Community-Based Health Insurance: An Evolutionary Approach to Achieving Universal Coverage in Low-Income Countries

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Abstract: The WHO World Health Assembly, and the most recent WHO World Health Report, have called for all health systems to move toward universal coverage. However, low-income countries have made little progress in this respect. We use existing evidence to describe the evolution of community-based health insurance in low-income countries through the three stages of basic model, enhanced model, and nationwide model. We have concluded that community-based health insurance development is a potential strategy to meet the urgent need for health financing in low-income countries. With careful planning and implementation, it is possible to adopt such evolutionary approach to achieve universal coverage by extending tax-based financing/social insurance characteristics to community-based health insurance schemes.

Key words: Universal coverage, community-based health insurance, health care financing, financial risk protection.

1. Introduction

The WHO World Health Assembly of 2005, and WHO World Health Report 2010, called for all health systems to move toward universal coverage, defined as “access to adequate health care for all at an affordable price”. A crucial aspect of achieving universal coverage is to develop a financial risk pooling system that provides cross-subsidies in health systems where ability to pay determines financing contributions and the use of services is on the basis of need for care. To expand risk pooling to move toward universal coverage, user fees and other out-of-pocket (OOP) payments must be reduced and the level of prepayment must be increased [1, 2].

Over the past hundred fifty years, many high-income countries, as well as some middle-income ones, have achieved universal coverage by introducing a variety of financial risk pooling systems, most of which include tax-based financing or/and social health insurance (SHI) schemes [3]. In contrast, low-income countries have made little progress in this regard. Although both tax-based financing and SHI schemes exist in low-income countries, beneficiaries (breadth) and/or service coverage (depth) are quite limited [4-7]. Unlike in high- and some middle-income countries, the majority of people in low- and middle-income countries are self-employed, work in the informal sector, or are unemployed, making the formal economic sector simply too small for tax-based financing or SHI to cover the entire population. Financial risk pooling systems that are financed through tax-based financing and SHI schemes are able to cover only 5%-10% of the labor force and/or population in these countries [8]. Their populations...
still rely mostly on OOP payments (accounting for 30%-85% of total health spending in the poorest countries), which are associated with a higher probability of incurring catastrophic health expenditure and impoverishment [9]. Health-related expenses remain the most important reason for households being pushed below the poverty line [10, 11] — it is estimated that globally around 150 million people suffer financial catastrophe annually because they pay OOP for health services. As a result of weaknesses in the health financing system, many of the world’s 1.3 billion people on very low incomes still lack access to effective and affordable drugs, surgeries, and other interventions [12].

One alternative to covering poor people in the informal sector is community-based health insurance (CBHI) schemes [13-14]. Rather than waiting for top-down tax-based financing or SHI development, bottom-up CBHI has been introduced to low-income countries over the past two decades [7, 15-17].

The results, however, have been mixed, especially in Africa. Initially, proponents hoped that traditional small-scale health insurance schemes resembling those in Germany, Japan, and Britain in the 19th century, which operated much like today’s CBHI schemes, would eventually enable universal coverage in these low-income countries [6, 18, 19]. In addition, implementers believed that the decentralization process occurring simultaneously in many of the same countries would empower lower layers of government and the local community, thereby reinforcing the CBHI movement [20, 21].

After twenty years of implementation experience, however, many low-income countries, with the exception in Ghana and Rwanda, still face tremendous challenges in initiating, sustaining, or scaling-up CBHI. The great majority of current schemes have enrolled only a small proportion of the eligible population. Given their small size and limited financial protection, few survived for long [22]. As a result, people have become skeptical of CBHI’s potential to play a significant role in reaching universal coverage, and many doubt that European and Asian success in using the community-based approach to universal coverage can be replicated in low- and middle-income countries [23, 24]. As a result, scholars and practitioners have expended substantial effort on investigating the effectiveness and sustainability of CBHI schemes, the challenges they face, the solutions for improvement, and the potential role of CBHI in a national financing strategy to achieve universal coverage in low-income countries.

Based on the rich evidences of CBHI practices around the world, we summarized the development of CBHI as a way to achieve universal coverage in low-income countries through three stages: the basic model, the enhanced model, and the nationwide model. We describe the characteristics of each model, as well as its potential for and challenges to achieving universal coverage. We also discuss the strategies and measures that could improve CBHI’s effectiveness, efficiency, and sustainability. Finally, we introduce the potential of using CBHI to achieve universal coverage by incorporating tax-based/social insurance characteristics into CBHI schemes.

2. The Three-Stage Process

Our findings in this review are that to reach universal coverage, CBHI needs to be an integral part of a national health financing strategy. Small and independent CBHI schemes must gradually evolve through the three stages, from basic model, to enhanced model, and eventually to a nationwide model, along the way addressing the inherent limitations of CBHI. Certainly, not all low-income countries must start CBHI development with the basic model and experience the three-stage process. A country can start at any stage, based on its development “environment”, which includes its political, social, financial, and technical capacity. The key to success is how to successfully integrate the characteristics of tax-based financing and social insurance schemes into
CBHI development.

2.1 The Basic Model of CBHI, although Difficult to Sustain, is the Prototype of Bottom-up Financial Protection for the Informal Sector

CBHI has been defined in various ways [14, 15, 18, 25], and its specific characteristics vary. Nevertheless, these schemes share certain basic features, including community initiation and operation, voluntary membership, and prepayment membership contribution.

Although CBHI has been considered as an innovative financing mechanism for the poor, it is not that new. Today’s SHI systems in Germany, Japan, and Belgium, and tax-based financing scheme in Britain grew out of small-scale community-based on schemes that would meet the definition of CBHI [4, 6, 18, 26]. In some Asian countries, such as Thailand and China, CBHI initiatives came about independently in the 1960s, 1970s, and 1980s to help fill gaps in coverage of public financing mechanisms. These schemes provided improved access to services and income protection measures for people in informal sectors in both rural and urban areas. Some of these countries have reached or almost reached universal coverage in terms of depth (benefit coverage) and/or breadth (population coverage) of the coverage.

Rather than being locally initiated by the informal sectors in Asia, or by the associations of industrial workers or employers in Europe, CBHI schemes in Africa are mostly the imported interventions of foreign aid agencies or national governments [27-28] that are trying to mitigate the effects of increases in user fees for government health care services, collapse of government health care services in certain countries, and the difficulty of expanding formal health insurance to the informal sector [18]. Both foreign aid agencies and national governments hope that CBHI will serve as a mechanism for the transition to universal coverage [24, 29-31].

The key characteristics of a basic model of CBHI are summarized in Table 1. Countries that developed this model in the early stage of CBHI development include China, Kenya, Philippines, Tanzania, and Uganda [16, 21, 32-34].

Since CBHI was introduced in low-income countries, its potential has been recognized. This potential includes: (1) Making financial risk protection mechanisms available to the informal sector and to the close-to-poor segment of the population, thus increasing equity by reducing the social protection gap with the formal sector; (2) Raising awareness and knowledge of the value of insurance; (3) Fostering and facilitating prepayment from informal sector workers; (4) Reducing patients’ OOP spending; (5) Increasing health service utilization; (6) Improving cost-recovery in health care facilities; (7) increasing resource mobilization for health from general population through a prepayment mechanism; (8) Creating experience in managing risk pooling arrangements; and (9) Building confidence in risk pooling among participants through their direct experience in limiting abuse and fraud through strong community control mechanisms [7, 18, 23, 35-37].

| Table 1  Key characteristics of a basic model of CBHI. |
| Community supports | At the community level defined by geographic, professional, or ethnic groups |
| Health financing functions | Revenue collection | Participation | Voluntary |
| | Source of revenue | Membership prepayment |
| Risk pooling | Risk pooling | Fund management | Participants within a local community |
| Service purchasing | Service coverage | Purchase mechanism | Outpatient or inpatient or both at local level |
| Country examples | Fee-for-service, capitation |
| China, Kenya, Philippines, Uganda, Tanzania |
Despite this potential, researchers and implementers have also pointed out critical shortfalls that affect the effectiveness, efficiency, and sustainability of this model, which include: (1) The bottom-up initiation of most CBHI schemes means they may not be recognized (supported politically or/and financially) initially by governments at the regional and national level. The absence of political endorsement, legitimacy, and financial and management supports may undermine a scheme’s stability; (2) The model starts small (with as few as 500 members), thereby undermining its potential to provide broad benefit coverage and financial risk protection; (3) Voluntary participation can lead to adverse selection that undermines the financial sustainability of the scheme; (4) Because the informal sector’s ability to pay is relatively low, scheme reliance on membership financing limits scheme funding levels, and in turn this limits benefit coverage, scheme attractiveness to participants, and finally their rate of participation; (5) Even a small membership payment (premium) can exceed the capacity to pay of the poorest of the poor, who are then left out of the scheme; (6) Most CBHI schemes cannot afford professional management, which can lead to the instability of the scheme; and (7) A limited scheme—with little funding and few members—makes it hard to link with formal provider networks to negotiate lower-cost and higher-quality services [23, 35, 38-43].

The basic CBHI model exists mostly at the early stage of scheme development. Then, most schemes collapse or evolve into the enhanced model of CBHI [16, 21, 32-34].

2.2. Enhanced CBHI, although still Difficult to Scale up, Provides an Effective and Sustainable Model of Health Financing for the Informal Sector

Most lasting CBHI schemes have modified the characteristics of the basic model by adopting enhancement strategies (Table 2). Local government political endorsement, including the poorest of the poor through government subsidies, and building networks for scheme management and service delivery are some of the new key characteristics. Countries that have developed this model include Rwanda (before institution of a nationwide model), Mali, Senegal, Uganda, and China [6, 44-49].

In addition to offering the benefits of the generic CBHI model, the enhanced model has potential for additional advantages: (1) Government political endorsement increases CBHI’s political stability/legitimacy; (2) Government and/or other donors’ subsidies increase scheme capacity to reach the poorest of poor, thereby increasing the equity of CBHI coverage; (3) Government also may provide financial support or a re-insurance mechanism to protect against expenditure fluctuations and maintain financial sustainability; (4) Small schemes form a regional or national network that can provide professional technical and managerial support on design and management. A network can also facilitate re-insurance and political advocacy; (5) A group

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Key characteristics of the enhanced model of CBHI.</th>
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<tr>
<td>Community supports</td>
<td>At multi-community/regional level with local government political and financial endorsement</td>
</tr>
<tr>
<td>Revenue collection</td>
<td>Participation</td>
</tr>
<tr>
<td>Risk pooling</td>
<td>Risk pooling</td>
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<tr>
<td>Service purchasing</td>
<td>Service coverage</td>
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<tr>
<td>Fund management</td>
<td>Contract with provider network</td>
</tr>
<tr>
<td>Source of revenue</td>
<td>Possible cross-subsidy among communities with re-insurance mechanism</td>
</tr>
<tr>
<td>Purchase mechanism</td>
<td>Start to introduce capitation, case-based payment, in addition to fee-for-service payment mechanism</td>
</tr>
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| Country examples | Rwanda (before nationwide model), Mali, Senegal, Uganda, and China |
enrollment requirement will reduce adverse selection; and (6) Introduction of other payment mechanisms to control costs, and case management techniques, will limit expenditure fluctuations [41, 44, 47, 50-53].

All of these efforts make the enhanced CBHI scheme relatively more effective, efficient, and sustainable, but there still are challenges to the enhanced model being scaled up to a nationwide scheme and made part of a national health financing strategy that achieves the goal of universal coverage. Some of these challenges are similar to those faced in the basic model, though they are less severe. These challenges include the following: (1) Lack of political, financial, and technical commitment and stewardship at the national level prevents isolated schemes from scaling up to that level; (2) Fragmentation of a large number of separate small funders (many small insurance schemes) limits broader risk pooling; (3) Financial risk protection is still constrained by limited membership contributions from low-income informal sector members (scheme reimbursement covers only about 30%-40% of total spending) [54]; (4) Contribution capability and benefits may not be consistent across schemes, which leads to the inequity in health financing and service access; (5) Though networks may increase scheme management capability and service availability, lack of professional and standardized management limits scheme efficiency and effectiveness; and (6) Ability to ensure the availability of the service, to improve the quality of service, and to control the cost of service remains limited [6].

2.3 Nationwide Scheme: A Top-down Consolidation Strategy Makes Full CBHI Scale-up Possible

Conceptually, the nationwide CBHI approach is consistent with the linkage approach [13, 55] or extending approach [56, 57] proposed by the international social security society. This stage identifies the links between CBHI schemes and public financing, lays out the strengths and weakness of each category of financial risk pooling schemes and public financing, lays out the strengths and weakness of each category of financial risk pooling mechanism, and proposes to strengthen CBHI by extending to it, the characteristics of tax-based financing or social insurance schemes. New characteristics of a nationwide scheme are summarized in Table 3; government political commitment, stewardship, legislation, and funding support, regional-level professional management, and continuing community-level supports are a few of the key characteristics. Countries that have developed a nationwide model include China, Ghana, Rwanda, and Thailand [16, 47, 58, 59].

Adopting these characteristics makes this third-stage CBHI a national health financing strategy for achieving universal coverage in low-income countries. Its potential can be summarized as follows: (1) Political commitment, stewardship, and guidance, along with legislation and regulation backup and continuing strong community supports in terms of

Table 3  Key characteristics of a nationwide model of CBHI.

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<tr>
<th>Health financing functions</th>
<th>Community supports</th>
<th>Political commitment and stewardship at national level with legislation backup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue collection</td>
<td>Participation</td>
<td>Majority of the targeted population nationally, with continuing community-based supports</td>
</tr>
<tr>
<td></td>
<td>Source of revenue</td>
<td>Government financial subsidy to the scheme for administration and/or service coverage</td>
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<tr>
<td>Risk pooling</td>
<td>Risk pooling</td>
<td>Cross-subsidy within community with risk-equalization mechanism</td>
</tr>
<tr>
<td></td>
<td>Fund management</td>
<td>Professional management with the strength of community participatory roles</td>
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<tr>
<td>Service purchasing</td>
<td>Service coverage</td>
<td>Standardized comprehensive benefit package</td>
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<tr>
<td></td>
<td>Purchase mechanism</td>
<td>Capitation, case-based payment, Global budget, or/and performance-based payment</td>
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Country examples: China, Ghana, Rwanda, Thailand
resource mobilization and fraud and abuse controls, enable scale-up of CBHI nationally; (2) Increasing the size of risk pools at the regional or higher level and establishing risk equalization mechanisms to allocate the resources across insurance schemes allows for cross-subsidy between high-risk and low-risk regions. Government function of resource redistribution ensures equity of benefits across rich and poor regions; (3) Government regular budget support makes additional financial resource available and sustainable. It is unlikely that rural or informal sector populations enrolled in CBHI schemes have sufficient funds to fully finance their own care, and accordingly CBHI should be supplemented by the government health care budget rather than displacing government health care financing. This regular government budget support is needed to continue to subsidize the CBHI premium for the poor, in order to increase the benefit coverage and participation rate of the targeted population; (4) Increased government leadership and financial and technical support enhances CBHI management capacity and helps control overhead costs; (5) Strategic service purchasing makes the scheme more effective and efficient; and (6) Government establishment and implementation of monitoring and evaluation systems ensures scheme performance makes the scheme more sustainable [1, 6, 18, 22, 35, 47, 60-62].

Though this nationwide model displays the potential that is scaling up CBHI for achieving universal coverage, it still faces challenges that could affect its long-term sustainability. It must devise ways to: (1) Continue to increase enrollment rate by reaching hard-to-reach populations without introducing mandatory mechanisms; (2) Control the costs of health services; (3) Ensure long-term financial sustainability; and (4) Integrate CBHI with other existing health insurance schemes, such as tax-based or SHI covering formal sector populations.

3. Discussions

3.1 CBHI Development is a Potential Strategy to Meet the Urgent Need for Health Financing in Low-Income Countries

The WHO member states have endorsed universal coverage as an important goal for the development of health financing systems. Nevertheless, there is no “one size fits all” strategy for achieving this goal. In addition, most low-income nations see achieving universal coverage as a long-term task, whereas they have immediate need for flexible short-term responses to their urgent health financing protection problems. Indeed, the approach that each country takes will be determined partly by its own history and how its health financing system has developed, as well as by social preferences relating to concepts of solidarity [1].

International experience has shown that many developing countries, such as Colombia, Mexico, and the Republic of Korea, have reached or nearly reached universal coverage with top-down public health financing approaches, i.e., tax-based financing and/or social insurance schemes, without experiencing CBHI development. However, these approaches have been successful only in the countries that have reached a relatively high level of economic development, are more urbanized, and have wage sectors larger than the informal sectors [37]. In addition, even where public financing schemes are established, the self-employed, unemployed, and destitute were only covered at a later stage [13]. Consequently, these countries may not be the most relevant models for today’s low-income countries, especially in Africa. Furthermore, in Africa in particular, public financing constraints may prevent tax-based financing and SHI from extending coverage in the short run.

Based on systematic review and analysis, this paper suggests that although CBHII, especially in its initial stages, may be limited in terms of efficiency, effectiveness, and equity in financing and service delivery, as well as sustainability, it might be the most
feasible starting point from which to approach the goal of universal coverage in low-income countries. That is, rather than wait for the top-down approach of expanding formal public health insurance to the informal sector, the bottom-up approach of CBHI can help accelerate the achievement of universal coverage.

3.2 A Three-Stage Process of CBHI Development has the Potential to Lead toward Universal Coverage

To become an integral part of a nation’s health financing strategy, CBHI has to evolve from the basic model to an enhanced model, and eventually to a nationwide model. Introducing the characteristics of tax-based financing and social insurance, such as government/employer financing, mandatory enrollment, and professional management at the regional/national levels rather than at the community level, is the key to a successful transition (Fig. 1).

This paper provides practical recommendations on how to adopt characteristics that are inherent in the public financing models to transform fragmented CBHI initiatives toward achieving universal coverage. Many high-income countries such as Germany, Japan, and the Britain, middle-income countries such as Thailand and China, and low-income countries such as Ghana and Rwanda, have already passed through these stages and successfully transformed their community-based scheme to full or near achievement of universal coverage.

It is worth repeating that not every low-income country must pass through every stage. Countries could introduce the enhanced model or nationwide model from the beginning, if the required development “environments”, including political, social, financial, and technical capacity, already exist.

3.3 Community Participation Plays an Important Role Even in the Nationwide Model

As we have described, to reach universal coverage, small and independent CBHI schemes likely evolve through the three models, addressing limitations along the way until they become a nationwide model that incorporates the characteristics of tax-based financing and social insurance scheme. Some people may argue that nationwide model no longer belong CBHI category. Regardless, the local community continues to play a critical role. Similar to a formal sector employer, the informal sector community links people

![Fig. 1 Three-step evolution process using CBHI to achieve universal coverage.](image-url)
into a “group” using its “social capital”, i.e., the degree to which it shares values and is prepared to support communal structures and pool resources. Though it is hard to measure, “social capital” theories point to an important intangible benefit that underlies a strong risk-pooling function [63, 64].

3.4 “Do no Harm” Should be a Principle for CBHI Development

Although we propose that a three-stage process of CBHI development is a possible path to achieve the goal of universal coverage, potential risks should be acknowledged to avoid doing harm in the long term.

First, as discussed above, the basic model of CBHI presents certain problems that may limit effectiveness and sustainability. Without careful planning, each isolated, underfunded, and poorly managed CBHI scheme could produce undesired consequences, and eventually collapse. These consequences could damage the local society and people might lose their confidence in the idea of prepayment mechanism to improve financial protection against risk due to illness. Therefore, CBHI has to be carefully designed and implemented with a view toward a long-term transitional plan.

Second, unlike top-down tax-based or SHI approaches, bottom-up CBHI often starts with hard-to-reach groups. The contribution and coverage are generally lower than in formal sector schemes. This segmentation creates inequity in both financing and access to health care services. If countries choose to use CBHI to accelerate achievement of universal coverage, it is important to plan for a process that will harmonize (cross-subsidize) the contributions and benefits over time. If richer groups obtain better financial risk protection than poorer ones, it will be very hard to expand the benefits to achieve equitable arrangements for the whole population [22].

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References


