The Socio-Cultural Challenges to The Bamako Initiative in Bondo District: Implications for Community-Based Malaria Control

Benson A. Mulemi
The Catholic University of Eastern Africa

ABSTRACT

The provision of basic health services to the underserved communities is the popular model for the implementation of the Bamako Initiative (BI) in Kenya. This paper examines the socio-cultural factors that influence the community use of the locally available malaria control resources, and the other primary health care services provided within the BI programme. An ethnographic study of the Bamako Initiative as implemented in the Luo cultural context in western Kenya was carried out between November 1995 and February 1996, in Bar Chando sub-location. 150 respondents were interviewed using a standard questionnaire with both close and open-ended questions. The 150 respondents were drawn from 667 households through systematic random sampling. Key informants, an in-depth group interview, and direct observation provided qualitative data.

The study revealed that very few people utilized the BI community-based services, or took part in its primary health care activities and malaria control programme. Rather, the local people relied more on local shops, ethnomedical practices, and other sources of malaria treatment and prevention. This implies that, as originally formulated, the BI approach was not relevant to PHC, and particularly in meeting malaria control objectives in rural communities in Bondo District. The approach needs to be modified to suit the rural socio-cultural and economic contexts. Primary health care agents, the primary health care education campaigns, Community health workers and Indigenous social support systems should all be strengthened to improve the poor people's access to the community-based health care services, and the quality of home-based illness management.

INTRODUCTION

The Bamako Initiative (BI) is a strategy for strengthening Primary Health Care (PHC) in Africa. In Kenya, it focuses on strengthening the local drug supply system and the capacity of the community to organize health actions. The initiative also aims at ensuring the financing of some recurrent costs in order to enhance community self-reliance (Maneno and Mwanzia 1991; UNICEF 1991). In 1989, a National Task Force was established by the Ministry of Health to assess the possible implementation of the initiative countrywide. It was concluded that its implementation guidelines, as adopted in Bamako, Mali in 1987, applied to the Kenyan situation (Boer den 1992). The objectives and the principles of the

initiative were proven to be consistent with the Kenyan government policy of District Focus for Rural Development, which was introduced in mid 1983. The BI approach to malaria control was started in western Kenya in late 1989.

Although the BI aims at strengthening the accepted health care goals, it should synchronize the local grassroots cultural contexts and the recommendations in the PHC packages. The BI is, therefore, expected to foster community participation and activate the potentials of the local communities to define their own health needs and initiate sustainable ways of meeting them. Sustainable community-based health care and grassroots development initiatives need to address issues of socio-cultural compatibility of the target populations.

Malaria control activities in Kenya were integrated under the BI with a recognition that the disease is a menace to life, particularly among infants, children under five and pregnant women. The aim of the strategy was to reduce illness and death due to malaria through improved diagnosis and treatment, individual protection through the use of insecticide-treated bed nets, health education, and environmental management activities, such as measures to control mosquito breeding (UNICEF 1991: 36). The approaches to malaria control are consistent with the Kenyan National Plan for controlling the disease. This plan recognizes the need for integrating malaria control initiatives into other PHC activities at the community level, using experiences gained from basic community-based health care (WHO 1995). As a supportive component of the PHC policy, the BI is expected to enhance accessibility, acceptability, and affordability of health services. Community Health Workers (CHWs) and other local people who would assume different roles, such as being members of the rural Village Health Committees (VHC) would mediate local participation. Self-reliance and sustainability of the BI at the community level also depends on a revolving fund obtained from the sale of mosquito nets and medicines.

The main question that is addressed in this essay is whether or not the BI approaches to community health care, and particularly malaria control, attained socio-cultural relevance in the study area. In this analysis, socio-cultural relevance is a synonym for compatibility. This is determined by the extent to which health care innovations do not significantly contradict existing values, perceptions, and modes of social organization, popular expectations and other patterns of culture. The adoption of innovations such as those in the BI is expected to vary with the different social, economic, cultural and physical environments. The appropriateness of the initiative should, therefore, be viewed in terms of how it is attuned to specific grassroots contexts. The assessment of the contextual relevance of the BI and other community-based health care strategies need to be done with the consideration of which model of implementation is followed. According to Boer den (1992:29), there are two models for the implementation of the BI. First, there is the model of improving the quality of existing health facilities as it has been done in Guinea, Burundi and Uganda. The second model entails providing basic services to unserved communities as the case is in Kenya and Nigeria. The second

model is typical of the community based health care approaches adopted in Bondo District, specifically in Bar Chando, where the data for this essay was collected.

STUDY SITE AND METHODS

The data for this essay was collected in Bar Chando Sub Location, North Sakwa location, in the then Bondo Division. The site is located in a holoendemic malaria region. Previous researches indicate that the area has the following health related problems in order of severity: malaria, diarrhoeal diseases, upper respiratory infections, urinary tract infections, measles, schistosomiasis, eye infections, and pneumonia (Kenya Govt. 1993). The Bamako Initiative was introduced in Bar Chando sub-location after a short period of PHC activities in the community. At the Divisional level, PHC received the support of non-governmental organizations such as the Maseno West Diocese of the Anglican Church of Kenya, CARE-Kenya, and the Kenya Freedom from Hunger Council for National Development. The Ministry of health endorsed the launching of the BI in Bar Chando with the assistance of UNICEF and an NGO called Community Initiatives Support Services (CISS). It was expected that the BI and especially its malaria control component would be replicated successfully in Bar Chando as it was in a few other rural communities in the neighbouring Kisumu District and Kilifi in the Coast Province.

Bar Chando Location was selected for this study because it was the only area where the BI was operational in Bondo District as a community-managed health care project. One hundred and fifty respondents selected from 150 households, which were identified using systematic random sampling techniques were interviewed. The sampling frame was 667 households as indicated in the previous national population census data. (c.f. Kenya Govt., 1993). Systematic sampling involves the selection of respondents with a regular interval from a listing of the sample of the universe. In this study, there was however, no list of households to be used as a sampling frame, hence the list was drawn concurrently. The sampling interval was 4 (150/ 667). Every fourth household was selected from which male and female respondents were interviewed in an alternating manner. This gave an equal number of men and women respondents at the end of the study. The first household near the community pharmacy was selected randomly and became the point of reference for the selection of every fourth household within the borders of Bar Chando Sub-location. The linear arrangement of the households was determined by the researcher's and field assistants' judgment.

A standardized questionnaire was translated into Dholuo language with the help of an interpreter. This facilitated the collection of survey data on the peoples' perceptions, interactions with and utilization of the BI. The respondents included 75 men and 75 women who ranged from 20 to 86 years in age with an average age of 48 years. They were mainly parents whose decisions would have either positive or negative influence on the overall participation in community-based health care activities. More qualitative data were collected from 10 key informants who were purposively selected, an in-depth group interview and direct observation at the BI Centre and various households. The data were analyzed using

descriptive statistics and qualitative methods.

The Health Belief Model (HBM) is used to interpret the findings. The model is a socio-psychological theoretical framework that explains health-related actions, how people use preventive health services and their compliance with prescribed therapies (Cockerham, 2001). In this model, social, demographic, and psychological aspects are analyzed together to explain peoples' perceptions of the costs and benefits involved in health-seeking behaviors as well as the transformation of their health beliefs. The HBM is useful in the present analysis because it provides the premise for understanding the peoples' attitudes, values and ideas about health and available services. These aspects in turn would influence their perceptions and use of innovations in health care.

FINDINGS AND DISCUSSION

The Implementation of the Bamako Initiative in Bar Chando

The BI programme was launched in Bar Chando sub-location in August 1993 after one year of general PHC implementation in the community. The programme was also being implemented in other areas of Bondo District, such as Abom, Rarieda and East Migwena using similar approaches. Before the establishment of the BI in Bar Chando, a census of children was taken, but no explanation for the exercise was given to the local people. Sensitization was done for two weeks in local churches and at the Assistant Chief's weekly public meetings (*Barazas*). The initial sponsorship for the first stock of drugs and mosquito nets was from the Community Initiative Support Services, a Non-governmental organization. It was expected that the money collected from the mosquito nets and drug sales would enable the community to replenish the Community Pharmacy (CP) on a regular basis. However, during the fieldwork on which this essay is based, the CP had empty shelves and only 150 mosquito nets out of 450 had been sold for the two-year period of the operation of the BI. Key informants indicated that only the well-off members of the community had been able to buy the nets and medicines, which were initially stocked at the community pharmacy. People from neighbouring communities purchased some of the 150 mosquito nets that had been sold.

Thirty Community Health Workers (CHWs) were trained for two weeks after which they were given kits of anti-malaria drugs and other medicines to sell to community members who would need them. The CHWs were laywomen who were associated with the Traditional Birth Attendants (TBA) system, locally referred to as *nyamrerwa* (pl. *nyamreche*). The educational background of the CHWs was not considered in their recruitment. Despite this fact, they were expected to dispense chloroquine and other medicines as well as provide health education. The basic qualifications for a CHW were: literacy in the local language (Dholuo) and the national language (Kiswahili). However, a minimum knowledge of English was considered an added advantage. Other criteria for selection for CHWs were age, clan representation, and the reputation of the women's husbands. Most of the CHWs were 45 and above years of age and still served in the roles of Traditional Birth Attendants (TBAs). To ensure the sustainability of the CHW system, those who were selected were

expected to be permanent residents of the community, that is, women who were married within the sub-location.

The CHWs were selected, with at least one representing each of the eighteen major clans. At least three "smaller clans" were not well represented by the CHWs. From the field observations, inter-clan politics negatively influenced the performance of CHWs and the VHC. In fact, the Village Health Committee (VHC) was inefficient and none of its meetings (called six times during the fieldwork period) were successful. During this time, four of the CHWs had abandoned the BI project due to either lack of incentives or separation from their husbands. The malaria control activities were to a large extent dependent on the performance and the credibility of lay village CHWs. Apart from health education and sale of chloroquine, it was assumed that the CHWs would effectively treat the mosquito nets with the permethrin insecticide at the community pharmacy, diagnose illnesses correctly and provide recommended treatment.

The community pharmacy was set up in a donated building on a private farm. Generally, the Bar Chando community was selected for the implementation of the Bamako Initiative due to the perceived long distance between the area and other health facilities. It was, therefore, presumed that the local people would utilize the BI services and participate fully in the community-based health care activities, especially those related to the improvement of child nutrition and malaria control.

Men participated in the BI as members of the Village Health Committee (VHC). The VHC consisted of twenty-two members who were recognized as clan village elders. A clan elder, through whom complaints by the CHWs were reported to the area assistant chief, represented each village. Such complaints included loss of medicines. The men participated in the health committees because they were culturally accepted as decision-makers, vested with the responsibility of deciding how important collective community activities should be conducted. The twenty-two VHC members included five elders from the main local churches. This criterion of representation in the VHC probably caused discontent among community members. The churches that were considered were the Catholic, Anglican Church of Kenya, Israel Nineveh Assembly, and Pentecostal. Conversely, the community members were affiliated to more than nine Christian religious denominations. Up to 42% of the respondents were affiliated to other African Independent Churches, the Apostolic and the Full Gospel church. This implies that a significant proportion of the community members were not represented in the VHC on the basis of their faith. In fact, 33% of the respondents who belonged to the 'minor' independent churches were not represented at all. Religious affiliation, therefore, would affect the people's interaction with the BI if representation in local health committees were based on church membership. Some key informants observed that members of some independent churches would not be supplied with medicines by the CHWs because of their conflicting views about faith healing.

A chairman managed the BI community activities, assisted by a treasurer, an assistant chief and a secretary

in collaboration with the VHC. One divisional coordinator based in Bondo Township far off from the community was expected to supervise the CHW activities on a regular basis. Generally, the BI programme did not adequately represent the local health care needs, especially regarding malaria control. Apparently, the views of the would-be users of community health services were not sought in the planning and implementation of the programme. The programme was hastily imposed on the existing weak primary health care system at the grassroots. In this sense, the local people were unlikely to fully identify with the health programme as their own.

The Socio-Economic Context of the Community Health Programme

The residents of this community had low literacy levels. There were more primary than secondary school leavers. 38% of the respondents had 5 -8 years of primary education while 19% had completed between 1and 4 years. 32% of the respondents were illiterate people, although only 22% said that they lacked formal education. Due to low levels of education, most people were more comfortable expressing themselves in the Dholuo vernacular. This is an important variable in the design of health care messages, which would be best expressed in the local language metaphors, semantic categories and analogies.

Up to 70% of the people interviewed were subsistence farmers without reliable sources of financial income. Very few people in this community were in salaried employment and hence, there was a general lack of regular income. There was no large-scale commercial farming in the study area. The potential source of income was horticultural production and especially tomato growing. The area was also suited for the growth of sisal, which was used by the local people to weave ropes for sale. Low income and the other pressing domestic needs were the most significant barriers to the purchase of basic household necessities, medicines and mosquito nets. Although the local people had a high knowledge of the importance of mosquito nets, they were unlikely to put the nets as one of the household priorities. Therefore, low affordability due to the lack of financial income militated against the people's willingness to pay for the BI services. However, the objective of the BI to create a system of community financing was locally acceptable. This policy seems not to conflict with the African norms of reciprocity in health care (Geest 1992). However, the prevailing levels of poverty in Bar Chando sub-location would not sustain a revolving fund for mosquito nets and other BI malaria control strategies.

The household sizes in the study area ranged from 1 to 15 with a mode of six members. The families in each household were fairly large and mostly polygynous. With the prevailing high poverty levels and low economic income, local participation in new health care initiatives, especially the use of mosquito nets was bound to be very low. The social structure and order among the traditional Luo constrain the use of recommended PHC practices in the households, particularly for malaria control. In both monogamous and polygynous families, the distribution and consumption of material goods, which include medicines and mosquito nets, are influenced by traditional norms of socio-economic transactions. These norms

safeguard against what may be perceived as acts of favoritism by heads of households.

The community-based health care programme under the rubric of the BI had overlooked ways in which kinship and social network norms would affect compliance with recommended malaria control actions. Some respondents and key informants, for instance, indicated that they would share medicines with their relatives or stop using them as soon as they felt better. It was difficult for the local people to comply with the recommended health actions especially when the actions included possibilities of sharing resources such as medicines. Although most of the respondents were aware that children and pregnant women were more vulnerable to malaria, 65% of them held that everybody in the family needed the mosquito net. Arguably, mosquito nets are material necessities that may cause family conflicts. This is likely to be more pronounced in polygynous families, which are characterized by institutionalized jealousy (*nyieko*) among matrifocal units and co-wives. This implies that selective malaria control strategies in such families are potential sources of conflicts, quarrels or confrontations, especially among co-wives.

The selective use of the mosquito nets, therefore, would not be culturally acceptable, especially in large polygynous families, yet many people lacked the money to buy nets for everybody.

As shown above, there was a gender-based division of roles in the community participation in the BI. The selection of women to serve as CHWs and men in the VHC indicate that men and women did not share in the health care burden equally. This trend in culturally constructed gender roles would negatively influence the impact of the BI education on frequent health problems such as malaria control, especially when women have to communicate with men. On the other hand, issues related to environmental management for malaria control, such as bush clearing are a preserve for men in the local culture, yet the educators (CHWs), and homestead keepers were entirely women. Social conditions, such as the lack of adequate education, or income, and social norms may result in failure among community members to take the recommended actions, inadequate medical attention to them or, even failure to get it at all. These factors, including the influence of social networks as form an important background that requires consideration in the implementation of community based health programmes in rural areas.

The place of the BI among other sources of Health Care

The aspects that affect rural peoples' health behaviours include notions, beliefs, ideologies, values, goals, social norms and life experiences. These variables result from socialization, education, and complex environmental experiences, which influence the people's use of new health services, or their participation in recommended health actions. Despite the fact that the local people had a high knowledge about malaria health problems targeted by the BI, this was not a sufficient trigger for them to take the actions advocated for in the programme. The initiative did not necessarily stand out as a unique source of community health care services, but just one of the alternatives that were available to some people for

malaria control and other PHC services.

The use of accessible services depended on the prevailing notions of causality, duration of illnesses and the most efficacious actions in each case. Malaria for instance, was sometimes explained in terms of intrusion into the body by mystical elements believed to be the invisible antagonists of health. When the disease was diagnosed as such, the therapeutic response would include the use of herbal purgatives and emetics. In some cases severe malaria popularly associated with "madness" (*neko*), or child convulsions (*sambua*) would be treated through a combination of herbal remedies (*yiend nyaluo*) and faith healing. The persistence of folk beliefs which were unlikely to help in improving the people's health attest to the view that the BI had not adequately addressed the local needs for relevant health information. It is important to combine the physical, biological and human socio-cultural aspects in order to successfully realize the desired health care goals in new programmes. Awareness of the local beliefs and folk medical knowledge about malaria, for example, can enable implementers of new initiatives to discover appropriate meanings and symbols to be used in the communication of desired education messages. The BI did not realize this strategy, partly due to the failure of its implementers to reach a majority of its beneficiaries at the beginning and throughout the implementation.

Recommended malaria control and other health care activities can be fruitful only after the local people have received the relevant ideas and beliefs about the disease through culturally relevant health education. Cultural beliefs are aspects of the man-made environments, which can be changed through appropriate education and other complex cues to actions. In this regard, the BI played a very minimum role to reinforce the local people's potentials in malaria control and PHC in general. 62% of the respondents said that they had not heard any information on malaria control. Of those that said they had received some information (n = 57), only 8.9% said that they received the information from community health workers in the BI. A majority of these respondents (29.8%) got the information from various medical personnel in dispensaries and hospitals. Other sources of information on malaria included radio advertisements (19.3%), health leaflets and posters (15.8%), school lessons (15.8%), and friends and public meetings (barazas) (10.5%).

An important source of medicines in Bondo District regardless the operation of the programmatic initiative was the local shops. This contributed to the stock of modern and traditional remedies used by many people for self-medication at home. Due to the lack of access to health care facilities and appropriate education, many people in sub-Saharan Africa receive their first treatment of febrile illnesses at home using herbal medicines, oral antipyretics or antimalaria drugs purchased from local shops without prescription (Glik *et al.* 1989; Kaseje *et al.* 1987; Raynal 1985) The use of herbal remedies is generally founded on the strong belief in the efficacy of traditional medicines. These medicines and associated knowledge are handed to the local generations orally and also acquired through individual experiences and participant observation. The social networks in the community play a significant role in enhancing the folk

therapeutic and prevention practices. A social network is a group of persons with specific socio-cultural identities that relate them to one another. The people within such groups have specific role expectations and they form part of the social environment in which local disease prevention and treatment can be conceptualized. Such social networks in Bondo allowed malaria patients to test their present and past experiences so as to choose courses of action. The social networks in grassroots communities help individuals to reinforce or modify their health related judgments and subsequent health seeking behaviors (Lasker 1981).

The insufficient interaction with the BI in Bondo was reflected in what the respondents' patterns of health care resort during their last malaria associated illnesses. Only 8.7% of these respondents (n =150) sought help from the BI health providers (CHWs). A majority of the respondents (46%) sought over-the-counter drugs in shops, others sought treatment from local private medical practitioners or injectionists (10.7%) hospitals or dispensaries (25%), herbalists (3%) faith healing (02%), while others did not seek treatment at all. It is hypothesized here that the low interaction of the local people with the BI was due to inadequate social marketing of the community-based health care programme, since the majority of the respondents (67%) indicated that they had scant information about the existence of the initiative in the area. Most of the malaria treatment practices depended on personal or group assessment of the symptoms and the seriousness of a given episode. The BI would, therefore, be more appropriate if there were efforts to improve the quality of self-diagnosis and self-treatment. This means that increased attention to the role of home treatment of malaria in policies directed toward the management of febrile illnesses in sub-Saharan Africa is needed (Ruebush, 1995). In Bar Chando, malaria control and other health care activities operated on the assumption that the villagers and lay health workers could make correct diagnosis and treatment choices.

The success of community based home treatment of malaria would be enhanced by an understanding of the practices within local therapy management groups, which consist of relatives, friends and neighbours. The improvement of the treatment practices within these informal groups through education should enable the community-based programmes to effectively reduce malaria and other illnesses in the local population. It is within the social contexts that patients and their relatives are assisted to choose the best course of action. The local perceptions of the BI would help us to assess further the effectiveness of this programme in typical rural settings of Bondo District in general.

Perceptions about the BI Programme

A significant proportion (35%) of the respondents did not know about the BI and its malaria control component. Those who knew, or had some vague information about it, associated it with external assistance and specialized professional knowledge and technology. The role of the BI as a community based health care strategy was not clear to most of the local people. The initiative was superimposed on the primary health care project, which had not been clearly understood by the lay

people. For example, the local people faced a dilemma due to the inconsistency of the traditional and the new roles of the CHWs. The new components of health care added to the responsibilities of the CHWs in the Luo socio-cultural context caused an ambiguity to the community members.

There was a low awareness about the BI malaria control goals, activities and services. To some people, the activities of CHWs in the area gave a vague idea about the BI such that it was simply described as the *nyamrerwa* or midwife (TBA) project. There was a confusion arising from the use of the term *nyamrerwa* to refer to the BI. The term translates to Traditional Birth Attendant (TBA). The local people, and especially men, could not easily relate the *nyamrerwa* to services they offered in the new community-based health care programme, which included malaria control. Traditionally, the CHWs served as midwives, obstetricians and pediatricians, and used mainly ethno-medical resources. With the changing roles and incorporation of western medical notions, the traditional CHW system is now attempting to integrate the modern roles of community nurses, health educators in diverse issues, dispensers of biomedical services and promoters of modern PHC activities. Although the CHWs traditionally had multiple roles, these roles were mainly appreciated within the application of their ethno-medical knowledge and practices for maternal and child health.

Given the fact that the BI malaria control strategy was locally associated with biomedical knowledge and technology, the lay rural CHWs were often perceived as incompetent health providers. Contrary to the assumption that the local CHWs would be able to refer difficult illness cases to the district hospital or other dispensaries, very few of them had the ability to do so. These CHWS did not have the required training in malaria management and health care in general. The continuity of the traditional CHW system in the BI programme among the Luo people can easily be demonstrated by emphasizing their culturally recognized roles in child and maternal health care. This is consistent with the BI approaches to malaria control, which stress that priority should be given to children and pregnant women.

The local people can perceive the CHWs as credible if there was evidence of their educational and professional qualifications. Most male respondents and key informants argued that only doctors should be involved in malaria treatment and prevention activities and it was absurd that some people were willing to rely on the TBAs. Alternatively, they observed that more formally educated people needed to be recruited to serve as CHWs. Most of those who served had either primary or lower secondary school education. Similarly it was observed that a gender balance in the CHW recruitment would improve on the local participation in malaria control efforts and other heath care activities in the area. The men and women with secondary school education who had either retired from formal employment or failed to get urban wage employment could have served well as modern CHWs.

The CHWs were preoccupied with the sale of chloroquine and other medicines at the expense of preventive measures such as health education. Infact, very few respondents (15%) articulated all the activities and objectives. The emphasis on

selling medicines and mosquito nets made some people perceive the BI as a profit-making programme designed to benefit only a few people in the area. A majority of the local people believed that the sale of medicines from the BI/PHC project was illegal because the programme that was launched by either the government or other donors such as UNICEF was to assist the rural poor. This was complicated by the fact that few CHWs had been given free mosquito nets for demonstration and as incentives at the beginning of the project. Some informants argued that favouritism based on clanism influenced the initial distribution of the free mosquito nets to some CHWS. Similarly, the sale of the medicines and nets on credit was said to be associated with the CHWs' clan considerations. According to most respondents and informants, the BI as a whole reinforced inter-clan differences and rivalry. They claimed, for instance, that the CHWs operations marginalized some clans, which were not easily accessible from the BI Centre or at the community pharmacy. In this regard, some community members could not articulate the relationship between the health workers and their own health care needs.

Members of some villages did not perceive the BI Centre to be in their own administrative area. The location of the community pharmacy on a private farm was not accessible and acceptable because it was not in a central place, and it was on the border of Bar Chando and another Sub- location (Abom). In this regard, some informants argued that the CP was deliberately located in a homestead outside their community to despise their own leadership and organizational abilities. An influential farmer, who belonged to a higher socio-economic class and a clan that was considered to be dominant, donated the building that housed the CP. He was among the few elites who were aware of the PHC initiatives and hoped that his gesture would earn him social approval and some economic rewards. The local people found the BI Center to be inaccessible due to the economic inequality between the majority of the community members and the owner of the farm. Some people claimed that poor women and men could not enter the compound to buy medicines and nets because it was fenced and guarded by fierce dogs. They observed that the PHC/ BI Centre ought to have been in an area where the poor people could freely enter and seek medical help. In this regard, they argued that subsistence farmers are not free in homes of "rich people". They would have liked the BI center to be in a place "where peasants who knew each other well could go and interact easily". The informants observed that the poor villagers felt marginalized from the community health project by the elites. In fact, it was on record that only 46 community members from relatively well-off families had benefited from the PHC/ BI project. These were the people who had bought mosquito nets and the initial stock of drugs supplied.

Many community members perceived misappropriation of the money that was expected to set up a revolving fund from the initial sales at the CP. Interestingly, there was no evidence of a revolving fund, because the VHC had not replenished the CP with medicines and mosquito nets from their previous sales in the previous two years. Indeed, there was no record of the names of the forty-six known

beneficiaries in duplicate receipts at the BI Center. At the time of the study, seventeen clans had been identified as the most active participants in the BI programme, in terms of their high representation in the village health committee, CHW service and number of "beneficiaries". The community members blamed the VHC members and the CHWs for the mismanagement and misappropriation of the money that was supposed to set up the revolving fund. During the fieldwork, the VHC had organized a successful fundraising (*harambee*) for the BI project. This further raised the skepticism among some community members who questioned the accountability of the VHC and CHWs. Respondents did not understand who should supply the drugs and nets in the CP and others believed that this was the responsibility of the government, non-governmental organizations, donors and philanthropist organizations. In this regard, a section of the respondents argued that the community-based health care service under the BI/ PHC project should be free of charge.

The barriers to the use of mosquito nets included: fear that the nets would catch fire and cause damage to household property. Tedious washing required when the nets become tainted with soot also discouraged some people from wanting to own them. Other respondents observed that the nets were too small to reach the beds from the roofing poles of their huts. The perceived danger posed by the insecticide on the nets, especially to children was also given as a hindrance to the people's potential to use the nets. Some of the few people who had ever used the nets, believed that the nets were either inefficient in protecting them against malaria and mosquitoes. Some respondents argued that the use of mosquito nets was not a reliable preventive measure because they could not always use them, especially during cultural ceremonies and festivals at night. They also argued that mosquitoes would find their way through torn patches and parts of the mosquito nets not tacked into the sides of beds.

BI: Implications for the Community-Based Health Care and Malaria Control

Community members did not benefit sufficiently from the BI malaria control and its general health care services. The education component of the BI was also not effective, because over fifty per cent of the respondents had never encountered CHWs educating people about malaria and other PHC issues. Infact, 63% of the respondents had never been informed by the CHWs about the malaria control programme. Most of the people had heard about the disease from other sources of information, such as the radio, medical officers, general literature and schools rather than the community health workers serving in the BI programme. People who had some information about this initiative were unable to clearly define its roles and especially in malaria control.

The perceived credibility of CHWs influenced the community's likelihood of using the BI services. The CHWs were constrained by their low educational backgrounds, inadequate health care training and lack of variety of medicines and other malaria management resources. They were, therefore, unable to facilitate suitable community participation in primary health care. The BI failed to

mobilize the people to participate in preventive practices to curb illnesses, reduce human-mosquito contacts and malaria infection. For instance, it was observed that; most homes were bushy, littered with broken pots and tins and the houses had wide eaves and poor ventilation.

Generally, the BI lacked a variety of medicines, and most of the characteristics which were considered in many villages in evaluating the efficacy and safety of health related actions. Key informants observed that the BI project lacked the diagnostic and injection facilities that would easily be provided by health centers and private medical practitioners elsewhere in Bondo. Sick children, for instance, were taken to clinics in distant market centers although some people wished that there were qualified attendants at the CP to serve them, as in other health centers.

The use of ethnomedical resources in the study area is an indicator of attempts to adapt to the socio-economic challenges to the quest for health. Traditional mosquito repellents such as burning herbs and cow dung were preferred because either, they were immediately accessible or cheap alternatives to the mosquito nets. However, the mosquito nets were not appropriate in the rural setting where a majority of the people, especially the vulnerable groups (women and children) did not sleep on beds. Most of the people in the study area slept on floor mats where mosquito nets could not be used.

Modern and traditional malaria control resources were used together for malaria management. In the local medical practices, a single type of medicine would be used to treat several illnesses. This implies that the community health workers needed to have had a thorough understanding of the basis of the choice of medical resources so as to effectively fulfill the BI malaria control and other PHC goals. Since symptoms of different diseases overlap, they were unable to interpret accurately the signs and symptoms of diseases such as malaria. Poor understanding of malaria signs and symptoms probably accounted for the use of non-malaria medicines such as *asprin* a*spro, indocid,* and *cafenol* to treat illnesses that were locally associated with malaria (Mulemi 1998). The treatment and prevention of malaria involved assorted herbal medicines, at times in mélanges of indigenous beers such as *chang'aa* and *busaa*. The people could even used assorted ethnomedical and biomedical resources for single illness episodes. The use of multiple medicines for an illness among the Luo offers a kind of comprehensive health insurance that allows for simultaneous coverage of all possible causes (Kawango 1995:81).

The local socio-economic circumstances have led to the common practice of providing health care to suit the client's affordability. The CHWs sold Chloroquine and other medicines according to the buyers' ability to pay, with little consideration of the right dosages. The malaria management practices in this regard were still far from meeting the goals of efficient community-based approaches to controlling the disease, considering established guidelines. This practice negates the BI objectives because patients do not get the required dosages to treat their illneses. The CHWs operated for some time in a similar manner as the shopkeepers who dispense medicines on the basis of what their customers wanted

and not in consideration of correct diagnoses and prescriptions.

The factors involved in community-based health care are social, psychological, economic, informational, administrative and structural as shown above. The health belief model (Rosenstock 1966, Becker 1974, Cockerham 2001) provides a framework of assessing the local participation in health care programmes, such as the BI. According to the health belief model a preventive action taken by individuals to avoid a disease depends on their perception of personal susceptibility to the disease and judgement of the severity that would result. The perception of the threat of the disease is affected by modifying factors which include culture, sociopsychological variables, such as personality and social networks, and structural variables which include knowledge and beliefs about the disease, and patient-health provider interactions (Mulemi 1998; Kleinman 1980). These factors influence both the perceptions and motivations for taking the necessary health actions and the use of available services. Action prompts for new initiatives are required because if the target groups defined helpful suggested actions as too expensive, unpleasant or inconvenient, inaccessible, or ineffective, it may not be taken.

The Bamako Initiative failed to provide sufficient motivation to community members to benefit from its envisaged recommendations for reducing the threat from malaria and other diseases. The expectation that insecticide-treated nets would widely be used, for instance, was not met. The cost of a treated net was KSh. 220.00 and an extra KSh. 30.00 (about $ 0.50) for retreatment every six months and the implementers of the BI considered these payments to be affordable to all community members. The failure by a majority of the villagers to purchase the nets and re-douse them in permethroid insecticide disapproved this assumption. The BI required to do more work to help the local people overcome the social, economic, and psychological barriers to the use of mosquito nets and other PHC services. In this regard, awareness creation as well as health education through credible agents are required in order to increase the likelihood that rural people would take the actions advocated for in community based health care programmes.

CONCLUSIONS

The BI approach to community-based health care and specifically malaria control, are relevant within Kenya's broad national health care system. However, the initiative is ineffective and inappropriate as a community managed development initiative in the context of rural areas of Bondo district, and particularly in Bar Chando sub-location. The programme would not contribute directly and significantly to health care in typical rural settings with undeveloped organizational, community mobilization, and basic professional skills. The BI services and activities in the rural communities in Bondo are inaccessible, culturally unacceptable, and unaffordable to the local population. A significant size of the residents in the area was not responsive of the exact aims of the Bamako Initiative. This project, however, did not adequately act in response to the local needs so as to instigate popular participation in PHC and recommended malaria control activities.

The BI was not insightful enough of the implications of the local social, cultural, and economic contexts for its activities, especially those associated with malaria control. Each community requires health programmes that distinctively go well with its specific socio-cultural situations. The local people in such environments seek health care from any available source, depending on their subjective experiences and perceived satisfaction. An understanding of the socio-cultural dynamics is required to improve the quality of self-diagnosis and home treatment of malaria, which is one of the main concerns of the Bamako Initiative. The provision of essential health care services to the rural people without the support of established national and district health care systems do not meet local needs effectively. The BI in Bondo District needed full partnership with the existing private and public health care facilities, especially in the diagnosis and treatment of malaria. It was too early to consider the community programme in areas such as Bar Chando as having the ability to operate autonomously. The preparation given to the CHWs and VHCs was obviously too superficial to enable them handle illnesses and manage the revolving fund. There was need for more guidance in areas such as bookkeeping and detection of illnesses that would call for referrals.

RECOMMENDATIONS

The village health committees, in conjunction with other implementers of the BI should initiate locally possible income generating activities to augment the sustainability of community-based health care. Such activities would entail the creation of an economic base for the rural dwellers to allow them to benefit fully from the BI services and carry on the programme. The VHC should also encourage the selling of some medicines on credit to patients who cannot afford. The debtors may pay in kind for example using some of their farm products, such as tomatoes which can be sold, if they fail to get cash money after a specified period of time. Clan committees can help in guaranteeing that the debts are paid.

The community members should also be encouraged to use local resources to improve malaria control efforts. For instance, sisal fibers can be improvised as window screens and eaves curtains, which might be more useful after being treated. Local material can also be used to make doors and windows to ventilate houses so that mosquitoes may not rest in dark corners. Similarly, a community project on making beds with local material should be set up and encouraged by the CHWs and VHC, so as to increase the local people's possibility of using mosquito nets.

Malaria control efforts can also be enhanced through strengthening and the use of local social support systems. Traditional self-help strategies such as the merry-go-round can be utilized to increase the households' abilities of buying insecticide-treated mosquito nets and medicines. Such social support based on norms of reciprocity can also be utilized to facilitate payment for mosquito net redipping and medicines. The social networks can also serve as basic units for disseminating health care messages and implementing proper malaria control actions such as environmental and illness management. Similarly, it possibly will be of assistance to encourage the VHC to endorse the sale of mosquito nets on hire

purchase arrangements in order to enhance the use of this preventive resource. However, it is imperative to make clear the role of UNICEF and other donors so that the local community may well not continue misconceiving the community-based health projects as charitable organizations.

The CHWs should be taught further in malaria control and primary health care concerns and be awarded certificates. Also, volunteers with secondary school education should be encouraged to serve within the malaria control activities. These should be done because the success of the BI of malaria control efforts depends on the community perceptions about the credibility of CHWs. Men CHWs should be recruited so as to reduce the effect of gender imbalance in the realization of malaria control objectives. Above all, periodic supervision and seminars for CHWs should be established to make sure that the principles and guidelines of malaria control are followed. The UNICEF and the other BI sponsors should support training for local shopkeepers on the correct prescriptions of anti malaria drugs and recognition of the disease. The shopkeepers should also be well informed about the management of febrile illnesses so that they can give advice to the local people who seek over-the-counter remedies. Additional efforts ought to be made to improve the worth of home-based malaria management practices.

The community based health programmes supported by the BI should prioritize and maintain the provision of fundamental health education about major problems such as malaria. The education should embrace awareness campaigns about the Primary Health Care objectives and recommended approaches. The knowledgeable inhabitants and young school leavers can be mobilized for the health education activities, which should be based on the folk and popular ideas about malaria and other diseases. Health education should be extended to other settings such as churches, women group meetings, village open gatherings (*barazas*) and schools.

The Bamako initiative, therefore, should be adapted to local conditions and be formulated to respond to local competence for assessing illness conditions, such as the malaria trouble and deciding on the appropriate control actions. The innovative community-based health care projects should be made compatible with the holistic local situations, which underpin the process of knowledge change. Socio-cultural compatibility of programmes in diverse regions where the Bamako Initiative type of community based health care projects are being put into operation can be enhanced through purposeful efforts to improve the people's abilities in recognizing diseases and their proper management. In this manner, the Bamako Initiative can also serve as a proper community based malaria control programme.

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