Master of Public Health

Master International de Santé Publique

How would a Performance Based Incentives system reinforce the motivation of Community Health Workers and reduce the attrition rate in Kenya?

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ABBREVIATIONS

APHIA	AIDS, Population and Health Integrated Assistance
ANC	AnteNatal Care
ARV	Antiretroviral
CBO	Community Based Organisation
CHC	Community Health Committee
CHEW	Community Health Extension Worker
CHS	Community Health Strategy
CHW	Community health Worker
CORP	Community Owned Resource Person
CU	Community Unit
DP	Development Partner
DRC	Democratic Republic of Congo
FGD	Focus Group Discussion
FP	Family Planning
HFC	Health Facility Committee
HH	Household
HIV	Human Immunodeficiency Virus
iCCM	Integrated Community Case Management
IEC	Information, Education, Communication
KDHS	Kenyan Demographic Health Survey
KEPH	Kenya Essential Package of Health
KHSSP	Kenya Health Sector Strategic investment Plan
LLITN	Long Lasting Insecticide Treated Net
MDG	Millennium Development Goal
MOPHS	Ministry of Public Health and Sanitation
NCD	Non-Communicable Disease
NGO	Non-Governmental Organisation
NHSSP II	National Health Sector Strategic Plan
P4P	Pay For Performance
PBF	Performance Based Financing
PBI	Performance Based Incentives
PMTCT	Prevention Mother To Child Transmission
UNICEF	United Nations Children's Fund
US	United States
VHC	Village Health Committee
WHO	World Health Organisation

INTRODUCTION

In September 2000, the United Nations Millennium declaration was signed by the 193 member states of the UN. They committed themselves to achieve 8 Millennium Development Goals (MDGs) design to accelerate towards the development by ameliorating the social and economic situation by 2015 (WHO, Millenium Development Goals, 2013). MDGs 4 and 5 address Maternal and Child Health: MDG 4 targets the reduction by two thirds the under-five mortality rate by 2015 and; the MDG 5 targets the decrease by three quarters of the maternal mortality rate. Many countries are not on track to achieve MDGs 4 and 5, Africa largely remains off track even though progress is slowly being made in Maternal and child health (Economic Commission for Africa, 2012). Every day 29,000 children die from preventable conditions worldwide (UNICEF, 2013).

The main causes of child deaths are the respiratory infections, diarrhea diseases and pre-term birth complications. Malaria remains a major killer in Sub-Saharan Africa (WHO, 2010). Malnutrition represents a underlying condition deaths in over 30% of the child mortality (Countdown to 2015, 2012). Most of these deaths occur at home where caregivers do not have access to health facilities or treatment. In Eastern and Southern Africa, only 44% of the births are attended by a skilled health professional and only 43% of women deliver in a health facility (Kenya National Bureau of Statistics & ICF Macro, 2010). In child survival and development, great progress has been achieved especially in the fight against HIV, tuberculosis and malaria (WHO, 2009).

Health situation

In Kenya, the total population reached 40,513,000 in 2010, with 6,664,000 children under 5 years old so representing almost 17% of the total population (Countdown, 2012). Over half of this population live under the poverty line, standing at 1 US dollar a day in the rural area, and over half the population need to travel for 5 kilometres or more to reach a health facility, while this rate goes down to 11.9% in the urban region(Maina, et al., 2006). In Kenya, MDG 4 for 2015 points the target at 34 deaths per 1,000 live births for under 5 years of age children. The recent figures show Kenya has reduced the under-five mortality rate to 85 deaths per 1,000 live births (Countdown to 2015, 2012) in 2010 (table 1). The Neonatal mortality rate per 1,000 live births is 28, whereas the infant mortality rate per 1,000 live births is 55.The leading causes of under 5 deaths in Kenya are pneumonia, malaria and diarrhoea (Countdown to 2015, 2012) whereas some progress had been made regarding the burden of mortality caused by HIV/AIDS (Union, GOK, & Partnership for Maternal Newborn and Child health, 2011).

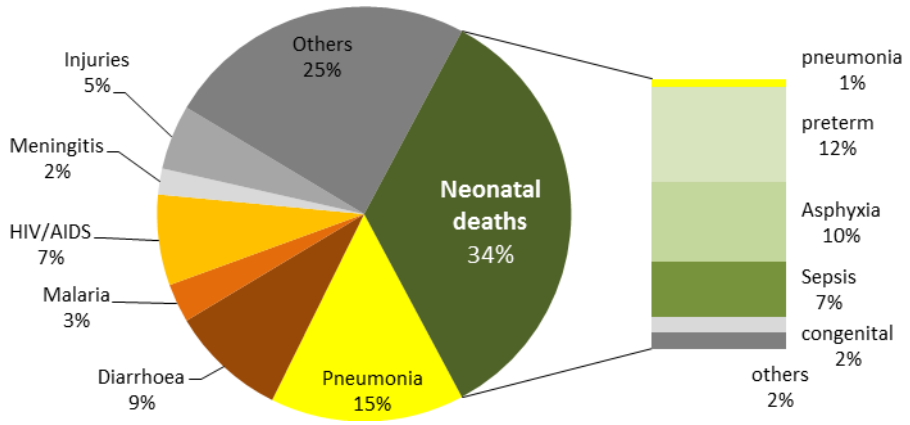

Figure 1: Under 5 mortality in Kenya (WHO/CHERG 2012; Countdown, 2012)

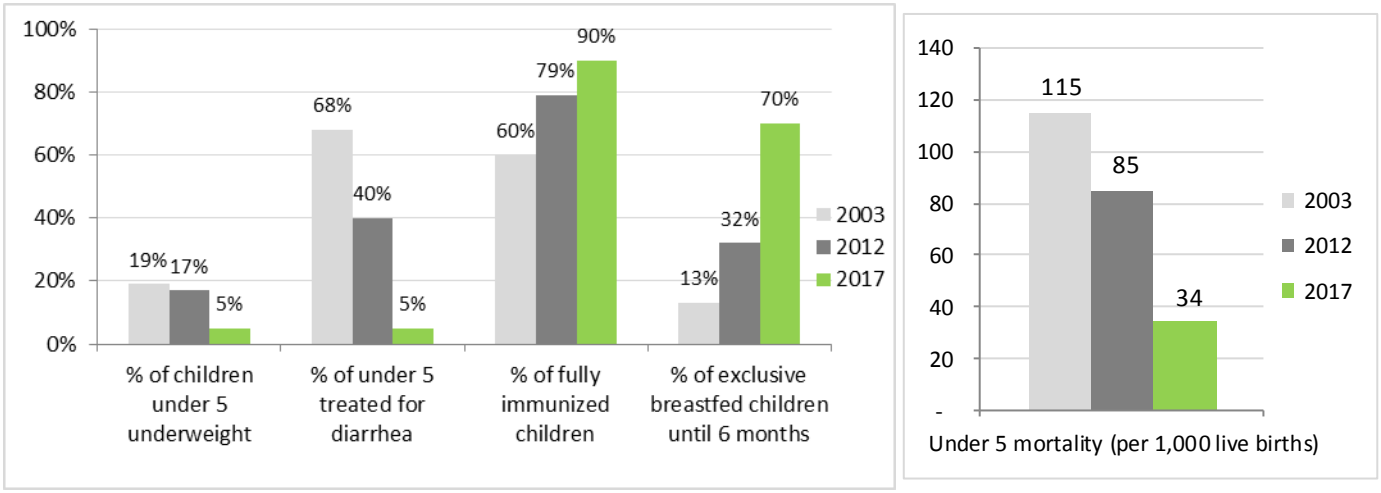

Table 1.Children Health indicators

In parallel, the maternal mortality rate in Kenya reached 360 deaths per 100,000 live births in 2010, remaining much over the MDG5 (table 2). The maternal deaths reach 5,500 per year in 2010(Ministry of Health R. o., August 2005). In Kenya only 44% of the women have recorded giving birth with a skilled attendant (doctor, nurse or midwife) (Kenya National Bureau of Statistics & ICF Macro, 2010).

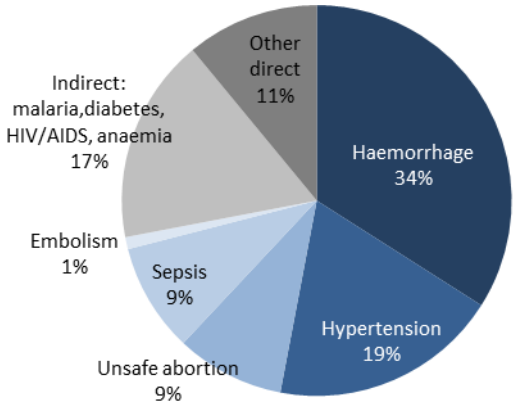

Figure 2. Maternal mortality in Kenya (WHO 2010) (Countdown, 2012)

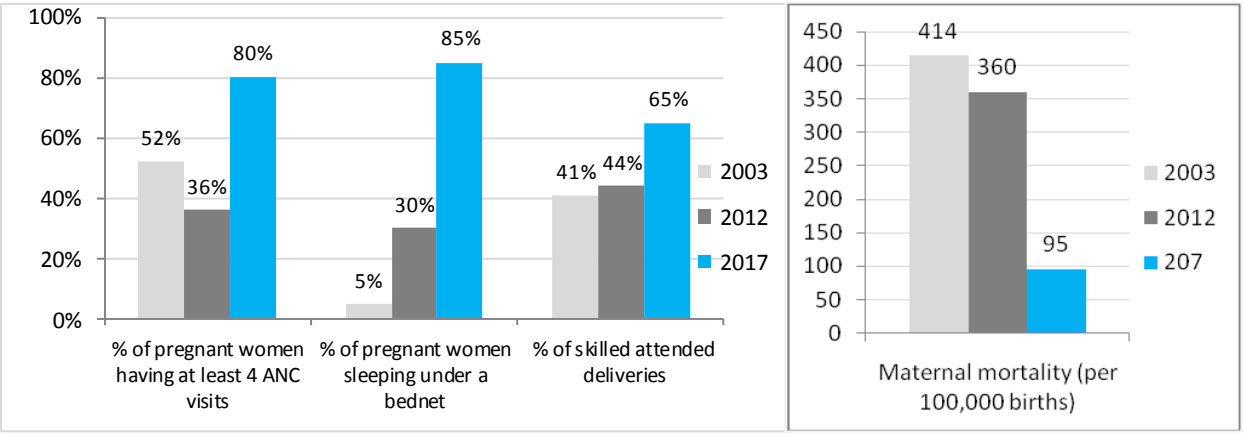

Table 2. Maternal Health Indicators (DHS,2003; Countdown to 2015, 2012; KHSSP, 2013)

The MOH is not the only healthcare provider (Oyaya & Rifkin, 2003). The Total Health Expenditure in Kenya in 2009-2010 reached 1.65 billion of US dollars; the sources were almost equally shared between the public funds (28.8%), the private funds (36.7%) and the external donors (34.5%)(MOPHS & Ministry of Medical Services, 2010). In 2003 the non-governmental sector was accounting for 50% of the hospitals, 36% of the hospital beds, 21% of health centres and 51% of outpatient facilities (Oyaya & Rifkin, 2003).

Policy context

In order to improve the health indicators of Kenya, the government of Kenya has committed to various health policy plans. In 2005, the second national health plan (NHSSP II 2005-2010) aimed in reducing the inequalities in health care services and in reversing the current trend of the health outcomes. The Kenya Essential Package of Health (KEPH) has been developed based on the NHSSP II promoting a life cycle approach to delivery of a comprehensive healthcare package across 6 levels of care (figure 3). With the complement of the Community Health Strategy launched the 22nd of June 2006 (Ministry of Health R. o., August 2005), the KEPH has been much widely distributed (+34%); however its implementation is not achieved everywhere because of a lack of human resources, facilities and financial investments (Ministry of Medical Services and Ministry of Public Health and Sanitation, 2013; WHO, 2009).

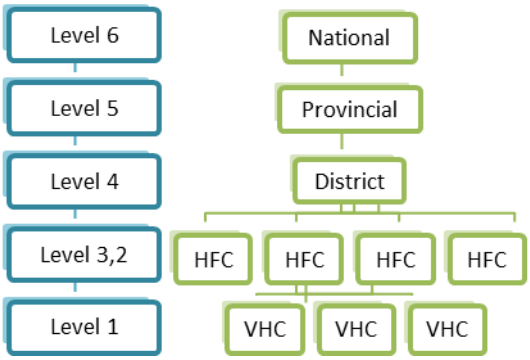

Figure 3. Health sector structure in Kenya (KHSSP 2012-2017),

60% of the facilities now offer a complete package of reproductive health services. However a majority of health facilities close after 5pm (Ministry of Medical Services and Ministry of Public Health and Sanitation, 2013). KDHS of 2008 indicated that most health indicators have improved except for nutrition, skilled delivery and maternal and neonatal care. The immunization coverage is also improving reaching 68%. These indicators are of particular importance for UNICEF Kenya Country Office. The demand for quality care has increased but is burdened by a weak referral system. Reviewing and planning have become systematic from the national level to the most local to face this management issue during the NHSSP II.

The new Kenyan Constitution (August 2010) explicitly says in the article 43 that every person has the right to 'the highest attainable standard of health, which includes the right to health care services, including reproductive health care'. The article 53 emphasises: 'children have right to basic nutrition and health care'. Reviewing the health strategic plan, Kenya has prepared the KHSSPIII (Kenya health Sector Strategic Investment plan 2012-2017) (Annex 4) in line with the new Constitution; the final draft sets the goal to deliberately build progressive, responsive and sustainable technologically-driven, evidence-based and client-centred health system for accelerated attainment of the highest standard of health to all Kenyans[6]. It includes the following results: Reducing by at least 50% the neonatal and maternal deaths, by 25% the time spent by persons in ill health, and improving by at least 50% the levels of satisfaction of the clients with the services (Ministry of Medical Services and Ministry of Public Health and Sanitation, G, 2013).

In 2013, Kenya has not reached the MDGs 4 and 5 by 2015. As numerous neighbors' low-income countries, Kenya's achievement needs a consistent political investment. Different political will have been expressed in order to accelerate the fight against preventable deaths, such as the Promise renewed, made by Kenya to end preventable child deaths by promising again to achieve the goals set (Committing to Child Survival - A promise renewed). In this policy context, progress has been made to tackle these preventable deaths, responding to high impact interventions; large campaigns for measles immunization, promotion of the use of LLIN (Long Lasting Impregnated Nets) as well as the emphasis on the use of community workers to increase health services and referrals.

The Community Workforce

Reaching all members of the communities and empowering caregivers and households in demanding quality care and acting for their own health are critical. Many countries have developed a Community Health Strategy (CHS) involving a strong community taskforce including the Community Health Workers (CHW) to achieve these tasks. The CHW programs differ from country to country and are supported and led in different manners by

various organizations such as AMREF and APHIA, but the goal targeted remains similar in the countries; improving equitable access to quality health care to all. Used since decades, CHWs allow decentralizing the health care to achieve a standard of health for all people (Mitsunaga, et al., 2013). Community Strategies have been used as a tool to reach every individual by reinforcing the power of community and increasing the demand for health care by all. The role of community workers vary in different countries. The level of recognition, the belonging to the formal health sector and the institutionalization of these workers differ.

In accordance with the Vision 2030 which aims to 'provide an efficient and high quality health care system with the best standards' (Kenya, 2007) and to achieve the targets and improve maternal and child health the Kenyan health system relies on the implementation, since 2006, of the CHS (Ministry of Health, 2006) which promotes community-based approach involving a community workforce: Community Health Workers, Community Health Extension Workers (CHEWs) and Community Health Committees (CHC). The CHS responds to the review of NHSSP II which highlighted the importance of promotion of health care and prevention (Division of Community Health Services, 2012). It aims to improve Kenyans health by giving an active role to households and communities in health and health-related decisions (Ministry of Health, 2005). It intends to reach improvements through four strategic objectives. Firstly, the CHS aims to provide level 1 services for all socioeconomic groups, including the differently abled. Secondly, it intends to strengthen the capacity of the CHEWs and CHWs to provide level 1 service. Thirdly, it wishes to strengthen the relationship between health facilities and community with decentralization for level 1 services implementation. Finally the CHS keeps raising awareness of the population towards its right to good health care (Opiyo & Njoroge, 2007). This strategy has identified gaps within the national policies including in the expansion of KEPH to the local communities, and pointed out that 70% of preventable child death occurred at home.

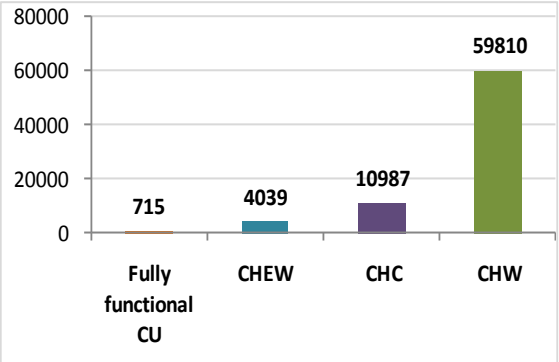

Figure 4. Distribution of the CHS workforce
(Division of Community Health strategy, 2012)

In 2013, Kenya has 10,987 CHCs, 59,810 CHWs and 4,039 CHEWs (Division of Community Health Services, 2012) (figure 4). In 2012, 715 CUs out of the 2,512 existing were fully functional; full functionality involves the conduct of dialogue and action days, monthly report, and available data tools. The distribution of CUs is unequal over the country: The county of Homabay has 209 CUs while Mandera have none (Division of Community Health Services, 2012). The quality and number of CHWs represent a special and precious work force and strategy to reach the hard-to-reach people, as member of the community they are targeting.

Problem setting

In Kenya since the implementation of community interveners, starting with the CORPs (Community-Owned Resource Persons) then replaced by the CHWs, analyses have focused on explaining different methods to sustain of the community strategy being questioned. As volunteers the CHWs need to have strong inputs to keep their motivation serving their community. Factors of motivation for CHWs have been identified in the CHS and include the hope for better life, the personal interests, community factors such as accountability and acceptance, the supervisory support, enabling political environment, and trainings offered to health workers. This acceptance and the perception from the community are affected by unchangeable factors such as the age, sex and their economic status of the CHWs (George, et al., 2012).

As unpaid workers, the sustainability of the CHWs' commitment is a concern. They are greatly lacking motivational support and often have to work with insufficient or inappropriate tools and trainings (Soeters & al, 2006). As an objective of the CHS, the awareness of communities has grown up regarding their right to health; however they are not empowered well to demand for the services. A need for an agreement regarding the criteria of selection between the community and the formal health sector has been identified as necessary. Recruited by their own community, the CHWs often lack knowledge once working and the dropout rate is costly to the government or the supporting organization due to the training (Henderson & Tulloch, 2008) (Annex 1). The quality of care relies on the availability of adequate tools: well trained workers, materials relevance, availability and good supervision, and appropriate infrastructure (Henderson & Tulloch, 2008). All these elements influence the quality of work of CHWs and, if lacking, will affect their motivation, attitudes and therefore the health outcomes of individuals and communities. The situation leads to an unsatisfying work environment and therefore the drop outs of the CHWs to target similar position with better advantages, in salaries, training opportunities and access to education for their children (Henderson & Tulloch, 2008).The CHS is suffering from staff shortages: demotivation and drop outs of CHWS, attrition from their supervisors CHEWs, or the trained nurses who are already too busy in the health facilities. Attaining the MDGs seems impossible if the health human resources shortage is not 'treated' effectively (Alam, Tasneem, & Oliveras, 2011).

The World Bank analysis concluded that voluntarism status of the CHWs does not seem to be the good approach in order to target a sustainable system (De Naeyer, 2011). These lessons learnt from past implementations indicated a Performance Based Incentives (PBI) system for CHWs could provide better and more sustainable results.

RESEARCH QUESTION

How would a PBI system in Kenya reinforce the motivation of CHWs and reduce attrition rate?

The main objective is exploring the feasibility of both the monetary and non-monetary incentives based on performance to support CHWs in Kenya. This thesis intends to identify the PBI[1] ideas proving success in Rwanda and elsewhere, to collect stakeholders' point of view and to recommend an appropriate incentives' system for Kenya. The hypothesis of the thesis is: A PBI system will increase the motivation of CHWs to perform their work according to some incentivized standards, and therefore improve the health indicators at the Community level in Kenya.

METHODS

Between February 2013 and June 2013, literature review has been conducted including UNICEF publications, Kenyan government's policy and strategy documents and widely on scientific research sites such as Science Direct, PubMed and Google Scholar. The literature reviewed examined the PBI systems and compared the incentives offered to CHWs in various countries. The research focus was two-pronged: financial incentives versus non-financial incentives. The keywords CHWs, motivation, incentives, PBI, performance, monetary and non-monetary, sustainability, and Kenya were used as a main basis in various combinations during the data search. Articles and documents recommended by UNICEF staff members and professionals met were also included in the research process. The understanding was enhanced by informal discussions with UNICEF professional staff members.

Questionnaires have been developed based on current knowledge on PBI to address a semi-structured interview to decisions makers at the national level and ministerial level (Annex 5), with program officers of different NGOs, and CHWs at the community unit level. A focus group discussion also took place with a Community Unit in the slum of Nairobi called Kibera. The goal was to collect the views of CHWs on a system of incentives based on performance for CHW programs. The discussion was set in Soweto East Unit and involved 23 CHWs, the CHC including the Chairman, a CHEW and the Community Strategy focal person. The discussion was semi-structured and led by a UNICEF staff member fluent in English and Kiswahili, primarily in English and seconded by Kiswahili explanations. The answers collected were in English.

[1]PBF relying on obvious financial support, therefore PBI will be a preferred term in this document as opened to both monetary and non-monetary incentives. PBI will be used instead of PBF even though in some countries 'PBF' has been institutionalized as relying on financial incentives only.

The Evaluation Matrix created by USAID and the existing referral system of the Government have been used as starting points to recommend an evaluation protocol of CHWs and CHWs programs to understand targets to incentivize.

RESULTS

The status and effective role of Community Health Workers

The formal status of CHWs varies and the Governments have taken and given different responsibilities to them. CHWs' impact has been shown in many places with different community strategies and level of accreditation. In Brazil the government intended to reach the universal health coverage for its citizens and has proven success thanks to the Agentes Comunitarios de Saude, up to 222,280 (Perry & Zulliger, 2012). Bangladesh created the most efficient family planning programs thanks to the Shashtya Shebikas, women, approximately 80,000, who were trained in health and income-generating activities (Perry & Zulliger, 2012). In India, the community model is fully supported by the government with good level of recognition for the Accredited Social health Activists (ASHA) receiving PBI. In the North of India, CHWs were trained for newborn care, the neonatal mortality rate dropped by 25%; same results appeared in Guatemala where the infant mortality fell by 85%(Wangalwa, et al., 2012).Using another model, Malawi has institutionalized its Health Surveillance Assistants (HAS) who are accompanied by volunteers.

'Our Health, our Responsibility' (CHS motto in Kenya)

In Kenya the community workforce involves three elements: the CHW, the CHEW and the CHC, where CHWs are acting within the community and forming the link with the formal health sector. The CHWs should be members of the communities where they work, should be selected by the communities and answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers (Ministry of Health G. , 2006) (Annex 2).The training of CHWs includes in their role the promotion of health, the prevention of disease and the referral to health facilities, and first aid treatment for specific conditions (Geddis, 1988) (Annex 3). CHWs are recruited on a voluntary basis; however in the CHS the government has committed itself in providing 2,000 Kenyan shillings (23 US dollars) per month to each CHW. CHEWs are trained health personnel and employed by the Ministry of Health. Each CHEWs should supervise 25 CHWs and are represented at the CHC responsible for the health actions organisation

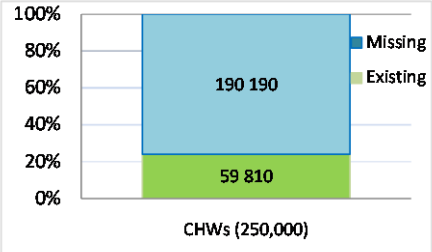

Figure 5: CHWs coverage: actual versus required
(Division of Community Health Services, M. 2012; KHSSP 2012-2017)

at the community unit level (Soeters & al, 2006). There are ratios determined at 1 CHEW for 2,500 people and 1 CHW for 100 people, which is actually revised to lower it by the Government with the support of UNICEF Kenya. a gap of 190,190 CHWs exists in Kenya (figure 5) (KHSSP 12-17, 2013; Division of Community Health Services, M. 2012).

To improve its commitment to the CHS and to understand the CHWs best working environment, the Government of Kenya has carried study trips (Malawi, India, and Ethiopia) and from the conclusion drawn, the revision of the population coverage per CHW and their role has started in order to march the diversity of settlement of the population.

Performance of the Community Health Strategy

In Kenya, the CHS has proven efficiency as a study in Busia County has shown; there were significant increases in the percentage of women following at least 4 ANC visits (from 39 to 62%), in skilled assisted deliveries (31 to 57%), in the knowledgeable pregnant women on their HIV status, and in the exclusive breastfeeding rate (from 20 to 52%) (Wangalwa et al, 2012). However CHS does not have an institutionalized evaluation framework. Each organizations leading CHWs program are internally monitoring the impacts of their actions. The Government of Kenya relies on the CHWs to collect health data at the household level (Mwitari, 2013). The performance of their work and the impact on health are recorded through health indicators, found in the TOR of CHWs. Every six months, the household register, also known as MOH513, is filled up with static data (number of persons per households, sex, etc.) by the CHWs. Every month, the CHWs also fill in the services delivery logbook (MOH514) with all the services they have been provided in each household. Those two documents are then submitted to the CHEW in charge who summarizes both the CHEW summary sheet (MOH515). One copy is sent to be included in the national information system and one copy is given to the CHC. A chalkboard (MOH516) highlights the health indicators in all CHC (Mwitari, 2013). In return of these data, the Government of Kenya and partners have committed itself to provide some incentives to the CHWs. It includes 2,000 Kenyan Shillings (24 USD), trainings, certificates, badges, bicycles. It also provides an award to the best performer, and, every two years, a trophy and certificate to the most performing CU (Mwitari, 2013). However the incentives are not based on the performance. Understanding the gap in evaluation, USAID developed a CHW Assessment and Improvement Matrix (CHW AIM). Based on 15 components the CHWs self-assessed their performance in order to identify gaps and space for improvement in CHS programs (table 3) (Crigler, Hill, Furth, & Bjerregaard, 2011). However this tool does not support an individual CHW performance evaluation.

1. Recruitment	9. Community involvement
2. CHW role	10. Referral system
3. Initial training	11. Opportunity for advancement
4. Continuing training	12. Documentation and information management
5. Equipment and supplies	13. Linkages to health systems
6. Supervision	14. Program performance evaluation
7. Individual performance evaluation	15. Country ownership
8. Incentives (financial and non-financial)	

Table 3. CHW AIM 15 components (USAID, 2011)

Motivation

The motivation for CHWs can be defined as the will to 'serve and perform effectively as a CHW'(Bhattacharyva, Winch, LeBan, & Tien, 2001).The intrinsic motivation is described as 'doing something because it is inherently interesting or enjoyable'; this intrinsic motivation represents the desire to help people when considering the CHWs, while the extrinsic motivation implies 'doing something because it leads to a separable outcome' (Ryan &Deci, 1999). A global definition is 'an individual's degree of willingness to exert and maintain an effort towards organizational goals'(Songstad, Lindkvist, Moland, Chimhutu, & Blystad, 2012). Motivation represents an internal feeling; this explains the difficulty of its measurement as it is influenced by many external factors (Paul, 2009). Udai Pareek (1986) identified 6 primary motivators to understand the behaviour of people in organisations (table 6). Each of these motivators can contribute to the satisfaction of the workers.

	Definition
Achievement	Concern for excellence, persistence to compete the standards set by others
Affiliation	Concern for establishing personal relationships
Extension	Concern for others, urge to be useful to others in larger groups
Influence	Concern to make people do what is thought as right, to impact on others
Control	Concern for orderliness, for being inform and monitor to make relevant correction
Dependence	Desire for help of others for one's own self-development to maintain an 'approval' relationship

Table 4. Pareek's six primary motivators

The work with CHWs has demonstrated that some criteria influence and motivate CHWs to volunteer, as the ones following: lifelong training, religious commitments or other personal beliefs, accountability for the community, supportive regular supervision, the access to logistical support, CHWs organization, etc. (Republic of Kenya, 2007).

Performance Based Incentives

As a review of the CHS's implementation is on-going, the PBI system has been identified as an important field of exploration. PBI is also called 'pay-4-performance'; P4P is 'the transfer of money or material goods conditional on taking a measurable action or achieving a predetermined performance target' (Eichler, 2006). At least 23 African countries have now designed and/or implemented a system with PBI (Morgan & Eichler, 2011). PBI switches the focus to the outcomes of health services, rather than the usual inputs which do not reflect the quality of the results. An incentive can be either negative or positive factors influencing the motivation of workers (and volunteerism in the case of the CHWs)

(Bhattacharyva, Winch, LeBan, & Tien, 2001). In PBI four main stakeholders structure the system: the health service providers, the consumers of the services, a purchasing organisation and finally some regulator (Soeters & al, 2006). It involves a contracting system where a purchaser, potentially the government, will supply resources to a contractor, as the CUs, NGOs, or CHWs as individuals, which benefits of the incentives to deliver a set of services (Morgan & Eichler, 2011). With PBI the objectives are clearly stated and both contractor and beneficiaries are aligned (Eldridge & Palmer, 2008). PBI is believed to be a dynamic process encouraging the actors of the health system to be more efficient and always respond to the community with creative solutions to reach the most vulnerable.

For a strong and sustainable PBI system, the political will is needed supported by a good management as well as a transparent health information system and clear targets of performance (Eldridge & Palmer, 2008). From past experiences there seem to be three different major manners to define the targets as stated below:

Defining health targets for PBI

1. Obtain absolute change (e.g. reduce maternal mortality from 300 deaths per 100,000 live births to 100 deaths per 100,000 live births by 2014
2. base the change on proportional achievement (e.g. Reduce maternal mortality by 15% by 2014
3. provide additional finance for some service provided (e.g. fund 200 Kenyan shillings for each additional mother delivering in presence of a birth killed attendant)

(Connor, Cumbt, Borem, Beth, Eichler, & Charles, 2011)

The performance indicators chosen are sensitive to variations; they represent non-static statistical information (Geddis, 1988). They must be 'relevant, accurate, consistent and readily available (Gertler, 2009). The indicators have to be few and easy to understand with no risk of misinterpretation. A short time between action and reward will improve the system. They should be approved, understood, and with clear evaluation tools in place to measure the performance of the workers and avoid wrong assessments. They should be easy to measure, even by external others, and of course an overall agreement on their definition should be used among all stakeholders (Connor, Cumbt, Borem, Beth, Eichler, & Charles, 2011).

The data collected are usually on a routine basis and double checked by an extra committee in charge of verifying the data, known as Comité Provincial de Verification et de Validation in Rwanda contracted by the MOH (Morgan & Eichler, 2011). In Uganda, a national committee approves the data, and then the money is transfer through the National Health Insurance Fund (Morgan & Eichler, 2011). Random household controls or population based survey are also means to check the accuracy of the data. A more innovative bottom-up approach exists through the involvement of the CBO (Senegal), local

organisations (Burundi) and community groups (DRC) as verifiers (Morgan & Eichler, 2011).

It is important to consider both the negative and positive impacts of a PBI system.

Positive impacts

This PBI strategy allows filling up gaps of the structure of a health system (Meesen, Soucat, & Sekabaraga, 2011). From the experience in Rwanda, it has been clear that paying medical providers a bonus based on the quality of their work intends to improve the quality of the health services, as well as improving provider's satisfaction and motivation. It focuses their attention on the most important objectives and rewards them to maintain good health outcomes through their work. These two elements together are believed to participate in the retention of the health workers (Gertler, 2009). More accountability is asked from CHWs and health facilities in exchange of more freedom in health decisions making, regarding the initiatives towards the community (De Naeyer, 2011).

Negative impacts

PBI has brought its part of negative impacts which are important to understand when implementing this strategy. The first questioned fact relies on the choice of the acts that are incentivised. Part of the services remains normal and does not receive extra incentives; this can lead to neglect these non-rewarded services and to over-use the rewarded services. Moreover psychologists have defined a 'crowding-out effect'; receiving money for some of their actions might decrease the intrinsic motivation of the workers toward this activity (Paul, 2009). This intrinsic motivation is the essential source that pushes a worker to achieve his performance. The over-use may also prove a problem of offering services not needed and without having the actual capacity for them (Levine & Eichler, 2009). PBI might turn health care delivery into a 'game'. When setting the targets it is critical to keep an idea of fairness; the temptation is large to focus on the areas that already do well and therefore set high targets for all but that only those areas will reach. The PBI system should reward the general improvement rather than a frozen target (Connor, Cumbt, Borem, Beth, Eichler, & Charles, 2011). CHWs are on a volunteer activity, to some extent providing them with financial incentives has led to the conclusion their work is becoming a paid occupation (Alam, Tasneem, & Oliveras, 2011).

PBI across the world

'Paying for Performance worked' (Morgan & Eichler, 2011)

PBI remains poorly documented in term of analyzing the impact of such a system. More studies are being carried to picture the results and understand the challenges of PBI in various countries. Many types of PBI have been developed in the health sector often

rewarding simple and measurable indicators (Morgan & Eichler, 2011) with as a first intention the achievement of the MDGs. PBI can be represented by both monetary and non-monetary incentives.

Case Study: The successful experience of Rwanda

After the civil war, Rwanda faced a shortage in human resources for health services and a low level of efficiency and motivation. Child and maternal mortality rates were high; infant mortality reached 86 per 1,000 live births (Direction de la Statistique, 2006). The government decided to give the priority to maternal and child health and communicable diseases, while increasing the quantity and the quality of the services. The health human resources' responsibility are shifted to the districts, and a national PBI system for health centres and CHWs is put in place (Republique du Rwanda & Ministere de la Sante, 2008; Government of Rwanda & Ministry of Health, 2009). Rwanda followed some key principles: decentralization of the funds to the health sectors, creation of data verification group, and development of standardised tools (Mugeni, Ngabo, & Humuza, 2011).

Rwanda experimented different systems of financing PBI expressing the variety of PBI system: Butare, Cyangugu and BTC. Butare relied on a steering committee purchasing a contract with the health centre to motivate employees. The extra payments were approximated with the evolution of the health situation, while the committee confirmed the results. Cyangugu gave NGOs the responsibility for negotiating contracts, fees and payments. The payments were made to the health facility. In BTC the supervisors were rewarded according to their individual performance, not on the facilities' performance (Rusa, Schneidman, Fritsche, & Musango, 2009). The payment system also varied, even though monthly in all cases. Butare had the health committee receiving the payment and paid the staff, while Cyangugu directly paid the facility. Finally BTC received the money at facility level and dealt it according the agreed criteria (Morgan & Eichler, 2011). To be incentivised, 24 quantity indicators were chosen; 14 related to basic health services and 10 HIV-focused. 140 quality indicators completed the set. The incentives were given to the facilities for each act of health care such as ANC new case (0.09 US dollars) or completely vaccinated child (0.89 US dollars). The incentives were significantly associated with an increase in the use and quality of maternal and child health care services (Basinga, Gertler, Binagwaho, Soucat, Sturdy, & Vermeersch, 2010). The lack of use in prenatal care is explained by the low financial incentives for it even if women were also individually incentivised for it (Basinga, Gertler, Binagwaho, Soucat, Sturdy, & Vermeersch, 2010; Mugeni, Ngabo, & Humuza, 2011). The evaluation of the system was made differently: Cyangugu had independent supervisors to monitor and check the results, Butare had its steering committee monitoring the data, and BTC used a critical mix of evaluation and supervision for one function (Morgan & Eichler, 2011).

From these models, Rwanda has adapted and adopted one. The PBI system rewards the health facilities and staff member doing well (Government of Rwanda & MOH, 2009) in order to increase the coverage for MDGs. After relying on external donors, the government of Rwanda is slowly taking the lead to finance PBI (Management Sciences for Health, 2009). Rwanda is now back on track to achieve the MDGs in the heath sector and represents an example of PBI system in Africa (Morgan & Eichler, 2011).

Monetary incentives

The Financial incentives are an effective motivator for health workers, especially in the poorest part of the world where the basic wage earned is not sufficient to sustain a family (Henderson & Tulloch, 2008). In Dhaka, India, a study confirmed the importance of financial incentives to CHWs as an important reason to stay a CHW (Alam, Tasneem, & Oliveras, 2011). Powerful incentives come with higher payments as in Rwanda and Tanzania (Morgan & Eichler, 2011; Songstad, Lindkvist, Moland, Chimhutu, & Blystad, 2012), especially incentives that can be controlled by the providers and less relying on the patient (Basinga, Gertler, Binagwaho, Soucat, Sturdy, & Vermeersch, 2010). In Cambodia as in Nigeria, the low and irregular salaries have pushed the health workers to seek for other job opportunities even though practicing two jobs is not allowed (Henderson & Tulloch, 2008; Haines, et al., 2007). The money represents the advantage of being able to set objective for CHWs and allowing asking for a defined amount of worked hours. In Tanzania, more household visits were carried among the paid health workers compared to the not-paid ones (Sunkutu & Nampanya-Serpell, 2009). The routine of the payment gives more freedom in the implementation of program. Some CHWs have reported that receiving a regular financial support was an acknowledgment to their work and an opportunity to live better (Ministry of Public Health and Sanitation, 2009). However irregular or unequal payments destroy CHWs motivation. Some NGOs have put in place an incentives system while others have not; this introduces a feeling of envy for the unpaid CHWs (Mwitari, 2013). CHWs among themselves are aware of the unequal incentives they receive; receiving less or none of these external inputs is affecting their intrinsic motivation and therefore their commitment to work. The question raised is about providing the same services but not receiving equal rewards. The system can also become out of control if the incentives are attributed on drugs delivery, as CHWs tend to overuse curative care, as it has been the case in China. To face such situation, the incentives can also be negative on the beneficiaries. In Senegal if the targets are not achieved the funds towards the CHWs and institutions are cut. Misreporting during verification will also lead to the suspension of the bonus (Morgan & Eichler, 2011). In Liberia, penalties were applied for non-performance in management targets set (Morgan & Eichler, 2011). Considering financial incentives the recurrent question of sustainability of support from NGOs is raised, as they may lack funds or stop renewing their involvement.

Financial incentives	
Advantages • Lower attrition rate • Better feeling of recognition • Ability to set strict objectives to CHWs • The higher the payment, the better the health outcome	Disadvantages • Too low • Irregular • Unequal among CHWs

Even if some constraints are known, the national institutionalized PBI systems across countries mostly rely on monetary incentives. Across various countries, it has been identified that the attrition rate is twice lower when the government is providing a salary to CHWs rather than the community (Ministry of Public Health and Sanitation, 2009). In South Korea the monetary support is received by the health facilities; they are provided with financial support when improving the quality of their services. However in Cambodia and India, the patients are the ones receiving the PBI; when they go for a consultation in a health facility, they receive financial support to cover the costs of the food, the medicine and the transport (Kinoti, 2011). This shows the multiple choices of the beneficiaries of a PBI system; they could be the health facilities, the health workers, the NGOs supporting the CHS, or even the patients.

Incentives to health facilities

In 2003, Uganda launched its PBI pilot with the innovative idea of giving the facilities the freedom to choose how they wanted to allocate the monetary incentives received. Six performance targets were set and evaluated every six months; the facility would receive 1% of its basic grant for each target reached (Morgan & Eichler, 2011). Following the same idea, in 2011, Tanzania set a small amount of five PBI indicators. By yearly reaching the 5 targets, the facility would earn the maximum bonus, each indicator being rewarded a fifth of that bonus. Both performance and timely reporting were taken into account (Morgan & Eichler, 2011). Even though the idea was promising, the lack of guidance on how to use the money received led some facilities to spend it futile elements bringing the disappointment of the providers who worked for it as in Uganda (Morgan & Eichler, 2011).

Incentives to the workers

CHWs are more and more integrated within PBI schemes, as in Senegal, Rwanda and soon Malawi and Mozambique (Morgan & Eichler, 2011). In DRC, the beneficiaries are various; individuals or teams. The different schemes show that 80% of the rewards have been targeting the health workers, using a fee for service process (Morgan & Eichler, 2011). In 2006, Burundi developed a set of quality indicators aiming to attribute bonuses of 10 to 40% of their salary to hospital workers. The facilities were receiving monthly allowances based on their service delivery which were then distributed to the workers. The results showed that ANC visits increased by 17.7%, use of FP by 23.6% and neonatal tetanus vaccine by 33.4%(Morgan & Eichler, 2011). In Senegal the government made each department responsible for its own progress; a pilot started in 2011 in 3 districts targeting both the public institutions and the CHWs as beneficiaries: 75% to the staff and 25% of the payment to be used by the facility. Targets in maternal and child health and infectious diseases defined the payment received quarterly (Morgan & Eichler, 2011).

The implementation of PBI within a country needs some time to settle and to fully obtain the understanding and participation of the health workers, as in Congo (Morgan & Eichler, 2011). Rewarding the health workers through their facilities also allows taking care of the equity by setting targets that vary from the most advantaged facilities to the most disadvantaged, with achievable targets to each facility and worker (Morgan & Eichler, 2011). Even though financially rewarding performance increases extrinsic motivation, 'when money was used as an external award, intrinsic motivation tended to decrease' (Songstad, Lindkvist, Moland, Chimhutu, & Blystad, 2012).

Incentives to NGOs

Some countries decided to incentivize the NGOs to improve the outcomes from their health workforce. In Liberia, PBI relies on NGOs. With a total of 17 indicators (on delivery and management mostly), NGOs drew baselines and targets, which was difficult regarding the poor quality of health data. The bonus was awarded each quarter providing cash to facility staff, CHCs, NGOs and CHWs. Some NGOs used the bonus to buy equipment such as motorcycles. 99% of the health providers were paid on time, the institutionalised deliveries increased as well as the family planning protection (Morgan & Eichler, 2011). Haiti, one of the world's poorest countries, has chosen to incentivise the NGOs to increase the access to a basic package of health services. Seven indicators were incentivized (5 related to health, 1 for consumer satisfaction, 1 to improve coordination with the MOH), and the NGOs could receive a percentage of the annual budget for bonus when achieving the target set by these indicators (Levine & Eichler, 2009). From 3 involved NGOs during the pilot, 22 others joined the PBI scheme by the end of 2005. Haiti had a strong information system, achievable targets to motivate the staff and the team spirit and flexibility in the funds' use existed. However the win everything-lose everything process was frustrating (Levine & Eichler, 2009). To avoid this frustration of this scheme, South Sudan after decades of war invested in a PBI system with the World Bank and USAID. The NGO would have 95% of the payment if under 80% of targets are achieved, 100% if between 80 and 100% achieved, and 106% if over 100% of achievement (Morgan & Eichler, 2011).

Incentives to the patients

Basinga et al. (2010) advised to incentivise the patients directly when the outcome of the indicator targeted is mostly dependent on them, such as seeking prenatal care. In Kenya in 2006 an efficient vouchers system has been launched targeting safe motherhood and family planning services. The distributors sold it, targeting the poorest households to seek care, and got a little commission on it. Facilities were contracted as voucher service providers (VSPs); some conditions were applied such as having running water, partial electricity, and basic laboratory equipment (Morgan & Eichler, 2011). The additional revenues allow the facilities to improve with beds or equipment.

Non-monetary incentives

Across countries, the non-monetary incentives can take the shape of continuous trainings, mentoring and support from the hierarchical superior. Some non-financial but materials incentives are badges, IDs, photographs in public spaces. Non-monetary incentives might be privileged by the poorest countries; however the sustainability of the impact of such incentives is the main issue.

Usual incentives

One of the most important incentives remains the supervision of CHWs; it provides motivation, new skills and also breaks the isolation state of the CHWs (Ministry of Public Health and Sanitation, 2009). In Honduras CHWs are paired to share the work and break the feeling of isolation on a daily basis (Bhattacharyva, Winch, LeBan, & Tien, 2001). The provision of identification materials (T-shirts, bags, boots, etc.) is an easy way to identify the CHWs and give them an important appearance, as mentioned by CHWs in Kenya, while the provision of working tools is a need for the CHWs to perform (UNICEF, Republic of Kenya, & Division of Community Health Services, 2010). The community recognition and respect represents a strong motivator for CHWs the more the community recognises their useful role, the more the services are demanded, the more they are recognised for their work, etc. It is a snowball effect (Bhattacharyva, Winch, LeBan, & Tien, 2001; Songstad, Lindkvist, Moland, Chimhutu, & Blystad, 2012). The communities of Zambia viewed the health volunteers as 'nurses' and 'doctors' (Sunkutu & Nampanya-Serpell, 2009). The same was heard from the CHWs of the Soweto East Unit of Kibera which made CHWs proud. During their active years, the refresher trainings also help the CHWs to review their knowledge, learn more and interact with other CHWs.

Income generating activities

Pooling funds and starting income-generating activities appear as an innovative way of rewarding the health workers across the world. In Gumer district, Ethiopia, the households have been asked to participate. By pooling 0.15 US dollar per household per year, they contribute to slightly finance the Community Health Agents and Traditional Birth Attendants (Sunkutu & Nampanya-Serpell, 2009). On the same principle, in Kenya, World Vision has started financing entrepreneurship on the demand of CHWs as incentives for motivation (Shibonje, 2013). This resulted in positive income generating activities where CHWs took the responsibility of creating a common pool to buy tents which they rent during trainings. These collective funds allow

the health workers to choose as a group what would be the most beneficial to them and their work; more freedom is therefore offered to them.

Special incentives

Some countries explored different incentives and preferential treatment of the CHWs more tightly related to their socioeconomic context. In Guatemala, the CHWs are exempted from military service, and in Ghana they possess identity card allowing them to be quickly seen at a clinic (Bhattacharyva, Winch, LeBan, & Tien, 2001). In China, the Village doctors have been given piece of land; they are also allowed of charging a small fee to the patients and selling some drugs. The recognition also represents a strong social incentive; during ceremonies, the blessing from the elders of the community, as in Ethiopia, was a source of motivation (Bill & Melinda Gates Foundation, July 2010).

Multiple incentives

Financial incentives alone are not enough (Henderson & Tulloch, 2008)

Research carried across the world and the observation of the results on CHWs motivation showed that the decision makers should be prone to use a combination of financial and non-financial incentives adapted to the local conditions (Haines, et al., 2007). Zambia as many other countries use both monetary and non-monetary incentives for their CHWs. The volunteer health workers express during FGDs that they would primarily seek monetary initiatives (Sunkutu & Nampanya-Serpell, 2009). Understanding the difficulty of monthly payment, they preferred a monthly amount completed by goods. Non-monetary incentives are accepted but not sufficient on their own (Sunkutu & Nampanya-Serpell, 2009). As an illustration of the research on mixed incentives from Bhattacharyva et al. (2001) (table 5), the MOH of Mozambique stated that the health volunteers would receive T-shirts and bicycle to increase recognition and would be remunerated 60% of the minimum salary, a promising target which had difficulty to be applied due to budget restrictions (Sunkutu & Nampanya-Serpell, 2009). In reaction, Save the Children carried an innovative concept; remunerating the health volunteers 30% of the minimum wage with 50% going in a common fund in the aim of developing viable activity after agreement between workers (Sunkutu & Nampanya-Serpell, 2009). This would contribute to sustainable packages of incentives.

A system approach is used in the following table to show the possible levels of interventions to increase the overall motivation of CHWs with rewards; the incentives and disincentives mentioned are sum up in this table, both financial and non-financial.

Motivating factors	Incentives	Disincentives
Monetary factors that motivate CHWs	• Satisfactory remuneration; material incentives; financial incentives • Possibility of future employment	• Inconsistent remuneration • Change in incentives • Inequitable distribution of incentives
Non-monetary factors that motivate CHWs	• Community recognition and respect • Acquisition of valued skills • Personal growth and development • Accomplishment • Peer support • CHW associations • Identification/job aids • Community status • Preferential treatment • Flexible hours • Clear role	• CHWs from outside community • Inadequate refresher training • Inadequate supervision • Excessive demands or time constraints • Lack of respect from health facility staff

Table 5. CHWs incentives and disincentives from a system approach (Bhattacharyya, Winch, LeBan, & Tien, 2001)

DISCUSSION

Status and Role of the Community Health Workers

'There exists virtually no evidence that volunteerism can be sustained for long periods: as a rule, community health workers are poor and expect and require an income'

(WHO, as quoted in Sunkutu & Nampanya-Serpell, 2009).

The programs vary according to the situation: conflict zone such as in Afghanistan, post-civil war in Rwanda, very low income country such as Haiti. PBI enlarge the scope of the so called PBF which relies on budget allocations. As a low income country, in Kenya, the CHWs live in the same conditions as the community they are serving. They often are part of the low class of the society. As health workers, they promote hygienic behaviours and promote health while visiting and counselling households. Volunteering for few hours a week has a different load on everyday life than a full time volunteering position, especially when considering these persons are among the poorest in their country and have their household to sustain. This makes them work more than what a volunteer would expect.

The status of volunteer of many CHWs across the world still divides the opinions; in one hand, for the service provided and its impact on a population health, the CHWs should be paid, on the other hand the feasibility of having so many community workers is possible because they are volunteers. To avoid the confusion, in Kenya the CHWs must be recognised as helpful volunteers, even if they receive a small financial compensation, and not sub employees by the formal health system. Their community should be aware of the work they provide without payment to serve the good of their community.

'CHW programs are not cheap or easy, but remain a good investment, since the alternative in reality is no care at all for the poor living in geographically peripheral areas'

(Lehmann & Sanders, 2007)

Somehow the role of the CHWs has more value to the eyes of the communities when they can actually cure. This is an interesting reflection on their work, while the government in partnership with UNICEF is implementing the integrated Community Case Management (iCCM) strategy opening CHWs responsibilities to some curative actions (table 6). While this improves the community appreciation, the workload will increase for the health volunteers. All the causes for loss of motivation and drop outs might increase with more work if the recognition towards CHWs are not reinforced. In this new context coming, it seems to be a critical time to consider incentives based on performance. It is also important to keep in mind that combining PBI and curative care can reveal a danger for overtreatment as it happened in China, while the risk is null when focusing on preventive services. Even though training of CHWs for iCCM has started, discussions at the Ministry level have raised the idea of recruiting more CHEWs which could undertake the iCCM training; this will increase the health spending of the country. The CHWs who are unpaid and already on the way to be trained and this could be an alternative to this solution in exchange of some efforts made to incentivise their necessary work. Paying them a percentage of the minimum wage would improve their motivation towards the work and avoid the waste of their trainings. These financial rewards to CHWs are already used in Mozambique where the CHWs are paid part of the minimum legal salary. The decision makers need to reconsider the volunteer position of the CHWs. Their volunteering position still claims some investments from the Government to ensure they are working in good conditions and with motivation. At the Ministry level, concerns will be expressed in regards of the sustainability of such a system. PBI initiatives, such as in Rwanda, have been carried with the financial support of an external donor; but what happens when the donor stops funding the system? This is why implementing the PBI system in Kenya goes in pair with a stronger involvement and will for action of the national level and its decision makers, as well as a clarification of the CHS implementation through the different active bodies.

Table 6: Integrated Community Case Management goals and objectives in Kenya

Vision: A Kenya where communities have zero tolerance to preventable deaths of children

Goal: To contribute to the reduction of child morbidity and mortality by providing quality community case management for Malaria, pneumonia, diarrhoea and malnutrition to sick children and identifying and referring sick newborns.

Scope: Among other things, procuring ORS/Zinc combination for diarrhoea treatment, home visiting, by CHWs, within 48 hours to assess the danger for a newborn and its mother

Harmonization of implementation

The CHS has been documented as being unequally implemented and not harmonised in its application. It is important to harmonise the trainings, recruitment, incentives before implementing PBI. The components used in the assessment matrix of USAID are a first step towards harmonising the various requisites of the CHS, such as the recruitment, the

training, the equipment, etc. Even if this assessment allows picturing the facts and making a comparison with the existing ministerial guidelines, it does not reflect the CHWs feelings and needs. The NGOs should follow the government recommendations and guidelines without excess of zeal, which creates unfairness between the CHWs' status and rewards. The CHWs get different training from different organizations; for the sustainability and relevance of the CHS it seems necessary to harmonize the training. Moreover some organizations have organized salaries or reward towards their CHWs which could denigrate the government CHWs training and rewarding, even if the primary goal is only to obtain good health results and motivate the CHWs. The diversity in these incentives and NGOs represent a barrier towards the implementation of the PBI system. There is a need to map all the incentives in Kenya from the NGOs and partners which would be the financial basis for the system until the government is able to fully take over, as in Rwanda. The credit of the government must be balanced, as it is unacceptable to have reached a point where such big responsibilities are given to the CHWs without being rewarded fairly and honestly. The main example to this lack of accountability remains the absence of the promised 2,000 Kenyan shillings per month to each health worker. The social gap in Kenya is obvious from one area to another. While government has not been able to apply the process of financial reward for CHWs already agreed 7 years, politicians from the parliament are currently arguing to keep a high salary for themselves which will place them among the highest paid parliamentarians in the world.

Important principles in implementing PBI

Decentralization

In many countries implementing PBI worked with a prerequisite of decentralised health governance. Kenya is currently in the process of devolution; this involves the transfer of more power to the county level giving more responsibilities to take health decision. This will give the freedom to each district to receive and allocate the funds themselves. This devolution process may allow the counties to adapt their decision and incentives to their own population. Before implementing a PBI system, it is necessary to understand and evaluate the socioeconomic context of the persons within their own specific geographical area and county. Kenya encounters various situations from the overcrowded and urban settlement of Kibera to the deserted and under industrialised North Eastern part of Kenya. The structure of the CHS needs to be adapted substantially based on geographic setting and cultural factors The incentives to be implemented should include the understanding of the impacts of socioeconomic determinants on health.

Transparency and clarity in defining targets

Setting the targets should be done carefully ensuring transparency and avoid confusion. The targets should focus on the main efforts to make to improve the Kenyans health status. However they should also be measurable with due consideration to the main challenges. Some tasks might be important but harder to measure and might be ignored while more attention is given to other tasks, potentially less of a priority but easier to measure. The incentives rewards should be based on the health priority of Kenya: the more improvement needed for a health indicator, the stronger the incentives for this indicator. The performance in health indicators is actually analysed through facts and hard data with all the MOH documents. Those indicators need to be evaluated to understand what scheme for PBI is the most appropriate. In the PBI system, it would be chosen between a scheme with pay a fee for a service delivered or reward incentives based on a predefined target achieved. Fees for services can reached undetermined numbers, while with a target set it can be decided of a maximum amount to award; however fee for service bring less stress for the providers to ensure to reach the target as each action is awarded. The targets, the way of assessing the improvement and the incentives scheme must be clearly stated and transparent to minimize the opened window for corruption avoid confusion for CHWs. Transparency, accountability and referrability must be clear to both reward good workers and chase the dishonest. As much as clear incentives are needed, clear disincentives can be implemented; Rwanda and Senegal use a punitive system where if the quality is not scored, the payment of the incentives decrease. The risk of losing something motivates the workers. Burundi and DRC have chosen a more positive approach by inflating the incentive on a good quality assessment. The possibility to have additional payments motivates the workers, but can also put quality as a secondary focus: PBI would become a game.

Incentives

All the incentives provided should be discussed with the health providers; it is important to consider the benefits versus the risks of individual incentives compared to team incentives, such as a community unit level. A non-individual performance incentive would strengthen the cooperation of CHWs and increase their self-esteem and confidence within their work. Rewarding the CHWs with monetary incentives involves having the financial and regular resources, whether it relies on the government or an external donor. It is a fair incentive to provide considering the CHWs are poor and need to sustain their family. In a capitalist world where everything works with money, it is a fair expectation from CHWs than the one to be paid for a service. The government of Kenya promised 2,000 Ksh per month to each of its CHWs; the amount is only reaching 50% of the CHWs from NGOs and government, as Dr Mwitari said. Increasing the financial support can reinforce a PBI the motivation and motivate the CHWs to work in remote area with stronger incentives to respect the equity

principle. The government of Kenya does not have the resources to individually reward CHWs, therefore it is reviewing the promised amount to be replaced by other reliable incentives, perhaps collective to start some income generating activities or improving the work with bicycles for instance.

Three combinations of incentives can be outlined: non-monetary only, monetary only, and a mix of the two. In the first scenario, it is important to know the most desired items. As the literature has shown, the CHWs wish to have signs of recognition such as T-shirt and badges. Adapting the incentives to the geographical areas is necessary; the provision of bicycles or gumboots will make the access to each household easier for the rural CHWs. With only non-financial incentives, the minimum should include training, a bicycle, a recognition sign and a basic kit to work. It is important to take into account the life span of the items. The success of these incentives will work if they are always kept functional. However all the incentives might not sustain the motivation of CHWs if just given once. Therefore the regularity of update of the kit and refreshing training, including new skills to learn, are necessary.

A combination of monetary and non-monetary incentives represents the best deal once the pros and cons have been balanced. Providing a regular but smaller amount of money to the CHWs allow them to spend this money how they judge is best. This freedom of choice is a proof of trust and recognition of the CHWs. Non-financial incentives complete the options to provide what is thought as right and necessary to CHWs to perform their work. On top of these incentives, publicly recognising the work of CHWs and involving the community into the discussion on CHWs are two critical steps to increase the acceptance of the community towards its CHWs. Under the influence of the government, the community could organise CHWs day, provide a little reward to their CHWs when good achievement has been made and acknowledge during ceremony, such as in Ethiopia.

Promising group incentives

One of the most appropriate solutions seems to be regarding collective incentives. From an equity perspective, the collective rewards might be privileged. Making the income less dependent on a singular event would decrease the frustration of CHWs; the income would be dependent on group efforts. The choice of what is best to do with the incentive received can be made as a group of CHWs in agreement and consultation with the community, without being an individual responsibility. Collective incentives let the CHWs develop their sense of initiatives, ownership, and entrepreneurship skills. As WorldVision has started to do, training the CHWs on entrepreneurship allows them to start up their own income generating activities. This represents a group incentive that can be given to a CBO (Community Based Organization) as it groups numerous CHWs. The CHWs can choose together how to create some revenues to them and the CU. Some ideas such as renting

tents for CHEWs visits, being in charge of cooking, and selling food during refresher trainings are solutions, used in Kenya, for income generating activities. The CHWs involvement is stronger when they are of a CBO than as individual workers. The example of the Soweto East unit in Kibera is a good illustration; registered as a CBO they are ready to receive collective funds with a leader already chosen and a bank account opened. The CBO has reinforced the linkage between each CHWs and they now work as a team when it is needed. The CUs and CBOs are the closest cluster to the community so it is important to empower them, and facilitate them to develop their own plan of activities in health or other beneficial areas to the community. CHWAIM matrix of USAID could be conducted in a CU where the community can try to identify solutions to the gaps in the CHW program.

Linking performance and incentives

The CHW AIM evaluates CHW programs without having the capacity to evaluate the performance of individual CHWs. However performance of individuals is influence by external factors, such as structure and supervision. Therefore the criteria defined in CHW AIM could be used within PBI system to reach the goal of motivating CHWs. It gives a static picture of the non-health elements of a program, while the data collected by the government are purely health indicators. As both are important to ensure the viability of a CHW program, we believe the performance evaluation of the CHWs should include components of both domains. Therefore on each side, components should be incentivized fairly and according to their weight and impact on the process of achieving national health goals. The non-health indicators could focus on identified gaps within the structure of the CHS implementation, while the health indicators should reflect the improvement of the health priorities in Kenya. Some health indicators could be individually and financially rewarded to improve the self-esteem of CHWs, such as with children school fees paid, or field allowances for transport, while some other could be considered as team targets to achieve and therefore could be incentivized with common rewards. The choice of the combination indicator/reward needs to be clearly stated and understood by all. We believe the most transparent way would be to carry FGDs with CHWs in various contexts to understand what their environment and socioeconomic conditions and therefore what rewards are appropriate. In return these FGDs would be used to express the decision-makers' position as to honestly answer the feasibility of the demands. The non-health elements can be rewarded by either reinforcing them, such as additional trainings on entrepreneurship or skills to address new health aspects, or by materially rewarding a unit with an ambulance or with finances to allow them to start up their own initiatives.

Non-health indicators could focus on more collective data at the CU level; indicators such as *the recruitment following the guidelines of the ministry* and the *standardized initial training*or the *refresher trainings* could be incentivized. This would be interesting indicators

to contract with NGOs to motivate them to follow the guidelines set in the CHS. Under the pressure of being incentivised or disincentivised, the NGOs might gather their internal resources to follow the ministerial instructions. Following the guidelines and providing a well-defined and structured environment of work to their workers should be a source of motivation for CHWs; they would receive standardize training, good supervision and regular health kits. These components defined by USAID might be combined with some other indicators responding to the gaps identified in CHWs programs including some referral evaluation, such *as the regular report of CHWs on the data they have collected*. Because of the disincentives it is believed that the organisations of reference of the CHWs would make sure of the timely reporting of its workers. These incentives either positive or negative should also be applicable to the Government as a recruiting and training body for CHWs. This underlines the idea that with a decentralized system, the counties would be fully responsible of their CHWs and CHS programs and therefore should be aware of the equitable incentives or disincentives they are subject to have.

Health indicators can be both individual and collective and rewarded with both financial and non-financial incentives. For those indicators, the priority and importance of incentives would be following the country's priorities stated in KHSSP, and the choice of incentives should be equitable and adapted to the regions. Monitoring the beneficial changes from the CHWs work with health indicators allow to strictly visualize their positive role on the community. We believe a mix of individual and collective incentives could be put in place. This will allow CHWs to be individually rewarded as personal recognition is important to intrinsic motivation to work. Collective incentives would empower the CHWs as a unit to develop initiatives, such as income generating activities, and also create their own health activities as they are the most aware of what will catch the attention of their community fellows. These health targets can be set using the KHSSP goals. From the government policy, a priority can be given towards the *treatment of diarrhea among children*, the *exclusive breastfeeding until six months of age*, and the pregnancy indicators as *the minimum of 4 ANC visits* and the *skilled attendance delivery*. For *the two pregnancy indicators*, the counting of the referrals to health facilities can be the tool to incentivize. However these two indicators rely, not only on the advices of the CHWs, but also on the will of the mothers to seek for health care. Therefore it seems that the patient should be given some incentives, such as travel allowance. The geographical area and demographic data should be taken into account to have equitable targets to achieve for each CHW. The *exclusive breastfeeding* is a more complicated target to evaluate as it will ask to carry some household's survey to verify the data recorded by the CHWs on the MOH documents. Finally the *treatment of diarrhoea among children* can be evaluated through the record of the CHWs which state the provision of ORS to the children. This can also be crossed with the mortality rate due to diarrhoea on the CHWs' sector for verification as well as random

household sample survey. After these indicators, new ones will be defined from the observation of results from the iCCM strategy, maybe more curative.

LIMITATIONS

Around the Kenyan presidential elections in March and the following weeks, the planning of field visits was compromised due to the potential risks of tensions in the country. The emergency plan was put in place as a main focus for the UNICEF staff members during this period. The visits were postponed. Therefore, it was difficult to conduct the optimal number of direct interviews with CHWs to ensure their voices were well-represented in this paper. Further research should be conducted to assess what CHWs think about various PBI options, and if their opinions vary by location or by their present type of engagement. The work presented here intended to involve some qualitative data analysis from the questionnaires developed for FGDs with CHWs. The sample of interviews is therefore too small to draw any significant conclusions.

RECOMMENDATIONS

1. The Government should be the first investor in the PBI system. The financial investments in health need to be reviewed towards more support to CHWs. Whatever solution is chosen in Kenya, a PBI system will only work and be sustainable with a long term and strong political commitment at all levels (especially important in the devolution context) and the involvement of key stakeholders. Efforts need to be integrated and stream lined to form one taskforce including government, donors, NGOs and the private sector to avoid duplication and ensure homogeneity of action.
2. A mapping of the NGOs and the incentives given needs to be done in order to understand the diversity gap and know the capacity of each support organisation as these organisations would probably be the financial basis for the system. Homogenising the incentives according to geographic and socio-economic environment will represent a major step towards the implementation of a sustainable PBI system. The homogeneity of the system based on equity will allow comparison of services and results.
3. FGDs in CUs should be carried in all different settings of work across Kenya. This is important to understand the differences between counties as the devolution gets under way. The views of CHWs and CUs on a PBI system needs to be heard, understood and taken into account in order to adapt the incentives not only to what is the most suitable to decision makers but also to what is the most suitable to CHWs.
4. A mix of financial and non-financial incentives needs to be put in place and to be distributed both individually and collectively. Giving the freedom to CU to invest as a group for their community is as important as allowing the CHWs on their own to use their incentives as they wish.

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Annexes

Annex 1. *MOPHS guidelines to recruit CHWs.*

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Annex 2. *CHWs training objectives*

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Annex 3. Terms of reference for CHWs

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Annex 4. Government health objectives for 2017

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Annex . *Questionnaire to UNICEF evaluation partners*

Annex 1.*MOPHS guidelines to recruit CHWs.*

- Permanent resident of the area
- Literate, or enthusiastic to learn
- Concerned about welfare of people
- Willing to volunteer
- Physically fit
- Willing to visit households
- Respected by villagers for his healthy behaviour good attitudes valued by the community
- Backed by immediate family

NHSSP II

Annex 2.*CHWs training objectives*

CHWs training	
Objectives	***Training content***
✓ Mobilizing and organising the community for health action ✓ Promoting and educating on good health practices ✓ Recognizing common ailments and taking appropriate action ✓ Referring cases to health facilities ✓ Advising on compliance with treatment and advice ✓ Facilitating community dialogue for health status improvement with CHEWs' support ✓ Respond to any questions from the community ✓ Carrying home visits to assess health in families based on evidence ✓ Being an example and model of recommended health practices ✓ Keeping village register and community health events	▪ Concept of development and health ▪ Community organization, mobilization and participation ▪ Group dynamics ▪ Leadership ▪ Communication ▪ Adult learning ▪ Evidence-based dialogue for change at household and community level ▪ KEPH by cohort ▪ Personal and environmental hygiene and related health problems ▪ Pregnancy and childbearing ▪ Common conditions and their role in dealing with them ▪ Immunization ▪ Nutrition ▪ Monitoring and evaluation: village register/map, record keeping, use of data

Annex 3.*Terms of reference for CHWs*

CHW (min 20 HH) will:

- Facilitate registration and mapping of HH in their village
- Update HH information 3 times a year
- Maintain a village HH register
    - Number of HH
    - Size and demographic characterization of each HH
    - Immunization status of children under 5 and women aged 15 to 19 years
- Support the local referral network by:
    - Identifying unvaccinated or dropouts to health facility for vaccination
    - Referring all other conditions requiring services at the health facility or hospital
- Coordinate immunization outreaches in their catchment area
- Summarize the immunization status of all HH monthly
- Summarize the morbidity/mortality data for enhanced programme for immunization (EPI) target diseases every 3 months
- Advocate for routine immunization:
    - Benefits of timely immunization
    - Completing immunization schedule
    - Identification of the signs of EPI target diseases and what to do
    - Vaccine safety and how to address any side effects that may occur
    - Addressing any doubts or myths on immunization
- Disseminate messages on immunization using information, education and communication (IEC) materials
- Provide health education to improve health and prevent illness by promoting supportive positive behaviour and key HH practices
- Provide health promotion at HH level, through evidence-based dialogue
- Provide first aid treatment of common ailments and facilitate referral of cases to the nearest health facilities, through an established community system
- Recognize common conditions, classify them and decide on appropriate action
- Encourage care seeking and compliance with treatment and advice
- Manage the village kit and distribute available commodities and supplies
- Function a link person between communities and the health system, to ensure continuum of care from the HH to the health system
- Educate and motivate community on key HH practices such as safe motherhood, community level, integrated management of childhood illness (C-IMCI) adolescent health, screening for chronic conditions
- Assess the health situation in the community with them and discuss the necessary interventions with the help of the CHEW
- Be available to the community to answer questions and give advice needed
- Conduct home visits to assess the health situations of families
- Be an example and model and good health behaviours
- Organize and mobilize the community for health action days, and provide leadership
- Promote inter-sector action for health, working with various extension workers
- Monitor progress of planned activities
- Keep records of all community health related events, and of services delivered
- Report to the CHC and CHEW on activities and events

Annex 4. *Government health objectives for 2017*

Policy objective	Indicator	Annual targets for attainment				
		2012/13	2013/14	2014/15	2015/16	2016/17
Eliminate communicable conditions • Increase access of population to key interventions addressing communicable conditions causing the highest burden of ill health and death • Ensure Comm. Disease prevention interventions directly addressing marginalized and indigent populations • Enhance comprehensive control of comm. Diseases by applying integrated health service provision tools, mechanisms and processes	% fully immunized children	79	85	88	90	90
	% target population receiving MDA for schistosomiasis	50	70	95	95	95
	% Tb patients completing treatment	85	85	90	90	90
	% HIV+ pregnant mothers receiving preventive ARV's	63	80	90	90	90
	% of eligible HIV clients on ARV's	60	70	80	90	90
	& targeted under 1's provided with LLITN	44	60	85	85	85
	% targeted pregnant women provided with LLITN	30	45	58	70	85
	% under 5 treated for diarrhoea	40	20	10	10	5
	% school age children dewormed	49	60	85	85	90
Halt, and reverse the rising burden of non-communicable conditions • Providing prevention activities addressing the major non comm. Conditions • Put in place interventions directly addressing marginalized and indigent populations affected by non comm. Conditions • Integrating health service provision tools, mechanisms, processes for NCDs • Establishing screening programs in health facilities for major NCDs	%adults population with BMI over 25	50	50	45	40	35
	% women of reproductive age screened for cervical cancer	50	50	60	70	75
	% new outpatients with mental health conditions	<1	3	3	2	1
	% new outpatients cases with high blood pressure	1	3	5	5	3
	% patients admitted with cancer	1	3	3	2	2
Reduce the burden of violence injuries • Make available corrective and intersectoral preventive interventions to address causes of injuries and violence • Scaling up access to quality emergency care that mitigates effects of injuries and violence • Put in place interventions directly addressing marginalized and indigent pop affected by injuries and violence • Scale up physical and psychosocial rehabilitation services for long term effects of injuries and violence	% new outpatient cases attributed to gender based violence	<1	1	1	0.5	0.5
	% new outpatient cases attributed to road traffic accidents	4	4	3	2	2
	% new outpatient attributed to other injuries	<1	1	1	0.5	0.5
	% deaths due to injuries	10	8	6	5	3
Provide essential health services • Scale up physical access to person centred health care, with local solutions to for	% deliveries conducted by skilled attendant	44	45	50	60	65
	% women of reproductive age receiving family planning	45	65	75	80	80

hard to reach and vulnerable pop • Ensure provision of quality health care, as defined technically, and by users • Avail free access to trauma, critical and emergency care , and disaster care services • Initiate efforts to promote medical tourism	% facility based maternal deaths (per 100,000 live births)	400	350	150	100	100
	% facility based under 5 deaths (per 1,000 under 5 outpatients)	60	50	35	20	15
	% newborns with low birth weight	10	10	8	6	5
	% facility based fresh still births (per 1,000 live births)	30	25	20	10	5
	Surgical rate for cold cases	0.40	0.60	0.70	0.85	0.90
	% pregnant women attending 4 ANC visits	36	50	70	80	80
Minimize exposure to health risk factors • Reduction in unsafe sexual practices, particularly amongst targeted groups • Mitigate negative health, social and economic impact resulting from excessive consumption and adulteration of alcoholic products • Reduce prevalence of tobacco use and exposure to tobacco smoke and other addictive substance • Promote physical activity • Strengthen mechanisms for screening and management of conditions arising from health risk factors at all levels • Increase collaboration with research based org and institutions	% population who smoke	18		15		6
	% population consuming alcohol regularly	35		25		10
	% infants under 6 months on exclusive breast feeding	32		50		70
	% population aware of risk factors to health	30		60		80
	% salt brands adequately iodised	85		100		100
	Couple year protection due to condom use					
Strengthen collaboration with health related sectors	% population with access to safe water	60		70		85
	% under 5 stunted	35		30		15
	% under 5 underweight	17		10		5
	School enrolment rate	60	70	75	80	80
	% women with secondary education	34		45		70
	% households with latrines	65		75		80
	% houses with adequate ventilation	30		40		50
	% classified road network in good condition	15		35		50
	% schools providing complete school health package	34	50	55	70	85

Annex 5. *Questionnaire to UNICEF evaluation partners*

This questionnaire represents an initial effort to explore the feasibility of Performance-Based Incentives (PBI) system in order to reinforce the Community Strategy targeting the issue of motivation and attrition of the CHWs (Community Health Workers). The resulting health information gathered will assist in the evaluation of CHWs performance, including the identification of gaps, and therefore will be used to inform a PBI system.

Name of partner
Role and goal in MCH
Location

Involvement with CHW			
	Yes	*No*	
• Do you recruit CHWs?			
• Do you train CHWs?			
• Do you supervise CHWs?			
• Do you evaluate CHWs' work?			

Criteria of evaluation	
What rates/absolute numbers/results do you use for the evaluation? ➢ Numbers of HH visits ➢ Number of referrals ➢ Number of deaths/preventable deaths ➢ Others - specify.	
How do you evaluate the motivation? ➢ Number of visits over a period of time (day, week, month, etc.) ➢ Time spent at 'work' over a period of Time (day, week, month, etc.) ➢ Initiatives undertaken/programs initiated ➢ Others - specify.	
What tools do you evaluate communication skills/attitude of CHWs? ➢ Observed body language ➢ Use of language and explanations to the patients ➢ Others - specify.	
Which criteria do you use to record the respect/recognition from the community towards CHWs? ➢ Patients respect over time ➢ Rewards from the community ➢ Others - specify.	
Which criteria do you use to evaluate patients satisfaction regarding CHWs work? ➢ Satisfaction with the provided services ➢ Others - specify.	
How do you analyse the level and quality of supervision of the CHWs? ➢ Communication with the CHEWs ➢ Formal health sector ➢ Level 2	
Methods • Retrospective qualitative review • Observation of CHWs at work ➢ Respect of the TORs • Patients interviews/Focus groups • Others - specify.	

Please provide any relevant document such as evaluation framework, last evaluation reports, etc.
Thank you for the attention and time you have given to the questionnaire.

Abstract

Context: The Community Health Workers (CHWs) have positively contributed to health of communities in different part of the world. In Kenya, the CHWs are volunteer members of the community they are serving. It is known that the motivation of the CHWs is affected by the heavy workload, the lack of supervision and recognition and the poor incentives received.

Methods: Policies document and strategies documents from the UNICEF, the Government of Kenya have been reviewed. It was supported by a large review of literature covering the Performance Based Incentives (PBI) system in various countries and mainly Rwanda. Focus Group Discussion with CHWs and interviews with decision makers have supported the research.

Results: The motivation of CHWs is increased with a good recognition from both the communities and the Government. The lack of political will and harmony in recruitments, trainings, and incentives avoid the correct implementation of the Community Heath Strategy in Kenya and inhibits the motivation of CHWs.

Conclusions: The mix of financial and non-financial incentives as well as collective and individual incentives appear as a good opportunity for Kenya in the implementation of PBI in the devolution context. The investment of the Government and the harmonization of CHS is critical; the mapping of the resources available and the research on CHWs' views of a PBI system are the first steps toward a comprehensive PBI environment.

Key words: CHWs, motivation, incentives, PBI, PBF, performance, monetary, non-monetary

Résumé

Comment un système de Récompenses Basées sur la Performance peut renforcer la motivation des Travailleurs de Santé Communautaire et réduire le taux de déperdition au Kenya?

Contexte: Les Travailleurs de Santé Communautaire (TSC) partout dans le monde ont eu un impact positif sur la santé des populations améliorant les indicateurs de survie infantile. Au Kenya, les TSC sont des membres volontaires de la communauté qu'ils servent. La motivation de ces TSC est affectée par la charge de travail demandée, le manque de supervision et de reconnaissance, ainsi que les faibles récompenses reçues.

Méthodes: Les stratégies et politiques de santé du Gouvernement Kenyan et de l'UNICEF ont été analysées. Une large revue de littérature a été menée couvrant différents systèmes de Récompenses Basées sur la Performance (RBP) dans différents pays et particulièrement au Rwanda. Une discussion thématique de groupe avec des TSC et des interviews menées avec des preneurs de décisions de santé ont soutenu la compréhension de la recherche.

Résultats: La motivation des TSC augmente avec une bonne reconnaissance de la part du Gouvernement et de la communauté. Le manque de volonté politique et d'harmonie pour les recrutements, formations and récompenses empêchent une mise en place correcte de la Stratégie de Santé Communautaire (SSC) au Kenya et inhibent la motivation des TSC.

Conclusions: Un mélange de récompenses financières et non-financières - collectives et individuelles semble être une bonne opportunité pour l'implémentation d'un système de RBP au Kenya, en particulier dans ce contexte de décentralisation politique. L'investissement du Gouvernement et l'harmonisation de la SSC est nécessaire: l'analyse des ressources présentes et la compréhension des besoins et envies des TSC sont les premières étapes vers un système compréhensif de RBP.

Mots clés: TSC, motivation, récompenses, RBP, FBP, performance, financier, non-financier