

Cost Analysis of Community Health Strategy Implementation: Case Study of Butere District, Kenya

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Abstract

Cost analysis of community health strategy is the Identification of current and anticipated costs in operating a community health unit with an examination of the impact of those costs of setting them up.

The purpose of the study was to look at the cost of implementing community health strategy in a rural set up in Kenya. The study was a longitudinal and was carried out in Butere District

US\$2549.9 was used to set up community health unit and US\$7532 was spent in operation costs. The total cost of implementing and running a functional community health unit in Kenya's rural set up is equivalent to US\$10,081.9.

1. Introduction

Despite significant progress in many areas of social concern over the past decades, Kenya continues to grapple with numerous challenging health problems and issues in the delivery of accessible, affordable and equitable health services. The Alma-Ata Conference strongly reaffirms that health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector (WHO, 1978). In addition, the existing gross inequality in the health status of the people particularly between developed and developing countries as well as within countries is politically, socially and economically unacceptable and is, therefore, of common concern to all countries. To redress the issue of gross inequity in the delivery of health services the concept "community strategy" was crafted and piloted in selected districts in Western Kenya.

The overall goal of the Community Strategy is to enhance community access to health care in order to improve individual productivity and thus reduce poverty, hunger, and child and maternal deaths, as well as improve education performance (MOH, 2007). The strategy outlined the type of services to be provided at level 1 i.e. the community health workers, the type of human resources required to deliver and support level 1 services, the minimum commodity kits required, and the management arrangements to be used.

This goal is to be accomplished by establishing sustainable level 1 service aimed at promoting dignified livelihoods across all the stages of the life cycle, and throughout the country through the decentralization of services, as well as enhanced accountability and responsibility among all concerned partners. The community-based approach, as set out in the Community Strategy, is the mechanism through which households and communities strengthen their role in health and health-related development by increasing their knowledge, skills and participation. The intention is to strengthen the capacity of communities to assess, analyze, plan, implement and manage health and health-related development initiatives so that they can contribute effectively to the country's socio-economic development.

The approach recognizes that all communities are already actively engaged in health activities for the survival of their households. Their actions for health could be strengthened through an increased knowledge and skills base as well as by better planning of their activities. In addition, the approach recognizes the pivotal role of the health system in supporting community efforts. It is through partnership between the system and the communities that improvement can be realized and sustained. It is therefore critical to integrate level 1 health activities by all stakeholders into the health care system. The integration requires mechanisms and structures that provide the necessary linkage. Such structures would enhance and enable effective participation of communities in health related decision making processes at the community level, as well as at the interface between level 1 (community), levels 2 (dispensaries/clinics) and level 3 (Health centers, maternities, nursing homes).

Realizing the importance of empowering households and communities in the delivery of the Kenya Essential Package for Health (KEPH) at the community (level 1), the Ministry of Health (MOH) and sector partners

developed and launched a Community Strategy in 2006 (MOH, 2007). According to the MOH 2005 August report, Kenya Essential Package for Health (KEPH) is the new approach through which the goals of the National Health Sector Strategic Plan 2005-2010 (NHSSP II) will be accomplished. Taking the Kenya Essential Package for Health to the Community. A Strategy for the Delivery of level one (hereafter referred to as the Community Strategy). The Community Strategy aims to make a significant proportion of basic preventive and curative services available at the community level and to empower communities to take an active part in their own health care.

Over the past decade, real financial allocations to the public sector have declined or remained constant. Reviews of public expenditures and budgets in Kenya show that total health spending constitutes 8.6% of total government expenditure and that recurrent expenditures have been consistently higher than development percentage of the GDP. The per capita total health spending stands at (US\$6.2), showing that health spending remains far below the WHO recommended level of US\$34 per capita. It also falls short of the Government of Kenya commitment to spend 15% of the total budget on health, as agreed in the Abuja Declaration (2000). The under-financing of the health sector has thus reduced the sector's ability to ensure an adequate level of service provision to the population.

1.1 Problem statement

After successful piloting of the community strategy model by Great Lake University in Nyanza Province, on how to engage communities more in a bid to reverse poor health indicators. However, the critical question that remained unanswered was the cost of implementing the community strategy bearing in mind variation in geographic, socio-economic and cultural settings. To date there has been paucity of information and poor understanding regarding how much implementing community strategy nationally would cost. Estimating the cost of implementing community strategy in terms of resources to be expended and utilized is vital to the Government of Kenya and Africa in general. It is for this reason why the study was carried out in order to inform the policy makers on the cost of implementing the community strategy.

1.2 Broad objective

To estimate the cost of implementing the community health strategy in Kenya's rural setting.

1.2.1 Specific objectives

To determine the cost items involved in the implementation of the community health strategy.

To determine the cost of operating a community health unit as a channel for implementing the community health strategy program in a rural setting.

2. Research Methodology

2.1 Study design

This was longitudinal case study of four community health units. It involved a review of secondary data of existing reports of meetings and trainings conducted over a period of 12 months. Data collected included cost incurred for each meeting and training. These included costs of materials used, the number of people who attended the meetings, any allowances that were given or expenses incurred during the meetings and the mode of transport used. Both qualitative and quantitative methods were used.

2.2 Study Population

The community health units (CHU) were the study population since they are the ones implementing the community health strategy in which persons who chaired or facilitated the meetings of the CHUs were key informants who knew details of the meetings, these were the Community Health Extension Workers (CHEWs), chairperson of the Community Health Unit (CHU) or any Community Health Worker (CHW) who were present in the meeting and had details of the proceedings.

2.3 Sampling Design

The selections of the 4 sites were based on those sites being operated on by Great Lakes University of Kisumu (GLUK) as partnership research sites. Purposive sampling was done based on interest in the existing research sites for Great Lakes University of Kisumu (GLUK) in Butere district. The study was restricted to the four research sites consisting of four sub locations which are equivalent to a community health unit. The study concentrates on the research sites because they were the pioneer Community Units (CUs) established and used to implement the community health strategy and they were actively running.

3.1 Results

3.2.1 Key findings of this study were:

Objective 1: the findings were categorized into 7 categories namely Human resources, allowances, time, stationery, motivation, assets/infrastructure and others.

Objective 2: A total of (US\$2549.9) was used for startup activities; Setting up a community health units as channels for implementing the community health strategy.

Objective 3: A total of (US\$7532) was spent in operating community health units as channels for implementing the community health strategy program in a rural setting.

A total cost of US\$10,081.9 was spent on implementing the community strategy.

Cost items involved in the Implementation of Community Health Strategy in Butere District. The community health workers (CHWs) who provide the manpower directly involved in the implementation of the community health strategy know their colleagues involved in the implementation of the strategy since they deal with them. This is evident from what the participants mentioned.

Category 1: Human resource

The human resources involved in the community health strategy are: CHEWs, CHCs, CHWs, Health facility in charge, the administration, community members and partners and this is evident from the community health workers sentiments.

Category 2: Allowances

It is important to note that activities conducted in relation to the community health strategy need to be allocated funds for airtime for mobilization, funds to purchase action materials and support community dialogue days and even facilitation fees for the facilitators who will have been invited to facilitate some issues in which they are specialists in.

Category 3: Time (indirect cost)

Time is the major indirect cost that is spent in the implementation of the community health strategy because the participants are involved in many other duties of which they leave pending and instead attend to the implementation of the community health strategy.

Category 4: Stationery

For the community health strategy to run effectively, CHEWs need to have standard reporting tools while CHWs patient Referral books when handling referral cases from the households that they take care of.

Category 5: Motivation

The CHWs need badges, caps, bags, T-shirts, stipend so that they feel recognized by other visiting partners who are not necessarily community members and they also feel identification can save them from the trouble of arrests if they happen to visit households that are engaged in illegal acts like illicit brew, so that in the event of arrests they can identify themselves. They suggested that they would like to be considered for positions like being hired as subordinate staff in the Health facility.

Category 6: Fixed Assets/ Infrastructure

Office space, meeting venues and computers are necessary for community health units for storage of their property and data. The CHWs also need motorbikes and bicycles for both their movement and transporting patients to the health facilities. Some areas are very far from the health facility and therefore there is need to construct more health facilities.

Category 7: Others

There is need for more training for CHWs in relation to the community health strategy, and some risk allowance for them especially when dealing or visiting households with patient suffering from contagious diseases, during days like community dialogue days and action days security came up as a concern. (See table 1)

3.2.1 *The cost of starting up a Community Health Unit as a channel for the community Strategy implementation.*

The cost of startup included the cost at District Health Management Team (DHMT) training / meetings and CHEW training since at startup the major activities were meetings in relation to the community health strategy

while trainings bring participants on board in terms of activities to be done and their roles in implementing the community health strategy.(see figure 1)

4.1 Discussion

This study seeks to estimate the cost of implementing the community strategy in a rural setting. The objectives were to determine be the ideal cost items involved in the implementation of the community health strategy, to determine the cost of setting up a community health unit as a channel for implementing the community health strategy and to determine the cost of operating a community health unit as a channel for implementing the community health strategy program in a rural setting.

4.2 Cost items involved in the Implementation of Community Health Strategy in Butere district.

According to the health system members and the society in Butere, ideal cost items should include: Lunch allowance for participants (CHWs), Fuel for motor bikes and vehicles, Stationary Facilitation fees, House hold registers, Portable community Chalkboard and Funds to hold health/dialogue days to enable sustainability of the community health strategy yet none of them is considered in the budget though during the annual operation plan (AOP) it is planned for.

Office space for the CUs and office supplies are necessary, venue costs during meetings is important, CHW identifications cards will enable the health facility staff to easily recognize the CHWs when they bring patients to the facility, computers/laptops are necessary for the CHWs to keep their data and update themselves on new knowledge including sending their proposals. Facilitation fees are important in the event that the facilitator has to come from far and refreshments during trainings will motivate the participants.

Printing papers, felt pens, flip charts, airtime, note books, Patient referral books for CHWs, bicycles, CHEW reporting tools, CHWs stipend/motivation/allowance, T-shirts, First aid kit and note books Fuel for CHEW motorbikes, Funds for trainings are all important for the smooth implementation of the community health strategy. CHWs should be provided with bags as a motivation which will assist them carry supplies and drugs like painkillers, family planning commodities like condoms.

Among all the ideal cost items mentioned above the key finding is that things like office space and supplies, computers, patient referral books, first aid kits including funds to support health/action days have not been considered yet they are a necessity. An African study done by the community-directed interventions for priority health problems in Africa; the cost of delivering the interventions which was assessed through the collection of provider cost data at the district level, the first-line health facility level and the community level. At the district level, program officers responsible for the delivery of each of the five interventions were interviewed regarding eight cost items: staff salaries; allowances for volunteers; consultant fees; training; mobilization; transportation; maintenance and utilities; and supervision and monitoring. Where resources were shared, the interviewee was requested to allocate a percentage of the total costs of each individual (recurrent and capital) input to the study intervention: results of a multi-country study confirmed that the strategy would be sustainable. (WHO 2010). At the community level, provider costs were defined as the monetary value of the time the community implementers spent delivering the interventions (opportunity costs). To calculate opportunity costs the study used the national minimum wage and assumed an 8-hour working day. The 2005 official exchange rate between the national currency and the United States dollar (US\$) to convert all costs to US\$ after correcting for inflation using each country's national consumer price index was used.

4.3 The Cost of Starting a community health unit as a channel for implementing the community health strategy

On a normal day cultivating a farm from (7.00am-4.00pm) around 9 hrs but 3.3 hrs spent at meetings in a day therefore the time spent at meetings per head can be equated to (USD \$1.1) in a week per individual .In a year start up training is 8 days and a mean of 120CHWs and CHCs attended the trainings.A total of (US\$1283) was spent in the district health management teams (DHMT) trainings and DHMT meetings in relation to the community health strategy while a total of (US\$1267) was spent on Community Health Extension Workers (CHEW) training the Community Health Committees (CHC) and Community Health Workers (CHWs).

According to a study conducted in South Africa on Training of lay health workers (LHWs) as an intervention to improve TB outcomes compared with institution based directly observed therapy, training consisted of 25 hours per week and focused on TB, primary health care and community development principles. This training was conducted by a nurse and two LHWs trainers. (Lewin *et al.*, 2006)

According to McGuire when drought hit Brazil in1987, ceara's state government began to hire community health

agents mostly women as part of job creation program each of the health agents was given three months training and assigned to make monthly visits to 50-250 households to provide prenatal care vaccinations and checkups as well as to promote breast feeding and oral rehydration, by 1992, 7300 community health agents had been hired along with 235 half time nurse supervisors. These health workers served 65% of ceara's population at a cost of less than US\$ 8,000,000 per year or about \$ 1.50 for each person served. (McGuire, 2002)

4.4 Costs associated with Operating a Community Unit for implementing Community health Strategy program in a rural setting.

Once the training of the DHMT, CHEWs, CHC and CHWs has been done. Registration of household members in the community is done and at this point the strategy is set to run. Running of the community health strategy is facilitated by meetings at the DHMT, CHC and CHWs, including the HFMC in relation to the community strategy.

The running involves the:

- Community dialogue days
- Action days
- Outreach days
- House hold visits
- updates

In all the above activities were costed in terms of the number of days, time taken, number of people involved and even materials used

Table 3 shows the cost for running CU for implementing Community health Strategy (CHEWs)

There was a total of 28 meetings in the year 2011 in which the CHEWs met with the CHWs together with their CHCs in the regular CHWs weekly meetings. Approximately three and a half hours were spent per meeting. Only the CHEW was given some allowance for a particular day though out the year since there was an allowance provision for the facilitator from a proposal budget that they had been funded with. The CHWs had bought their own writing materials (e.g. note books, pens, flip charts) that they used throughout this period on one particular day they hired chairs for the stake holders meeting.

Basically the CHWs are not supported with funds for their weekly CHWs meetings which last for 3 to 4hrs a day per week and the CHEWs being on duty avail themselves to the community with no transport or other allowances since their services are expected to be extended to the community. It's also important to mention that the CHWs being volunteers no allowances were being given to them. Therefore the time consumed per individual if it is to be cost it can be equivalent to the amount of work that they would have done by cultivating their land since all of them are farmers.

Basically writing materials are the ones that were used in the year 2011 in the CHC/CHWs meetings. Each meeting took approximately 3.3 hours and most members were to walk to the meeting venues. The community Venue mostly churches and schools were being used for meetings and the community health units were therefore hardly charged for the venues.

An African study done by the community-directed interventions (CDI) for priority health problems in Africa the cost of delivering the interventions which was assessed through the collection of provider cost data at the district level, the first-line health facility level and the community level found that at the district level, cost analysis suggests that delivering health care interventions through the CDI process is relatively cost-efficient. In the CDI districts, the median cost per district of implementing and delivering the five study interventions was a little above US\$ 15 000, while in the comparison districts it was about US\$ 30 000. There was little difference in the relative allocation of costs between CDI trial sites and comparison districts. In both cases staff salaries comprised the major cost (51.2% versus 48.6%, respectively). Maintenance, training and social mobilization each accounted for 10–17% of costs in both groups of districts. The cost of transport comprised less than 3% in the CDI districts and about 8% in the comparison districts. (WHO,2010).

According to a study done by Drummond, the major non-market resource input to health care programs are volunteer time and patient/family leisure time and one approach to the valuation of these would be to use market rate wages (e.g. for volunteer time one might use unskilled rate wages) (Drummond et al. 1997)

5.1 Conclusion

This study has estimated the cost of implementing the community strategy in a rural set up of Butere District. The results of this study show that despite the efforts of setting up the community health strategy in the rural set up. There is need for planning and budgeting for the cost items needed for smooth rolling of the community health strategy. The amount and time spent in setting up a community health unit as a channel through which the strategy is implemented compared to the outcome that the CHU is expected to serve is worth and affordable, it therefore needs enforcement and more support from the government in terms of budgetary allocation to enable smooth implementation of the strategy. The implications of the anticipated outcome is far way above the cost of operating the CHU in implementing the strategy if we look at the health gap that level one fills towards improving health and development.

5.2 Recommendations

5.2.1 General Recommendations

The ideal cost items according to the views by both the health system and society should be considered for effective implementation of the community health strategy.

The government to incorporate the suggested plans and budget captured in the AOPs for setting up the community health strategy implementation.

The Health facility management committee (CHEWs, link health facility committee members,) to plan and budget with the community health units needs so as to be able to conduct health days and even outreach programs during operations of the program.

5.2.1 Policy Recommendations

Any funds released for the community health strategy to be accounted for and records for fixed assets to be kept at the end of the year before others are released.

All local administration should be trained on the community health strategy before setting up the programs in their areas.

There should be transparency between the community health unit link health facility and the local administration during operation of action days, community dialogue days and outreach programs for the sake of identifying the priority areas to be spent on depending on needs of the community at hand.

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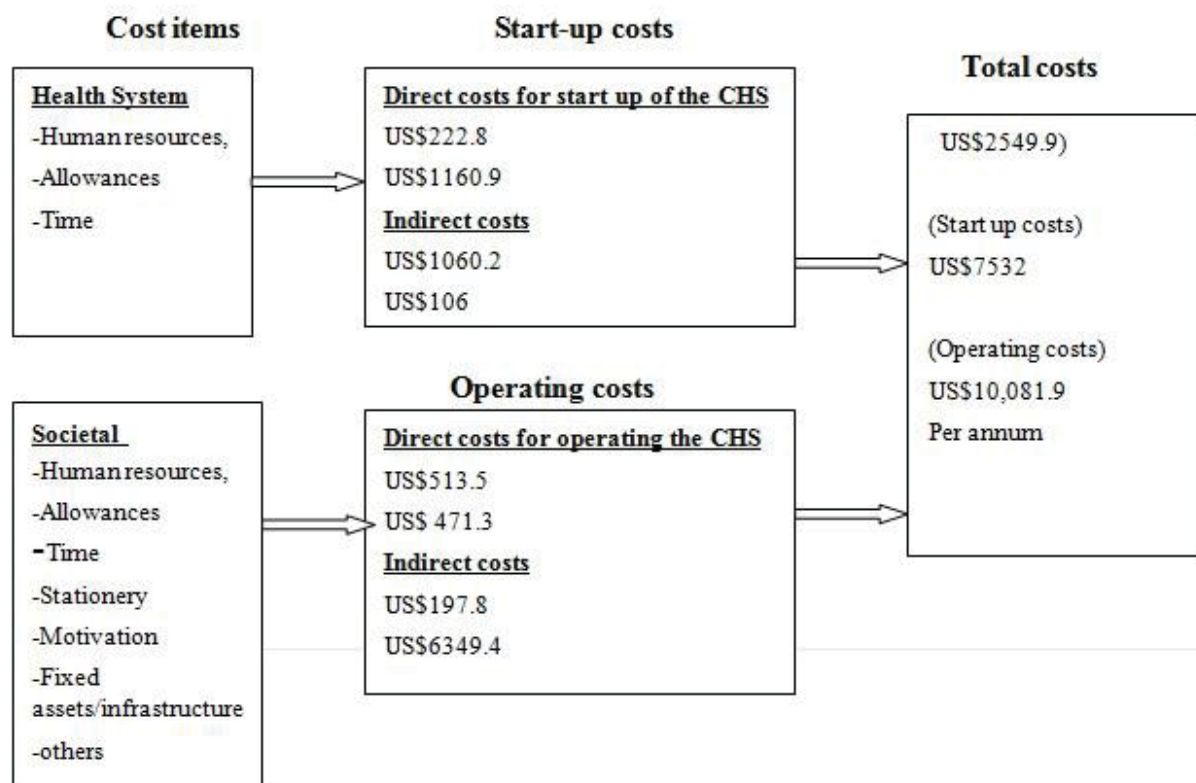
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Table 1
Summary of cost items involved in the Implementation of Community Health Strategy.

Category	Key findings
Human resource	CHEWs, CHCs, CHWs, Health facility in charge, the administration (chiefs, assistant-chiefs, elders, community members and partners (GLUK, MOPHs, and MOH)
Allowances	Airtime for mobilization, funds to purchase action materials and support community dialogue days, facilitation fees.
Time (indirect cost)	Time spent in relation to CHS would have been spent elsewhere i.e. cultivating land.
Stationery	CHEW standard reporting tools CHWs patient Referral books
Motivation	badges, caps ,bags, T-shirts ,stipend, consideration of CHWs while hiring subordinate staff in the Health facilities
Fixed Assets/ Infrastructure	Office space ,Computers ,Motor bikes/bicycles
Others	Security, Insurance ,Trainings and CHWs first AID kits

Figure 1: The cost of implementing the community strategy in a rural setting



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