# **ORIGINAL ARTICLE**

# Using E-Learning for Skills Transfer, Motivation and Retention of Health Workers in Zambia

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# **ABSTRACT**

Background: Health system strengthening continues to be a moving target for developing countries with the human resource factor the most critical bottleneck towards universal health coverage. The human resource management cycle revolves around three interdependent factors: production, recruitment, deployment and retention. The most elusive is retention where both monetary and non-monetary reward systems are equally important. The purpose of this is to document establishment of e-learning as a tool for online skills transfer to address retention of health workers in a cost-effectively.

*Methods:* This prospective study analyses the process of establishing an e-learning facility in Central Province of Zambia. Visitations of the site in the PEPFAR (US President Emergency Plan for Aids Relief in Africa) sponsored Chainama College of Health Sciences, Kabwe Campus premises and technical inputs and specifications were documented.

**Results:** The Ministry of Health maximized the prevailing thriving partnership in the health sector by allocating accommodation to e-learning using resources from RMNCH Trust Fund with the WHO dedicating technical support for this concept in close liaison with Ministry of Health officials in Central Province. The facility can accommodate 36 students and is earmarked to be a training facility equipped with appropriate equipment and software to cater for the entire spectrum of diseases and conditions in Zambia. This is an institution which can support the human resource cycle of production, recruitment, deployment and retention, an innovation that be scaled up to address national retention needs.

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**Discussion:** E-learning has ushered a sustainable modality of skills transfer to many areas including human resources for health. The government has successfully engaged cooperating partners in Zambia to implement this improvision in the health sector. The WHO has played its part in ensuring that the critical health resource for health pillar of health systems is addressed.

**Conclusion:** Zambia health sector is instituting an intervention that can improve retention of health workers using non-financial motivation through sustainable elearning.

# **INTRODUCTION**

Health system strengthening is the foundation for achieving all targets being set in the health sector from health for all by year 2000, millennium development goals by 2015 and now the sustainable development goals by 2030. Of the six pillars of health systems the most frequent bottleneck in most developing countries is the human resources.<sup>2</sup> The WHO recommends the minimum human resource for health density necessary to attain universal access to health to be 23 per 10 000 population.<sup>3</sup> Few countries in the African Region meet that magic number and have figures that are threatened by gradual decline due to brain drain of the elite staff to developed countries where the remuneration packages are perceived to be better. However, financial remuneration is not the only factor. Other factors such motivation by recognition and nonfinancial incentives including the need for professional development, better quality of life and personal safety play an equally important role.4

The human resource management cycle has four key facets which have to be addressed simultaneously in order

to have sustainable capacity to deliver equitable health services. These interdependent components are production, recruitment, deployment and retention of the resources especially in hard to reach areas where these services are mostly required.<sup>5</sup>

Retention of health workers in hard to reach or rural areas has been one of the drivers of health service inequity characterized by poor health outcomes. Although monetary incentives have been shown to increase job satisfaction it is by no means the only one. Some provisions such as accommodation, flexible leave conditions, water and sanitation and safe drinking water. Availability of supportive supervision and refresher training play important roles in motivating staff and making them stay wherever they are operating from in spite of the rural or urban setting.

The government of the Republic of Zambia has focused on the health system approach of improving outcomes in the health sector. The most notable has been construction of infrastructure especially the road highways as well as feeder roads and 650 health posts with staff accommodation with the target to reduce the distance to the nearest health facilities to less than five kilometres. The government approval to recruit nearly 10,000 health workers in the next financial year is a huge boost to the capacity to make the health posts functional and fully operation since there are unemployed qualified staffs that can be recruited to fill the new establishments. The new human resource support can increase the staff to population to nearly 20 per thousand just falling short of the minimum as recommended by the WHO for attainment of 80% of universal access to health care.3 With the proposed numbers of staff earmarked for recruitment, the subject of motivation to retention becomes highly topical in Zambia as the missing.

The government has recently been supported by partners to strengthen capacity building through e-learning by operationalizing state of the art online training facility in Central Province to address non-financial motivation of the health workers through holding of refresher and preservice and in-service training sessions.

The purpose of this study was to document the process of establishing a purpose built e-learning facility for national use for providing training and skills transfer to health workers as a modality to motivate them and thus retain them where they are currently based.

# **METHODS**

This was a prospective study that examined the impact of engagement of partnerships in the health sector in Zambia. There have been visitations by various partners to the Chainama Clinical Officers' Training School in Kabwe; Central Province where the e-learning facility is being established. Funds from the United Nations Trust Fund channelled through WHO and UNICEF were applied to procure state of the art equipment and software and licensure for the requisite software.

## RESULTS

The Ministry of Health maximized the prevailing thriving partnership in the health sector by allocating accommodation to e-learning using resources from RMNCH Trust Fund. WHO dedicated technical support for this concept in close liaison with Ministry of Health officials in Central Province. The facility can accommodate 36 students and is earmarked to be a training facility equipped with appropriate equipment and software to cater for the entire spectrum of diseases and conditions in Zambia. This is an institution which can support the human resource cycle of production, recruitment, deployment and retention.

Once fully functional in October 2016, the outputs from the institution will fit in the Ministry of Health plans where it has targeted to improve the 6 pillars of health systems in Zambia in a holistic manner. Service provision has been one highest on agenda through building of new district infrastructures such as district hospitals and more than 650 health posts throughout the country.

# **DISCUSSION**

Health workers in Zambia have long since identified some of the non-financial motivations they need such as supportive supervision and professional development with refresher online training on continual basis. Opening of this institution will come at the right time to achieve this non-financial motivator. The Ministry of Health maximized partnership working relationships to mobilize resources for e-learning a hitherto far-fetched target for

human resource strengthening because of non-availability of requisite funds. It has harnessed accommodation facilities in the recently renovated Chainama College of Health Sciences campus in Kabwe and resources from the United Nations for this purposebuilt facility for training health workers through elearning to provide the much needed supportive supervision and profession career development. It is anticipated that the entire national health force will go through this facility on rotation to provide refresher courses during the time they are under employment in the health sector. 

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The sustainability of the investment by the government in the construction/refurbishment of hospitals including district hospitals for the new districts, new health posts in new and pre-existing districts, extensive road networks and the new expansion of the human resource for health establishments requires swift application of appropriately innovative interventions. The full human resource cycle needs to be addressed with similar impetus; production, recruitment, deployment and retention. Special single mindedness now needs to focus on deployment and retention because the first two are already under way.

Professional development, staff accommodation and other social amenities, electricity and water and sanitation provisions have been reported as the needs that motivate staff from studies on health in southern Africa. In fact improved professional development, staff safety were the key drivers for staff migrating from southern Africa to the rich countries. 9,10

The establishment of this e-learning facility in Central Province is not only geographically strategic but also quite timely. As most of the ingredients of improved staffing are in place the remaining driver of staff retention is supportive supervision and with it continued professional development through e-learning.

# **CONCLUSION**

The health sector in Zambia has put in place most of the key ingredients of the health system including strengthening the tenets of human resources for health management cycle. What remains is a dedicated thrust on retention and sustaining the interventions especially

professional development through e-learning and supportive supervision.

# REFERENCES

- Fehling F, Nelson B, Venkatapuramd S. Limitations of the Millennium Development Goals: a literature review. *Glob Public Health*. 2013 Dec; 8(10): 1109–1122.
- 2. Adam T, Hsu J, Lavis, *et al*. Limitations of the Millennium Development Goals: a literature review. *Glob Public Health*. 2013 Dec; 8(10): 1109–1122.
- 3. Brugha R, Kadzandira J, Simbaya J et al. Health workforce responses to global health initiatives funding: a comparison of Malawi and Zambia. *Hum Resour Health*. 2010; 8: 19.
- 4. Jayasuriya R, Whittaker M, Halim G, Matineau T: Rural health workers and their work environment: the role of inter-personal factors on job satisfaction of nurses in rural Papua New Guinea. *BMC Health Serv Res*. 2012, 12 (1): 156-10.1186/1472-6963-12-156.
- Chankova S, Muchiri S, Kombe G: Health workforce attrition in the public sector in Kenya: a look at the reasons. *Hum Resour Health*. 2009, 7 (1): 58-10.1186/1478-4491-7-58.
- Connell J, Zurn P, Stillwell B, Awases M, Braichet J-M: Sub-Saharan Africa: beyond the health worker migration crisis? *Soc Sci Med.* 2007, 64 (9): 1876-1891.
- Rockers P, Jaskiewicz W, Wurtz L, Kruk ME, Mgomella GS, Ntalazi F, Tulenko K: Preferences for working in rural clinics among trainee health professionals in Uganda: a discrete choice experiment. BMC Health Serv Res. 2012, 12: 212-10.1186/1472-6963-12-212.
- 8. Ruiz G; Mintzer M; Leipzig RM. The Impact of E-Learning in Medical Education Academic Medicine: 2006; 81: 207-212.
- 9. Rowe AK, de Savigny D, Lanata CF, Victora CG: How can we achieve and maintain high-quality performance of health workers in low-resource settings? Lancet. 2005, 366: 1026-1035.
- 10. Kotzee T, Couper ID. What interventions do South African qualified doctors think will retain them in rural hospitals of the Limpopo province of South Africa, Rural Remote Health. 2006;6:581.

# **ORIGINAL ARTICLE**

# Preparedness of Response to Deadly Outbreaks: Lessons Learnt From Zambia's Deployment to the 2014 African Ebola Outbreak

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# **ABSTRACT**

Background: West Africa experienced the largest outbreak of Ebola in 2014 in history involving three Mano River States of Sierra Leone, Liberia and Guinea. The World Health Organization (WHO) coordinated an emergency response from WHO Country Offices in many areas, including human resources for health services. WHO Zambia deployed human resources (HR) focal persons to Sierra Leone and Liberia to strengthen operations. The purpose of this paper is to document the contributions made by WHO Zambia human resources staff that were deployed for more than six weeks during this outbreak and areas of value of this exposure experience.

Methods: A review of standard operating procedures (SOPs) in an Ebola setting and experiences gained during the deployment of staff in Sierra Leone and Liberia were recorded systematically. Comparisons were made between experiences gained in the WHO offices situated in the Ebola outbreak setting and one outside such a setting. Lessons learned from this deployment were documented and where appropriate documentation adapted by staff upon return from the Ebola setting. The staffs were in an emergency setting for over six weeks in either Sierra Leone or Liberia.

**Results**: There were major similarities in settings affected by Ebola. Both the local and international staff members that visited the Ebola affected areas worked as a team towards the goal of ending the epidemic quickly. At these

sites, staff members discharged a variety of duties which involved facilitating recruitment, deployment, appointments, Special Service Agreements (SSA), Consultancies and Agreements of Performance of Work (APW). The HR staffs were also responsible for travel and logistics of international staff and consultants on duty travel and entitled for rest and recuperation. Recruitment processes were shorter with HR waivers being applied where necessary unlike in a WHO country non-Ebola office setting. Working hours were longer including weekends and it was normal for staff to be found working at the WHO office after office working hours, weekends and official holidays. People working at WHO compound avoided bodily contact, including a specified contact distance, to minimize the risk of exposure.

Discussion: The participation or exposure of staff to an Ebola setting during an outbreak built a strong culture of staff enabling them to work under harsh conditions which were characterized by long hours and constant recognition of the threat of disease enabling a quick adaptation to different culture and lifestyle which had a positive impact. Some of the lessons learnt included improved work efficiency, built staff resilience to work long hours under stressful conditions and consciously managing aseptic techniques.

**Conclusion**: Exposure to some adverse conditions such as managing work operations in the midst of a deadly outbreak such as Ebola may have a positive impact on the work culture of the individual exposed to this setting and the organization as a whole.

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# INTRODUCTION

The World Health Organization (WHO) has the mandate to ensure timely intervention during emergencies in the health sector. The Organization is the understood leader of the health cluster globally according to the International Health Regulation (IHR) 2005.<sup>2</sup> WHO has the mandate to implement this legally binding international law to lead partners and member states to save lives and livelihood from public health events, especially public health emergencies of international concern. The test case for IHR 2005 was the global response to the H1N1 influenza pandemic of 2009.<sup>3</sup> During this public health of international concern the WHO made a global call for scientists and experts in influenza and virology in general to come forward and support member states largely in Asia and the Middle East. That was successful and a lesson to learn from.

In 2014 West Africa was confronted by the largest and most complex Ebola outbreak in the history of the disease where more than 30,000 people were infected and more than 11,000 died from the disease.<sup>4</sup> At the peak of the outbreak the WHO made a clarion call to all member states, institutions and experts to support West Africa to contain this deadly outbreak.

In response to the Ebola outbreak Zambia WHO Country Office deployed ten staff members to support West Africa in various areas of expertise including, health promotions, logistics, procurement, budget and finance and human resources areas of work. The purpose of this paper is to document the experience and lessons learnt by the human resource personnel that were deployed to Sierra Leone and Liberia in 2015.

## **METHODS**

To document the experience and best practices during the time of the assignment in Sierra Leone and Liberia between March 2015 and January 2016. Staff with different expertise, ranging from human resource management, procurement and logistics were deployed to specific areas depending on their terms of references and worked with staff members from other participating countries.

# **RESULTS**

In these emergency settings, the results are reported in form of lessons learnt in order to limit exposure to the Ebola virus.<sup>5</sup> In the WHO office compound stringent measures were put in place to restrict the transmission of the Ebola virus. Hand-shakes between staff were not allowed and staff was provided with hand-sanitizer and the use of sanitizer were encouraged by both the local staff and international staff was at all times. Buckets containing antiseptic for hand washing were strategically placed at entry points and around the WHO Compound for use by everyone. All those entering into the WHO office compound were requested to have their body temperature taken. WHO encouraged staff to use recommended housing units for their occupation in the City, mostly those recommended by the United Nations Security Advisor. Staffs were not allowed to attend funerals and were informed to buy their personal requirements only from WHO-recommended markets or shops.

The use of public transport was not allowed and only WHO vehicles and WHO-hired vehicles were allowed for personal and official use. Other safety procedure ensured that the purchase of foods was only done in recommended shops.

Due to the many recruitments and deployments involving staff and consultants working for the Ebola Virus Program, staff worked longer working hours and it was normal for staff to be found at the WHO office after working hours, weekends and on official holidays.

Recruitment processes were shorter; waivers were applied while still complying with WHO policies and procedures to fast tract operations, during the Ebola outbreak. Upon arrival at the Ebola mission, emergency medical kits were provided to arriving staff as a mandatory procedure for use in case of an emergency illness. Additionally, the Designated United Nations Doctor at the United Nations Clinic was available and on call at all times and the United Nations; Security Advisor was also available to provide the necessary field security and safety guidance.

Overtime, the following were clearly observed and noted: Experience gained by staff in the outbreak setting helped others in building up resilience to work for long working hours and to manage operations in an emergency setting more effectively. Professional capacity and ability were built to survive in extreme difficult conditions and staffs were able to work under stress with minimum supervision. Additionally, staff demonstrated ability to manage their lives within the limited allowed surroundings.

The spirit of team work among the staff working in an Ebola setting enabled them to gain experience and opportunity of working with people of diversify culture, nationalities and backgrounds.

Despite staff working in such demanding stressful environment, there was feeling of accomplishment towards the end of Ebola virus in West Africa. At the end of the mission staff were entitled to compensatory leave based on a day off for every week spent at the Ebola response mission.

## DISCUSSION

The WHO staff in Zambia in the human resources department who were deployed to West Africa during the peak of Ebola outbreak experienced a threatening environment from possible infections by the deadly Ebola virus. They shared their work with people coming from diversified culture, racial and religious backgrounds for the common good with an environment that had a potential risk. The staffs were expected to adapt, adjust, learn and develop capacity on handling human resources procedures and practices that were characterized by speed and accuracy within the WHO rules and guidelines. The capacity and skills learnt by WHO Zambia staff in West Africa area benefited not only the staff themselves, but also Zambia as a country because they have capacity both for preparedness and response to outbreaks of a similar magnitude in future. This was not the first outing orchestrated by the WHO. There have been other public health events previously where capacity transfer was deemed necessary such as during times of emergencies of the H1N1 pandemic of 2010-2013 and other Ebola outbreaks.3

It is anticipated and envisaged that the same capacity among the human resource staff is going to be sustained and used in the future. The skills referred to include being able to handle different modalities of recruitment using different working arrangements such as Agreement of Performance of Work, short term consultancy, technical assistance, Special Service Agreements within diversity cultures and international terrain.

In conclusion, the deployment of the human resources staff to West Africa has provided an opportunity for Zambia to prepare on how best to respond to potential outbreaks and provided staff with necessary resilience and team work spirit to provide such services when called upon to other countries in need of their services should potential public health emergencies of international concern present themselves. Participation in emergencies should be encouraged to increase preparedness and coordination and effective communication amongst the different levels of WHO.

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# REFERENCES

- WHO: Twelfth General Programme of Work 2014-2019. World Health Organization, Geneva, Switzerland.
- 2. WHO: International Health Regulation (IHR) 2005. World Health Organization, Geneva, Switzerland.
- Fineberg HV, Pandemic Preparedness and Response
   Lessons from the H1N1 N Engl J Med 2014;
   370:1335-1342
- Baden LR, Kanapathipillai R, Campion EW, Morrissey S, Rubin EJ, Drazen JM. Ebola- An ongoing crisis. N Engl J Med, 2014: 371; 1458-1459.
- WHO: World Health Organization, Geneva, Switzerland, Emergencies Preparedness, Response, Alert and Response Operations. WHO: World Health Organization, Geneva, Switzerland: WHO Ebola Outbreak Response Handbook for Health and Safety.
- WHO: United Nations Field Security Hand Book, United Nations Department of Safety and Security. World Health Organization, Geneva, Switzerland.