Health Services Consumers Perceptions on Task Shifting of Primary Healthcare Functions to Community Health Workers in Rural Butere Sub County, Western Kenya

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Background: Attaining universal access to Abstract primary healthcare services require radical changes in human resource and retention strategies. Hence, the task shifting is introduced. This is a process of delegation whereby tasks are moved to the most appropriate but less specialized level of Community Health Workers (CHWs). Effective planning to enhance scaling up of this strategy however, needs evidence which according to many researchers is vital but lacking. Methodology: This study provides such data for evidence based health policy decision making through the health services consumers' perceptions on task shifting in relation to CHWs current roles and responsibilities. The study was qualitative with fifteen focus group discussions held with health service consumers linked to the CHWs services. Ethical approval was gained through the Moi University and Great Lakes University of Kisumu Ethical Review Board and Committee respectively. Results: Short duration training programs, with mostly promotional, preventive and some curative tasks were suggested to be shifted to CHWs with a relatively strong monitoring and supervision mechanism. Consumers agreed that task shifting had significantly increased access to health services and improved health outcomes. Conclusion: Task shifting if well implemented could play a major role in improving access to, and equity in provision of primary healthcare services. However, there is the need to recognize, and carefully plan and implement task shifting. Failure to do so could result in it becoming a parallel health system competing with the formal healthcare system but with compromised quality. Hence, the Ministry of Health and other relevant stakeholders need to institute quality assurance frameworks, including standardized training, supervision, certification and regular assessments for effective task shifting models.

Keywords Task Shifting, Rural, Community Health Strategy, Community Health Workers

1. Introduction

Globally, WHO in 2008, advocated for the use of a task shifting strategy as an option towards meeting the healthcare work force shortage [1]. Working towards the achievement of universal access to comprehensive quality health care services for all has faced a major setback especially in low income countries. African states are encountering constraints such as a shortage in the health profession workforce as a result of increased demand for healthcare services due to existing and emerging diseases and other demographic factors. In overcoming this barrier, the use of CHWs was seen as one of the solutions. In Kenya, the training and existence of CHWs by the Ministry of health and non-governmental organizations started in 1970s [2]. This community health strategy however formally commenced in 2006. It involved the training and deployment of CHWs to reach every household with an essential care package for the community level, as provided for in the health sector strategic plan II [3]. Task shifting from professional health workers to community health workers was considered to be a means to make more efficient use of the human resources to improve health status of the population at reasonable cost [1].However, this task shifting strategy also faces challenges [4]. This includes the need for CHW to cover a wide range of duties of health promotion and preventive services coupled with their own family needs. Fulton et al., found that as much as task shifting is an important strategy in ensuring access to health services at the community level, its successful implementation is hindered by challenges with more need for research on the model [5]. Use of available human resource data through the community and stakeholders was seen as an important component in task shifting planning towards making changes in health service provision and in analysing the impact of task shifting in the community and the health system. Lack of data leaves many countries unprepared to engage in effective planning [6]. Informal task shifting for example is a reality in many developing countries without

policies, job description and standards of practice. The extent to which this is done remains unknown due to lack of data [7].

According to Schneider, no clear framework for task shifting has been conceptualized in Kenya. Whereas there is evidence that tasks shifted to community level workers can be undertaken effectively, the perspectives of various stakeholders in the Kenyan context have not been described [8]. Franco *et al.*, suggests that non-financial incentives are successful in motivating workers yet these strategies have not been described in different Kenyan contexts [9]. It is vital to analyse health services consumers' perspective on task shifting to CHWs. Defining limits, guidelines and protocols in task shifting so as to reach a consensus on where it can have the strongest and most sustainable impact in the delivery of quality health services through evidence-based actions is therefore recommended.

Butere district is in the rural parts of Western Kenya. It covers 211km² and has a population of 139,780 people with whom 66,669 are males and 73,111 are females. Butere has a population density of 663.9 people per km² with an approximate number of 30,867 households according to the Kenya Open Data, 2009 census. The Sub County has 6 public health facilities comprising of one district and one sub district hospital, two health centers and two dispensaries [10]. This is approximately 5000 households per health facility.

2. Literature Review

Community Health Workers and Task shifting

According to WHO (2006), there is a need for an estimated total number of 817,992 doctors, nurses and midwives in the African as a whole [11]. Within the education systems in Africa, it takes almost 3 to 6 years to train a nurse or a doctor respectively in a setting where training facilities are also inadequate. This means that the production of work force to meet the increasing demand for healthcare services is slow [11]. In overcoming this barrier, many states opted to take a radical approach to tackle this human resource crisis. Most countries realized the need to incorporate community health workers who according to research have potentially proved to be capable of delivering a wide range of health services at the community level [12]. This task shifting strategy has gone a long way in expanding the human resource pool by bridging the health facility and the community. CHWs perform preventative medical services mostly in the community with minor curative services as part of their responsibility in some countries. Given different names in different countries from bare foot doctors to community village workers, they educate and monitor the community's individuals and environmental health, refer patients at risk forming a link between the community and the formal health system. However, many researchers have shown the need for the CHWs program to be reviewed to enhance its sustainability. Lack of evidence

on its effectiveness is a major concern especially in achieving the MDGs [7, 13].

Task Shifting in Human Resource

Task shifting of primary care functions from health professionals to community health workers is considered to be a cost effective use of human resources currently available for improving the health status of the populations [14]. Research shows that community-based health programmes are often successfully executed through community health workers [12].

According to the health services consumers, task shifting has shown a significant improvement in the United States whereby CHWs have empowered health consumers to advocate for quality care, use self-help practices, exercise their rights as patients, take advantage of community resources, and learn about their risks for certain health conditions. CHWs also work to improve health outreach efforts to vulnerable patient populations [15].

A study done in Brazil shows that, between 1990 and 2002 the infant mortality rate dropped from about 50 per 1000 live births to 29.2[16]. This period saw the Family Health Program increase its coverage of the population from 0 to 36% with a large impact in the reduction of deaths from diarrhoea. Though the program utilized teams of physicians, nurses and CHWs, it could not have covered the population it did without the CHWs [17]. In Ghana, task shifting was used long before the term came into existence whereby the role of medical assistant was introduced in 1969 with one year training, and focused on diagnosis and treatment of common disorders in places where doctors were scarce. Hence, the need for regulation practices for Community health workers.

In Uganda, task shifting has proved handy in the provision of antiretroviral therapy. With only one doctor for every 22 000 patients and an overall health worker deficit of up to 80%, Uganda has seen the necessity of task shifting with tasks that were formerly the responsibility of nurses being shifted to community health workers, who have training but not professional qualifications. These tasks include: HIV testing; counselling and education on antiretroviral therapy; monitoring and supporting adherence to antiretroviral therapy; filling in registers; triage; clinical follow-up; taking weight and vital signs; and explaining how to store antiretroviral drugs. It is evident that CHWs have an important role in strengthening the health systems through the increase of access to health care services by the underserved populations.

Perceptions on Task shifting

Although not so much has been done on the health service consumers' perceptions on task shifting of primary health care functions to community health workers, research studies show that the scarcity of health workers is most intense in rural and impoverished areas, and in health facilities that serve the poor [18]. Population growth, the rise of chronic diseases, increased purchasing power of health services, and the spread of HIV pandemics are some of the factors that have been attributed to the increased demand for community health workers' skill in diverse settings [19]. Task shifting therefore has been seen as a strategy to increase access to health care and advice in under-served communities, particularly in the rural areas

Maintaining Quality and Safety in Task shifting

A study done by Freddy et *al.*, in the rural Mali showed that CHWs reported lack of supervision and proper training as a major hindrance in their understanding of their practices and responsibilities accompanied with lack of support from the formal health system[13]. The study further showed that the health service consumers acknowledged the fact that the CHWs needed to be equipped with drugs, continuous training and other support equipment in order to deliver the health services effectively at the community level. Scaling up community health workers effectiveness therefore, is linked to the need for evidence on their current performance. One way to do this is through the health service consumer's perceptions [13]. This evidence is still needed.

Access and Equity to Healthcare Services through Task Shifting

Barriers in access to health care and differences in the quality of care received certainly contribute to health disparities. However, health is not merely the result of medical or clinical care but is the sum of what we do as a society to create the conditions in which people can be healthy [20]. Hence, the inclusion of other social determinants of health including income and poverty status, education, employment and working conditions, housing quality, and environmental features including access to healthy food choices, good transportation and security systems. Access and equity in health therefore, takes into account the social, cultural, economic and environmental factors impacting on one's life. Promoting access and equity thus needs a plan that can give a holistic approach in addressing health disparities. This brings in the necessity of CHWs as people who understand the complexity of the context in which they are serving hence the introduction of task shifting.

Looking at a broader perspective other than addressing the human resource crisis in health care service delivery, task shifting can be seen as a model geared towards enabling the population to have access to affordable and available health services at the most convenient time in the community through the community health workers. Community health workers generally enhance health promotion strategies where they educate and empower the community to take charge of their own health thus changing individual's health practices and health seeking behaviour and also advocating for unavailable health resources to reach them [21]. For example, research from Botswana reported an increase of uptake in Antiretroviral therapy with the introduction of task shifting in December 2007[21], with similar cases in South Africa, Mozambique, Swaziland, Malawi and Kenya respectively[22,23,24,25,26].

An economic barrier to accessing health care services especially in the agrarian rural areas whereby their main income is through farming is significant. The inexistence of a health insurance mechanism and the inability to become members is evident. Lack of proper means of transport also hinders the rural communities in accessing healthcare services hence the need for programmes that can make these formal health care services accessible and fairly distributed. This is evidenced by studies on the Lady Health Workers Initiative in Pakistan [27] and community-based breastfeeding peer counsellors in Bangladesh by Haider, R. *et al.*, which has shown that CHWs can enhance community health development and improve access and coverage to basic health services [28].

2. Methodology

Study Design and data collection methods

The study deployed descriptive design using qualitative methods of data collection. Focus Group Discussions (FGDs) were conducted among the female and male health service consumers in different community units where community health strategy had been implemented. Purposive sampling method was used to identify the health service consumers who were adults of over eighteen years in the households being served by the CHWs. Fifteen FGDs were carried out giving one hundred and twenty consumers participants selected to determine their perceptions and views on task shifting strategies that could improve the quality of services and motivate community health workers at the community level. The study was purposively undertaken in four community units in Butere Sub-County as part of the community health strategy scaling up areas in Kenya undertaken in collaboration with the ministry of Public Health and Sanitation.

Sample size determination

The FGDs contained questions that sought clarifications on specific issues on task shifting. New issues relevant to the study were added to the discussion guide and were further explored in the subsequent groups with data saturation concept being considered which gave rise to our sample size. The main thematic areas in all the data collection tools focused on practical knowledge and experiences of the existing task shifting practices aimed at the main themes as to which tasks to be shifted, quality and safety of task shifting, career advancement, recruitment and training, recognition and acceptability with sub themes being remuneration, promotion, supervision, motivation, productivity assessment and training.

Data analysis Procedure

The recorded data from Focus Group Discussions was

transcribed, anonymized and coded then subjected to thematic content analysis as described by Miles, M. B. and Huberman [29]. Commonly raised concerns and issues that emerged from the themes and sub themes were then identified and narratives constructed. Transcripts were read and reread to reflect the generated possible concepts suggested as appropriate for task shifting practices rather than the questions or concepts predetermined in the interview guide.

Ethical Considerations

This was a wider study carried out in three different socio-demographic contexts being the peri-urban (Kisumu, Nyalenda), the nomadic (Garrissa) and the rural agrarian (Butere) sites. The study was reviewed and granted ethical approval by the Moi University Ethical Review Board and the Great Lakes University of Kisumu Ethical Review Committee.

3. Results

Access and Equity through Task Shifting

Health service consumers perceived distance and lack of transport means to the health facilities, the inability to pay for the few available means by the rural community coupled with nurses spending considerable time on attending to many patients, as a factor leading to the recognition of CHWs as principal recipients of the tasks formally in the health system. In this rural context, task shifting of some of this responsibilities from the Health facility level to the Community health workers was seen to have increased access to health care. The health service consumers acknowledged the fact that the community health Strategy had undertaken the recruitment and initial short training of the community health workers in different health capacity building courses. This had enabled them to provide community support for prevention, adherence support, and home and palliative care and other health promotive services. Mostly, the CHWs focused on the vital health services including community education and services for HIV/AIDS, tuberculosis, malaria. maternal and child health. immunizations, and nutrition an area that has tried to address the MDGs 1, 4 and 5. This focus has seen the prevention of diseases, reduction of infant, child and maternal mortalities and morbidities, increase in immunization rates and utilization of health facility delivery services by expectant mothers through surveillance of cases and health promotion provided by the CHWs according to the consumer's perspectives. One of the discussant said, "There is a low rate of child mortality, increased rate of immunization and increased health facility utilization especially for delivery by women."

Health service consumers agreed that, it was through the health education talks and empowerment they received from the CHWs that had enabled most of them to be active participants in their own health and their health seeking behaviors. They referred to CHWs as, "people who are upgrading our health status through health education." Health being a state of complete physical, mental and social well being and not merely the absence of a disease or an infirmity, takes into account all its social determinants including: the level of income, poverty, occupation, social gradient, education background, working conditions, housing quality, and the environmental surroundings including access to healthy food choices, and safe neighbourhoods. The health consumers understood that all this was not merely dependent on medical or clinical care but rather what community health workers did towards achieving healthy living conditions.

It was therefore evident that CHWs could facilitate the improvement in equity and access in health and to health services especially maternal and child care hence contributing towards the achievement of MDGs in many states in Sub-Saharan Africa and elsewhere in the future.

Tasks proposed to be shifted

Currently, the CHWs in this context were engaged in health prevention services including personal hygiene, environmental sanitation, use of bed nets, basic child and maternal health care management for malaria, acute respiratory infection, deworming and diarrhoea, the importance of completing vaccination schemes among children and pregnant women, vitamin A supplementation and periodic households follow-ups among other actions as perceived by health service consumers and the community health workers. Much of the health promotion services were seen or opted to be shifted with some of the curative services including health care support such as ARVT according to the health service consumers.

The health service consumers listed the following as some of the services to be shifted, drugs dispensation and administration, Family planning, offering of toxoids vaccines especially in cases where the patient could not access the health facility on time and management of minor ailments such as diarrhoea and bacterial infections. However, some of the service consumers, mostly the youth, did not agree on the some of the services to be shifted to the CHWs which to some extend were being informally practiced. One of the youth consumers suggested, "*injections, drugs and other FP services such as Norplant implantations*" should not be shifted to the CHWs unless there was enough and adequate training. This was a point which was confirmed to be very important in designing an effective delivery package by the CHWs themselves.

Therefore, there is a lot of basic health services currently under the nurses delivery package that could be shifted and rolled down to the community through the CHWs such as ART adherehence, management of childhood illnesses such as pneumonia, malaria as long as it is done with adequate training, monitoring and supervision accompanied by enough equipments to facilitate their work at the community level according to health services consumers perceptions.

Maintaining Quality and Safety in Task Shifting

Management and Supervision

The Health service consumers comprehended the fact that the CHWs could not stand on their own but rather they needed supervision and support from the formal health system in order to carry out most of the major tasks being shifted to them. The interaction of other support systems was vital to the long term sustainability of the program. The consumers recommended, "a proper training need assessment mechanism and increased collaboration of the CHWs with the ministry of Health." said one of the consumers.

There was the fear too for informal task shifting to be in existence with time in this agrarian context as perceived by the youth health service consumers. Adequate training and supervision therefore, was seen to be essential for the community health workers to retain their skills and knowledge necessary to provide appropriate care including curative service.

Career Advancement, Recruitment and Training

The health service consumers suggested that CHWs should be given more training to enable them deal with the changing health situations in the community. One consumer discussant said that the CHWs need, "*a chance for career progression*". This was seen to increase their efficiency in health service delivery.

Recognition and Acceptability

The health service consumers saw the need to recognize the CHWs in the community. They requested if they could be given some funding, recognition of their importance and a voice in the running of the program by the government through the ministry of health and other stakeholders. They also recognized the need for the CHWs to have a safe working office too with adequate supplies both to ensure their own safety and have an ease in delivering health services. Transportation of the sick to referral hospital facilities, communication and their movement for routine checkups had to be easily facilitated. Basic equipment like, first aid kits and other means of maintaining precautions was absolutely essential, and thus logistical systems for supplying rural communities had to be strengthened.

Key findings showed that, the use of community health workers had a huge impact on improving the health determinants of the populations. According to the perceptions of the health Service consumers on the aspect of task shifting of primary health care functions to Community Health Workers in the Rural Context, Task shifting implementation had effectively occurred as a coping to overcome the human resource crisis .Health service consumers further perceived CHWs as, "people who help the community to solve their own health problems". They therefore, recognized community health workers to be the people in response to many health and development tasks at the community level hence expressed the need to expand their duties but through a strategically placed health system.

4. Discussion

Tasks Shifted

The road towards accomplishing the community health strategy of task shifting starts with an assessment of which tasks to be shifted in order to utilize the CHWs. In some countries, curative of minor elements, dispensation of drugs, dressings and minor operations are some of the activities already in practice by the CHWs. Others include: First aid. Surgery assistance, Operating room technician and equipment sterilization, Giving pre- and postnatal advice, Delivering babies, Giving child care advice, Nutrition education, monitoring and feeding, Immunization education, monitoring, Family planning services, Sanitation and hygiene promotion and education, Communicable disease screening, monitoring, follow-up and medication provision, Assisting in health centres activities, Making health care referrals, Performing school health activities, Collecting vital statistics, Maintaining records, making reports, Performing home visits, Participating in community dialogues and action day meetings.

However, in other countries such as Kenya as perceived by this research study, some of these activities are still under discussion whether they should be carried out by the CHWs or not. Furthermore, some of the curative services are already in practice in the nomadic and peri urban contexts in Kenya[30] Moreso, for these tasks to be effectively undertaken, important elements of support include a good initial training, regular continuing education, and access to further information whenever needed according to the health services consumer's perspectives. In addition the CHWs must be provided with sufficient supplies, practical patient referral options, adequate funding, recognition of their importance and a voice in the running of these programs as evidenced in the research findings.

Maintaining Quality and Safety in Task Shifting

Management and Supervision

Management and Supervision is also important in the context of task shifting as it ensures some level of quality assurance as perceived by the health service consumers and also according to Vujicic, M. *et al.*,[31]. Supervision is vital for motivation and it provides a platform whereby new information and skills are transmitted from the Health system to the community. Just like the community in this rural context, Freddy, P. *et al.*, also attributes continuous support through training, adequate supervision and motivation of CHWs as key factors to improving the work of CHWs in rural communities [13].

Lack of supervision by the professional health workers to

the CHWs is considered detrimental to the functionality of task shifting programmes with studies showing greater improvements in child health where supervision of CHWs has been conducted not only in this study but also in other parts of the world [13, 32]. According to the research findings and other researches done earlier, it is perceived that with proper training, supervision, support coupled with uninterrupted supply of necessary equipments and drugs, CHWs can identify and correctly treat some of the childhood illnesses such as pneumonia, malaria and diarrhoea [33, 34].

However, many of these tasks are already in practice by the CHWs without prior training, policies, supervision, job description and standards of practice [7, 30]. The health service consumers therefore, calls for pushing for policies to support them as part of coordinated efforts to improve health-care systems a fact acknowledged to be very important [36]. More so, evaluation on the sustainability and maintenance of quality by the CHWs has been cited to be critical in their mission of extending formal health services to the community in Kenya [37].

The health service consumers cite recruitment of CHWs from communities they serve in collaboration with the community itself as a key strategy to its effectiveness [38]. Selection criteria with some level of school education of the CHWs have also proved to be more crucial in the performance of their activities in the rural context [12, 39].

Putting theory into practice, a system need analysis of task shifting to CHWs in this context indicates that, for efficiency and effectiveness to be achieved, community health workers need support to maintain and enhance their skills in assessing and managing illnesses in the community. Management and supervision therefore, is seen as an important tool towards quality assurance in task shifting. Refresher training should be undertaken at periodic intervals, and supportive supervision needs to be planned and carried out on a regular basis. Supervision and practical mentoring for curative of some minor elements is very important for quality assurance of the tasks being shifted and safety of the community whom are the recipients of the services.

Recognition and Acceptability

It is also worthy to note that very often will we find communities composed of completely like-minded individuals with a common goal and a full spirit of cooperation. Mostly they will have different agendas, and an understanding of this element is vital for effective planning. CHWs can only function well if they are well-trained and working in a well-designed program, with proper supervision and support, and with a clear understanding of the social dynamics of the individual community that they serve. Analysis of complexity of the contexts of such programs around the world has yielded clues to the success or failure of these programs. In general, CHWs are more likely to be effective if they are truly representative of the community, are chosen by the community, and are well supported by both the community and the Healthcare system according to the health service consumer's perspectives.

Task shifting not only in the rural but in different socio-demographic contexts therefore, should receive more review to find out more on its progress and the effectiveness. In addition, task shifting must be implemented with systems that contain adequate checks and balances to protect both health workers and the people receiving treatment and care hence the need for the need for continuous evaluation through health service consumer's perceptions on task shifting.

5. Conclusions

The community Health Strategy of deploying the community health workers holds the key to extending access and equity in health and health care delivery to the populations dealing so much with health promotion at the community level hence improving the health outcomes. Its implementation has led to reduced health disparities including infant, child and maternal mortalities and morbidities. It has also seen increase of numbers in Health facility utilization including deliveries and immunizations. Consumers perspectives at the community level has shown that CHWs can become an effective work force to address the most common causes of diseases especially childhood illnesses such as pneumonia, diarrhea, malaria, malnutrition, HIV/AIDS etc that results into increased child mortalities. Hence, an effective option for investment as part of a comprehensive primary health care system.

However, there is so much concern of the strategy existing as a competing parallel healthcare system if quality assurance mechanisms are not put in place. The existence of informal task shifting is a reality which needs to be addressed. Based on analysis of discussions with health service consumers and during the focus group discussions, the following recommendations are vital in moving the task shifting process forward.

- There should be regular and continuous supervision and monitoring systems in place and supervision should be taught to be undertaken in a participatory manner that ensure two-way flow of Health information between the community and formal health system for proper planning.
- Career development opportunities should be provided to CHWs for mobility and professional development. These should include opportunities for continuing short term training.
- The CHW programs should regulate a clear selection and recruitment procedure that reassure appointing those who certify the course completion and pass the writing or verbal exam at the end of training for quality assurance.
- The Ministry of Health should assist with establishing a working group or task force which could include relevant multiple stakeholders. The task force should design policies and regulations to foster an enabling

environment for task shifting, including identification of resources needed to support the CHWs such as transportation systems, identification gadgets and other core supplies to enable their effective functionality, indicators and targets, and monitoring tools, and be formally authorized by the Ministry of Health to fit different socio-demographic contexts.

• Coordination, planning, implementation, and monitoring of task shifting activities need to be strengthened. The activities should be accompanied with effective polices, support, training, supervision and performance maintenance

Therefore, incorporating CHWs into the formal health system is the key to achieving MDGs as evidenced by Community Health Strategy. However, all this will not be enough to ensure the efficiency and sustainability of task-shifting programs focusing on a new cadre of community health workers. Instead, governments and donors are obligated to fund and implement the planning, monitoring and evaluation systems that are essential to service delivery of such a system with standard setting, identification of best practices, and close monitoring of existing programs being important first steps to this successful planning.

Task shifting therefore, can only be successfully planned and implemented only if there is basically continued collaboration and ownership based on an agreement between the communities and health workers and between the health workers and the ministry of health and other involved stakeholders.

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REFERENCES

 WHO/PEPFAR/UNAIDS. (2008). Treat, Train, and Retain: Task Shifting: Global Recommendations and Guidelines. Geneva: WHO. Available at: http://data.unaids.org/pub/Man ual/2007/ttr_taskshifting_en.pdf

- [2] Kaseje, M. A., Kaseje, D. C., Spencer, H. C. P., (1987). The training process in community-based health care in Saradidi, Kenya. Annals of Tropical Medicine and Parasitology, 81(Suppl 1):67-76.
- [3] Government of Kenya Ministry of Health, (2005). Health Sector Reform Secretariat: *Reversing the trends: The National Health Sector Strategic Plan - NHSSP II - 2005– 2010*. Nairobi;
- [4] Chankova, S., Muchiri, S., Kombe, G. (2009). *Health workforce attrition in the public sector in Kenya: a look at the reasons*. Hum Resour Health; 7:58.
- [5] Fulton, B. D., Schleffler, R. M., Sparkes, S. P., & al, e. (2011). Health workforce skill mix and task shifting in low income countreis: a reveiw of recent evidence. *Human Resources for Health*, 9:1
- [6] The World Health Report, (2006). *Working together for health*. Geneva, World Health Organization, available at http://www.who.int/whr/2006/en
- Bluestone, J., (2006). Task Shifting for Strategic Skill Mix. IntraHealth International, Chapel Hill, NC: Capacity Project Technical Brief
- [8] Schneider, H., Hlophe, H., van Rensburg, D., (2008). Community health workers and the response to HIV/AIDS in South Africa: tensions and prospects. Health Policy and Planning, 23(3):179-187.
- [9] Franco, L.M., et al. (2004). *Determinants and consequences* of health worker motivation in hospitals in Jordan and *Georgia*. Social Science and Medicine, 58(2):343-355.
- [10] Kenya Ministry of Planning and Development report, 2010
- [11] World Health Organization, World Health Report (2006), 134; Riley et al., "Developing a Nursing Database System
- [12] Haines, A., (2007). Achieving child survival goals: potential contribution of community health workers. Lancet, 369:2121-31.
- Freddy, P., et al. (2009).*The role of community health* workers in improving child health programmes in Mali. BMC International Health and Human Rights, 9:28 doi:10.1186/1472-698X-9-28: http://www.biomedcentral.com/1472-698X/9/28
- [14] World Health Organization, (2007). Task shifting to tackle health worker shortages. Geneva, WHO Fulton, B. D., et al. (2011). Health workforce skill mix and task shifting in low income countries: a review of recent evidence. Human Resources for Health, 9:1
- [15] Kolker, C., (2008) "Familiar faces bring health care to Latinos; 'Promotoras' act as bridge to hard-to-reach." Observational multicounty study. Lancet. Sep 13;372(9642):910-916
- [16] Macinko, J., et al. (2006). Evaluation of the impact of the Family Health Program on infant mortality in Brazil, 1990-2002. J Epidemiol Community Health. Jan; 60(1):13-19.
- [17] Huicho, L., et al. (2008). *How much does quality of child care vary between health workers with differing durations of training*?

- [18] Buchan and Calman, (2006). Global Shortage of Registered Nurses, World Health Organization, World Health Report, 8.
- [19] Paula O'Brien Lawrence O. Gostin, (2011, October). Health Worker Shortages and Global Justice /Am J Trop Med Hyg 2003, 68(Suppl 4):142-8.
- [20] Boushey, H., et al. (2007). Social Inclusion for the United States. London, England: Center for Economic and Social Inclusion.
- [21] Hulela, E., et al. (2008). Task *shifting in Botswana: empowerment of nurses in ART roll-out.* AIDS - XVII International AIDS Conference
- [22] Bedelu M., et al. (2007). Implementing Antiretroviral Therapy in Rural Communities: the Lusikisiki model of decentralize HIV/AIDS Care. Journal of Infectious Disease, 196(Supplement 3):S464-8.
- [23] Assan A., et al. (2008).Task shifting mechanisms for scaling up HIV services in Mozambique. AIDS - XVII International AIDS Conference
- [24] Mareverwa, J., et al. (2008). Impact of task-shifting and joint efforts in the provision of care and antiretroviral treatment to infants and children in a resource constrained setting. AIDS - XVII International AIDS Conference:
- [25] Jouquet, G., et al. (2009). Cost analysis of an ARV care programme reaching universal access in Thyolo, Malawi. 5th IAS Conference on HIV Pathogenesis, Treatment and Prevention, Cape Town.
- [26] Chiambe, G., et al. (2009). Maximizing human resources by involving lay health workers in HIV service delivery in Kenya. 5th IAS Conference on HIV Pathogenesis, Treatment and Prevention, Cape Town.
- [27] Douthwaite, M., Ward, P., (2005). *Increasing contraceptive use in rural Pakistan: an evaluation of the Lady Health Worker Programme.* Health Policy Plan; 20:117e23.
- [28] Haider, R., et al. (2000). Effect of community-based peer counselors on exclusive breastfeeding practices in Dhaka, Bangladesh: a randomized controlled trial. Lancet; 356:1643e7.

- [29] Miles, M. B., Huberman, A. M., (1994). Qualitative data analysis: a sourcebook of new methods. Beverly Hills: Sage.
- [30] Beverly, M.O., Edith, A., Nancy, E., Diana, M., Leah, M., Dan, C.O. Perceptions of health stakeholders on task shifting and motivation of community health workers in different socio demographic contexts in Kenya (nomadic, peri-urban and rural agrarian. BMC Health Services Research 2014, 14(Suppl 1):S4 http://www.biomedcentral.com/bmchealthser vres/content/14/S1/S4
- [31] Vujicic, M., et al. (2004). *The role of wages in the migration of health care professionals from developing countries,* Human Resources for Health, 2:3.
- [32] Hill, A.G., et al. (2000). Decline of mortality in children in rural Gambia: the influence of village-level primary health care. Trop Med Int Health, 5:107-18.
- [33] George, et al, (2009). Community Case Management of Childhood Illness in Nicaragua: Transforming Health Systems in Underserved Rural Areas', Journal of Health Care for the Poor and Underserved, vol. 20, , pp. 99–115.
- [34] Yeboah-Antwi, et al. (2010). 'Community Case Management of Fever Due to Malaria and Pneumonia in Children under Five in Zambia: A cluster randomized controlled trial', PLoS Medicine, vol. 7, no. 9.
- [35] Hongoro, C., McPake, B., (2004). How to bridge the gap in human resources for health. Lancet; 364: 1451-6 http://dx.doi.org/10.1016/S0140-6736(04)17229-2 pmid: 15488222.
- [36] Rowe, S.Y., Kelly et al. (2007). Effect of multiple interventions on community health workers' adherence to clinical guidelines in Siaya district, Kenya. Trans R Soc Trop Med Hyg, 101:188-202.
- [37] Ruebush, T.K., Weller, S.C., Klein, R.E., (1994). Qualities of an ideal volunteer community malaria worker: a comparison of the opinions of community residents and national malaria service staff. Soc Sci Med, 39:123-31.
- [38] Bender, D. E., &Pitkin, K., (1987). Bridging the gap: the village health worker as the cornerstone of the primary health care model. Soc Sci Med, 24:515-28.