited government capacity to regulate. In such contexts, scheme proponents have an understandable concern that government intervention may be a death knell. Given these tensions it will prove difficult to achieve a proper balance between regulating schemes to achieve government objectives and stifling scheme growth through heavy-handed intervention.

Endnotes
1 The function of insurance is stated to be ‘access to care with financial risk protection’ (Kutzin 2001).
2 The definition of community-based health financing in the cited document includes both schemes with prepayment and risk pooling and those without.
3 In East Africa in particular there are several examples of provider initiated and (largely provider) owned CBHI schemes. While the definition given here of CBHI incorporates such schemes, several analyses have pointed out tensions between provider objectives and usual CBHI objectives. Consequently there is increasing consensus that building CBHI schemes around providers is not the best design. The discussion below focuses upon CBHI schemes where the provider is not responsible for scheme management and risk pooling.
4 The author acknowledges a debt to Kent Ranson for information about the SEWA scheme, Chris Atim for information about the Nkoranza scheme, and Grace Chee for information about the Community Health Fund in Tanzania. Literature on the Health Card Scheme in Thailand was supplemented by the author’s own knowledge acquired with the assistance of many Thai researchers.
5 For example, for many provider-initiated schemes, the primary objective (at least initially) was to raise revenue, whereas for community-owned schemes the key objective is more likely to improve access with financial protection for members.
6 The three supplementary objectives identified in the table are not meant to be comprehensive. For example, it has been proposed that CBHI schemes may contribute to participatory democratic development (Schneider et al. 2001). This may be an important supplementary objective of such schemes; however this objective does not raise the same concerns with respect to alignment of scheme and system-wide objectives as those listed in the table.
7 An alternative but similar approach would be to subsidize directly those individuals joining CBHI schemes (Busse 2002).
8 Premiums were initially calculated on the basis of user fees that would be charged for an average of two health centre visits per person per annum. The government’s decision to subsidize this appears to reflect an implicit acknowledgement that user fees are unaffordable to the majority.
9 The actual size of shaded area (A) clearly varies substantially between countries. In some cases A may be very small.

References
Acknowledgements

The author would like to thank Joe Kutzin, Charlotte Leighton, Mary Paterson and Kent Ranson, all of whom read earlier drafts of this paper and made extremely insightful and helpful comments. Chris Atim, Grace Chee and Kent Ranson also provided useful information about particular CBHI schemes. Preparation of this paper was supported by the Partners for Health Reformplus (PHRplus) Project. This was made possible through support provided by the United States Agency for International Development (USAID) under Prime Contract No. HRN-C-00–00–00019–00 awarded to Abt Associates, Inc. The opinions expressed herein are the author’s and do not necessarily reflect the views of Abt Associates, Inc. or USAID.

Biography

Sara Bennett, Ph.D., is the Senior Research Advisor for the Partners for Health Reformplus Project, a USAID-funded project operated by Abt Associates. She also holds a part-time position as lecturer on the Health Economics and Financing Programme, London School of Hygiene and Tropical Medicine. Sara has a Ph.D. in health economics from the London School of Economics and Political Science. She has previously researched and written widely on health care financing issues, including community-based health insurance and aspects of health sector reform. Sara has worked long-term in Lesotho, Zambia, Thailand and the Republic of Georgia.

Correspondence: Dr Sara Bennett, Abt Associates Inc., 4800 Montgomery Lane, Suite 600, Bethesda, MD 20814, USA. Tel: +1 301–347 5390, fax: +1 301–913–0562, email: sara_bennett@abtassoc.com