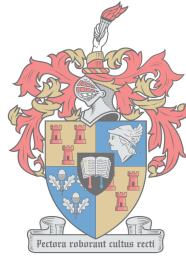# An Ethical Analysis of the 2014 Ebola Outbreak

in West Africa

by

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Thesis presented in fulfilment of the requirements for the degree of Master of Philosophy (Applied Ethics) in the Faculty of Arts and Social Sciences at Stellenbosch University

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Declaration

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

December 2018

ABSTRACT

The recent phenomenon of Ebola Viral Disease's (EVD) rapid spread and difficulty in containment in the West Africa countries of Guinea, Liberia and Sierra Leone during 2014 drew the attention of the international community. Various ethical questions were raised as to how the disease spiralled out of control and the reasons for the severity of the outbreak. The study evaluated three main areas of ethical concern: ethical issues relevant to the healthcare workers, the status of the public healthcare systems and the social determinants of health in the affected countries, and the role of the global community and global bioethics. Findings indicated that moving away from the normal day-to-day routine of medical care to disaster situations calls for different standard of practise. Medical ethics codes are currently insufficient to assist healthcare workers with rapid decision-making. The healthcare systems and key health determinants in the affected areas indicated that these regions were woefully unprepared to face the deadly EVD outbreak. The failed public healthcare systems and poor infrastructure and history of political instability in the three regions must be interpreted not just as a political failure, but as an ethical failure. The access to basic household services and healthcare infrastructure in the affected regions in West Africa and in most of Africa is a critical component in ensuring global health justice. The importance of global bioethics on the agenda of governments and organisations is critical to ensure global health.

EKSERP

Die onlangse uitbraak van Ebola-virus-siekte (EVS) in die Wes-Afrika-lande van Guinee, Liberië en Sierra Leone gedurende 2014 het aandag getrek vanaf die internasionale gemeenskap. Verskeie etiese vrae oor hoe die siekte buite beheer geraak het en wat die hoofredes vir die erns van die epidemie was, het onstaan. Die studie het drie hoofareas van etiese kwessies in ag geneem: etiese kwessies wat relevant is tot die gesondheidswerkers; die status van die openbare gesondheidsorgstelsels en die sosiale determinante van gesondheid in die geaffekteerde lande; die rol van die internasionale gemeenskap en globale bio-etiek. Bevindinge het aangedui dat die afwyking vanaf die normale daaglikse roetine van mediese sorg na rampsituasies verskillende praktykstandaarde vereis. Mediese etiek-kodes is tans onvoldoende om gesondheidswerkers te help met vinnige besluitneming. Die gesondheidsorgstelsels en belangrike gesondheidsdeterminante in die geaffekteerde gebiede het aangedui dat hierdie gebiede onvoorbereid was om die dodelike EVS-uitbraak effektief te bekamp. Die mislukte openbare gesondheidsorgstelsels en swak infrastruktuur en geskiedenis van politieke onstabiliteit in die drie lande moet nie net as 'n politieke mislukking geïnterpreteer word nie, maar as 'n etiese mislukking. Toegang tot basiese huishoudelike dienste en gesondheidsorginfrastruktuur in die geaffekteerde lande van Wes-Afrika asook meeste ander lande in Afrika is 'n kritieke komponent om wêreldgesondheidsregtigheid te verseker. Dit is krities dat bio-etiek ingesluit word op die agenda van wêreldwye regerings en organisasies om toekomstige uitbrake beter die hoof te bied en so wêreldgesondheid te verseker.

ACKNOWLEDGEMENTS

I want to dedicate this thesis to the healthcare workers that worked countless hours during the 2014 Ebola outbreak without fear or prejudice and with the ultimate goal to save the lives of innocent victims of this deadly disease.

On my own I would not have been able to complete this study. I want to give my sincere thanks to:

- My Father giving me the ability and grace out of His favour;

- My dear husband and children for their unending love and support;

- My friends for patiently listening and for their encouragement;

- My colleagues for insightful debate and continuous support;

- My supervisor, for her patience, wisdom and diligence to guide me to completion.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ACRONYMS

AIDS   Acquired immune deficiency syndrome

CDC   Center for Disease Control and Prevention

EVD   Ebola virus disease

HIV   Human immunodeficiency virus

MSF   Médecins Sans Frontières (Doctors without borders)

SARS   Severe acute respiratory syndrome

WHO   World Health Organization

CHAPTER 1: Ethical questions following the Ebola outbreak in West Africa

1.1 **Introduction**

The recent phenomenon of Ebola Viral Disease's (EVD) rapid spread and difficulty in containment in the West Africa countries of Guinea, Liberia and Sierra Leone drew the attention of the international community. The deadly disease was first reported by the *Médecins Sans Frontières* (MSF) Geneva office on 14 March 2014. The call came from the Ministry of Health in Guinea. By then many of the health care workers who had been taking care of the sick had fallen ill and died. The Ebola outbreak ignited widespread fear on a global scale. It was declared an epidemic and Public Health Emergency of International Concern. Since then, and to date, 11 315 people have died from the disease and there are more than 10 000 survivors (WHO, 2016).

1.2 **Ethical questions during the Ebola outbreak**

Various ethical questions were raised by the EVD epidemic. These include questions around the use of untested interventions in disaster situations, and questions around who should receive such interventions if they are in short supply. Questions were also raised around the failure of local health care systems, and inequitable global access to health care resources (Dhai, 2014:42, Rid & Emanuel, 2014:1896, Yakubu *et al*., 2014:e1, MSF, 2015:21). In this thesis, I will attempt to address some of these questions.

1.3 **Problem statement, aim and objectives of the study**

Thousands of health workers risked their lives to help control the EVD outbreak while facing stigma and fear in their own communities. Nearly 500 healthcare workers died in the midst of the EVD crisis in Guinea, Liberia and Sierra Leone (MSF, 2015:21). Questions were raised as to how the disease spiralled out of control, and why the world was so slow to react and respond to the severity of the outbreak. The problems with the spread and containment of the disease and the slow reaction of international health and aid systems were identified as a major contributing factor to the number of cases and deaths in Sierra Leone, Guinea and Liberia (Kass 2014:744; Rid & Emanuel, 2014:1896, Yakubu *et al*., 2014:e1, MSF, 2015:21).

The aim of this study is to identify and analyse the ethical dilemmas experienced by various stakeholders during the outbreak. In other words, the purpose and objective of the study is to identify and interpret the ethical dilemmas that EVD has raised on different levels and for different stakeholders. This is a qualitative study using an exploratory approach.

The study looked at the main ethical concerns that are relevant to specific stakeholders. The major areas of ethical concern were clustered into three groups. These are:

- Ethical issues that arise with regard to healthcare workers. Here I have discussed the ethical dilemmas faced by healthcare workers in the clinical situation with specific reference to the duty to care and ethical codes during disaster situations.

- The context of the EVD outbreak. I will focus particularly on the status of the public healthcare systems and the social determinants of health and political climate in the affected areas. This was discussed within a public health ethics perspective.

- The role of the global community, and the impact of EVD on global bioethics.

1.4 **Principles in ethics**

Moodley (2011:3) argues that healthcare professionals encounter difficult ethical and clinical questions on a regular basis and will be held accountable for the decisions they make. Moodley (2011:3) further explains that ethics is a large and complex field of study as it deals with all aspects of human behaviour and decision making and is firmly situated within the discipline of philosophy. Meta-ethics is a field of ethics that studies and develops theoretical approaches to solve ethical problems and the systems of moral reasoning developed by these philosophers are referred to as ethics theories (Moodley, 2011:4).

The four-principle approach in biomedical ethics as developed by Beauchamp and Childress is patient-centred and holistic and influential today in healthcare ethics. The four principles are the principle of respect for autonomy; the principle of nonmaleficence; the principle of beneficence and the principle of justice. In the following four paragraphs, an explanation of each principle will be given.

Respect for autonomy is the respect for the autonomous, rational decision of another person. The person must understand the situation and have the mental and emotional capacity to make

a decision with the necessary information. When a decision is made based on an understanding of the factual information regarding a specific situation, the decision is made from an informed perspective. Respect for autonomy obligates professionals providing health care and conducting research involving human subjects to disclose information, to probe and to ensure understanding and voluntariness and to foster adequate decision-making. However, obligations to respect autonomy do not extend to persons who are immature, incapacitated, ignorant, coerced or exploited and cannot be rendered autonomous. In this study the autonomy of health care workers as well as patients will be taken in consideration. (Beauchamp and Childress, 2013:94)

"*One ought not to inflict harm or evil*"

Nonmaleficence means that one ought to prevent harm and promote good. Harm means to set back the interests of an individual, and the infliction of harm or evil includes the intention to cause or permit death or risk of death. In this sense harm includes physical harm, the infliction of pain or disability, causing death, as well as mental harms and other setbacks of interests. The rules specifying the principle of nonmaleficence and its specifications are *prima facie* and not absolute: do not kill, do not cause pain or suffering, do not incapacitate, do not cause offence and do not deprive others of the goods of life. (Beauchamp and Childress, 2013:152)

The principle of beneficence is understood as the obligation to benefit. This includes the prevention of harm, doing good to others, and rescuing persons from danger. Beneficence is governed by five conditions: one needs to show beneficence where there is a significant risk of loss of health, life or interests; one should prevent loss or damage; refrain from increasing risks,

burdens or costs; and benefits should outweigh any harms, cost or burdens. The authors encourage drawing on all the principles when assessing beneficence (Beauchamp and Childress, 2013:204).

The principle of justice is concerned with inequalities in health care and health status, and how these inequalities should be dealt with in communities and by public health institutions. Philosophically, justice is the concept of what is deserved (fairness, desert), and involves an attempt to determine what is due to or owed to persons. The term distributive justice refers to fair, equitable and appropriate distribution of benefits and burdens, determined by the norms that structure the terms of social cooperation. Due to limitations on and shortages of medical equipment and facilities, waiting lists and referral systems are in place and disparities are experienced when assigning priority. It is often poor and disadvantaged groups without access to private health care insurance that are disadvantaged in these systems, and the principle of justice considers such difficulties specifically (Beauchamp and Childress, 2013:261).

Bioethics is the application of ethics to the biological and medical sciences. In analysing the three main areas of ethical concern identified, I will refer to various concepts and debates from the larger bioethical literature. This will include reference to the principles of bioethics, as well as ethical norms and debates in the areas of clinical ethics, research ethics, public health ethics and global bioethics.

1.5 **Chapter layout**

This study will focus on three main areas of ethical concern related to the recent EVD outbreak in West Africa. These three main areas of concern relate to: 1) healthcare workers; 2) the context of the outbreak, and particularly the status of health and healthcare in the affected regions; and 3) the role of the global community and impact on global bioethics. In the following chapter (Chapter 2), EVD will be contextualised in terms of background, the rate and extent of infections, and factors that impeded the containment of the disease. In Chapter 3, ethical dilemmas faced by the healthcare workers will be discussed, making specific reference to the notion of the duty of care, and the use of untested interventions. In Chapter 4, the political background of the affected areas (Liberia, Sierra Leone and Guinea), the state of the public healthcare systems, and the social determinants of health in these countries will be discussed from a public health ethics perspective. Chapter 5 will discuss the role of the global community and impact on global bioethics. Chapter 6 will conclude the study with a summary of the main findings.

1.6 **Concluding remarks**

Before moving into the main areas of ethical concern identified in this study, it is necessary to provide further information about EVD. To this end, in the next chapter, an overview of EVD will be given with specific reference to EVD as an infection, the terror of the recent outbreak in West Africa, and factors impeding on the containment of the outbreak.

CHAPTER 2: The Ebola outbreak in West Africa

2.1 **Introduction**

The Ebola outbreak in West Africa has been described as unprecedented in the history of this disease. In this chapter, background on EVD will be discussed followed by an overview of how the epidemic unfolded in West Africa. A discussion of the factors impeding on the spread of EVD, the impact on the healthcare workers and a brief account of the use of unregistered interventions will conclude this Chapter.

2.2 **Background**

Ebola is a zoonotic filovirus from the strain *Zaire ebolavirus* (EBOV). It is a RNA virus of the family *Filoviridae* and genus *Ebolavirus*. Five different strains have been identified namely, *Zaire ebolavirus* (EBOV), *Sudan ebolavirus* (SUDV), *Tai Forest ebolavirus* (TAFV), *Bundibugyo ebolavirus* (BDBV) and *Reston ebolavirus* (RESTV). Past human outbreaks have been linked to three Ebola strains: EBOV, SUDV and BDBV (Chowell and Nisiura 2014:e2). The deadliest of the three, namely the EBOV, was first identified in 1976 in the former Zaire (now Democratic Republic of the Congo). Fruit bats are considered to be the primary host, and human infections stem from direct exposure to these bats or intermediate infected non-human hosts that are usually primates (gorillas, chimpanzees and monkeys), as documented by Chowell and Nisiura (2014:e2).

18

2.3 **The infection**

Ebola virus transmission appears to be unlikely during the incubation period, but the risk increases with the onset of the disease and with contact during the later stages of the infection (Stein, 2014:54). Ebola is a zoonotic disease, and the viruses implicated in human outbreaks originated in live or dead animals (Stein, 2014:52). EVD is spread through direct contact (through broken skin or mucous membranes) with blood or bodily fluids (urine, saliva, sweat, vomit, breast milk and semen) of an infected person. Transmission can also occur through the use or handling of objects (needles and syringes) that have been contaminated with the virus (McCoy *et al*., 2014:724). Studies conducted by the World Health Organization (WHO) during the outbreak only reported one case where the heavily soiled blankets of an infected person, who later died, transmitted the disease to a partner (Hunter, 2015). There is a high risk of transmission of the disease in the later stages. There is no evidence that Ebola can be transmitted through air, water or food.

EVD is referred to as an envelope virus, meaning viruses entering the host will fuse with the membrane's host to form an outer lipid layer of glycoprotein and lipoproteins, and in doing so, will evade the host's immune system (Hunter 2015). The symptoms appear between two and 21 days after infection. During the incubation period an infected person may show no signs of the disease. Symptoms of EVD includes a high fever of above 38.6 degrees Celsius, severe headache, muscle pain, weakness, diarrhoea, vomiting, abdominal pain and unexplained haemorrhage (McCoy *et al*., 2014:724). Diagnosis may be difficult, as symptoms often overlap with other common conditions in the areas that are usually affected, such as malaria (Stein, 2014:51). Interestingly enough, one of the typical symptoms of EVD was the hiccups (MSF, 2014:5). Knowing the history of the patient, for example, whether the person has recently

travelled to an area where EVD is prevalent, can assist greatly in the diagnosis of cases (McCoy *et al*., 2014:724).

2.4 **Terror of the epidemic**

On 31 March 2014, the MSF reported the outbreak as unprecedented due to the wide geographical spread of the cases. The MSF reported that EVD had been spreading undetected for three months before the alarm was sounded, which is not unusual as the past eight EVD outbreaks each took two months on average to be discovered (MSF, 2015:6). The difference between this outbreak and past outbreaks was that previously outbreaks had mostly taken place in remote villages in central and eastern Africa where they could be contained. In this case, EVD erupted in Guinea, Liberia and Sierra Leone where people regularly move across borders. Initially, 60 international MSF staff were deployed to Guinea to set up three management centres in Guéckedou, Macenta and Conakry. However, here the hotspots were so widespread that it was impossible to contain the virus and treat patients. When the first case was reported in Liberia, one MSF team had to relocate to Monrovia and Faya to train healthcare workers to tackle the virus. At first, suspected cases from Sierra Leone were reported as negative, and resources were not deployed there. When it became evident that assistance was needed, staff were very thinly spread, and while setting up the management centre in Kailahan, MSF realised that their efforts had come too late to contain the virus. They had to triple resources to assist with the need in Sierra Leone. By late June 2014, the virus was active in more than 60 locations in Guinea, Liberia and Sierra Leone. On 21 June 2014, MSF publically raised the alarm that the disease was out of control. Unfortunately the reaction to this alarm from the central authorities in these countries, and from the WHO, was to downplay concerns, and the MSF was accused of causing unnecessary panic.

EVD also spread to the neighbouring country of Nigeria in late July 2014 via an air passenger from Liberia. Although the virus entered Lagos, a city of 20 million, only 20 people were affected and only 8 deaths were recorded (MSF, 2015:12). During EVD training in Senegal on invitation of the Senegalese government, the trained MSF healthcare workers were also able to take care of another EVD case identified in Dakar in August 2014. One week later, 100 of the contacts of this case had been traced and medical staff in the nine regions of Senegal most at risk had also been trained by MSF staff. No other cases were subsequently reported in Senegal. In Mali, the first case reported on 23 October 2014 was a two year old girl. Here the MSF constructed an EVD management centre in Bamako and in the town of Kayes. MSF embarked on hands-on training, which included providing information on safe burials and surveillance, in order to strengthen Mali's weak healthcare system and mitigate for the lack of sufficient resources. Overall, eight cases and six deaths were reported in Mali. It is thought that the rapid response and strict surveillance contained and minimised the disease in the countries of Nigeria, Mali and Senegal (MSF, 2015:12).

The worst affected countries, Liberia, Guinea and Sierra Leone, were less fortunate. One of the hardest hit treatment centres was the one the MSF constructed in Monrovia, Liberia. The centre provided 250 beds and was the largest treatment centre for Ebola ever constructed, but this was not enough. By the end of August 2014, the centre in Monrovia could only be opened for 30 minutes every day. Only a few patients could be admitted to fill the empty beds of those patients who had died overnight. Outside the gates, people were dying on the gravel, lying in the streets. One father brought his sick child to the centre in the boot of his car, pleading for them to open the gate to take the child so as not to infect his other children at home. He was turned away (MSF 2015:10). The stark reality was that they were understaffed and had to maintain

regulations in conditions that can only be described as horrific. With one bed per patient, and only palliative care available, staff could only spend one minute with each patient in daily rounds (MSF, 2015:10). This example gives an indication of the difficulties experienced at the height of the outbreak.

2.5 **Impact on healthcare workers**

The personal protective equipment (PPE) used by the doctors and nurses that attended to the infected patients was an eight piece suit, called a "space suit" by some. During the outbreak the ground temperature in some areas reached 46 degrees Celsius. "We have to move and breathe slowly due to the overpowering heat, limiting us to spending an hour maximum inside at a time", noted a Dr de Clerck (MSF, 2105:17). To take off this suit entails a 12-step process which can take up to 20 minutes, so as to avoid contamination and infection from the soiled clothes. This process has to be undertaken three times a day, limiting staff's ability to spend crucial time with patients. Many or most of the staff had to disregard their own safety to give care to the dying patients (MSF, 2014:17). The heavy burden of caring for the dying, the lack of treatment options, and the fact that only home care disinfection kits were available for the many local healthcare workers in the community, raised the risk to the staff to alarmingly high levels (MSF, 2014:17). Nearly 500 healthcare workers lost their lives in the epidemic. The others remembered how they had to fight in isolation, and in fear, only able to offer three meals a day, fluids, tablets, antimalarials and painkillers as treatment (MSF, 2015:21). In the next chapter, the ethical challenges faced by healthcare workers during the Ebola outbreak will be discussed in more detail.

2.6 **Factors impeding containment**

Chowell and Nishiura (2014:e8-9) indicated that previous outbreaks could easily be contained as they usually occurred in rural areas, as also noted above. The infected patients could be isolated and their trail of transmission could easily be plotted back to the index case. The unprecedented size of the 2014 Ebola outbreak could have been influenced by high population mobility across invisible borders and secondary transmissions linked to healthcare settings. Economic and sociocultural factors, together with the delay in identifying the outbreak in urban settings, hindered a timely and effective implementation of control efforts in the region (Chowell and Nishiura, 2014:e9). According to Chowell and Nishiura (2014:e9) three factors contributed to the severity of the outbreak: (1) the lack of essential supplies to implement infection control measures in health care settings; (2) the scarcity of healthcare workers and staff to manage the growing case burden, and also to carry out tracing activities to find and isolate new cases quickly; and (3) the absence of epidemiological surveillance for the timely identification of case clusters. Other factors played a huge role, such as distrust in healthcare personnel, lack of essential services such as water and sanitation in dwellings, unsafe burials (the washing of bodies is part of local cultural ritual), inadequate personal hygiene such as regular hand washing, and lack of non-Ebola related healthcare such as vaccinations, obstetric care, and care for chronic diseases (MSF, 2015:7;21; Hunter, 2015).

2.7 **Unregistered interventions**

During August 2014, MSF partnered with the WHO, Ministries of Health and pharmaceutical companies to trial experimental treatments and vaccines in the midst of the outbreak (MSF, 2015:18). Rid and Emanuel (2014:1896) reported that the Liberian Government requested

Zmapp[1] for some healthcare workers. Since Zmapp was still in the early phases of development, limited doses were available, and the short supply was soon exhausted and use was restricted (Rid & Emanuel, 2014:1896). Data on the successful use of Zmapp in primates was available, but it was still in the pre-trial stage for use in humans (McCoy *et al*., 2014:724).

The first EVD experimental treatment trial took place during December 2014, at the MSF centre in Guéckédou, Guinea for the drug Favipiravir (MSF, 2015:18). During this time, three non-randomised trials for Favipiravir were initiated, and randomised clinical trials for Zmapp followed in March 2015 (Sissoko *et al.*, 2016:15). The outcome of these trials will be briefly discussed in Chapter 3.

2.8 **Concluding remarks**

In this chapter EVD was contextualised by providing background on the infection and factors that played a significant role during the outbreak. The impact of the Ebola outbreak on healthcare workers was significant. In the following Chapter, the ethical challenges faced by the healthcare workers will be discussed making reference to the notion of duty of care and the use of unregistered interventions.

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[1] Zmapp was an antibody monocolonal drug from Mapp Biopharmaceutical used in a trial called PREVAIL II

CHAPTER 3: Ethical challenges faced by healthcare workers during the Ebola outbreak

3.1 **Introduction**

During the Western African EVD crisis, nearly 500 healthcare workers lost their lives. It was not only the affected countries that lost crucial capacity in the healthcare sector but the number includes many volunteer healthcare workers from outside these regions. Healthcare workers in disaster situations have to face ethical choices that are far removed from those that arise in their normal practise or in everyday life. The EVD crisis was also different from other disaster situations, considering the life-threatening moment-to-moment decision-making that was required of healthcare workers (Mallia, 2015:3).

In the first part of this chapter, the real-life experiences of healthcare workers amidst the epidemic will be described in order to provide some context. The second part of the chapter will discuss the various ethical dilemmas that healthcare workers had to face during the epidemic. The belief that healthcare workers have an obligation of care will be discussed with respect to emergency and disaster situations. In the final part of the chapter, the ethical challenges facing healthcare workers with regard to treatment interventions will be discussed.

3.2 **In the midst of the epidemic**

The unprecedented spread of EVD contributed to the devastation of the outbreak. MSF (2015:12) reported that when the disease exploded across the three worst affected countries,

there was not enough time for adequate training, and untrained staff had to be deployed in the field. Ebola also crossed borders into Nigeria, Senegal and Mali. Since these governments were alerted timeously, they were able to respond with the help of MSF and succeeded in containing the disease. MSF also reported that 2 300 infected patients survived the disease in Liberia, Guinea and Sierra Leone (MSF, 2015:16). EVD patients need symptomatic treatment and intensive care, and better supportive care improves the patient's chances of survival (Briand *et al*., 2014:1182). Elements that may impact on mortality is the severity of the infection at admission (the viral load), the age of the patient, pre-existing health status, coexisting infections, nutritional status and the availability of intensive supportive care (MSF, 2015:16).

EVD provokes universal fear that is very real and common in life-threatening disease outbreaks. The devastation of the sick and dying patients and the painful and distressing symptoms of EVD caused extreme public anxiety, not only in the communities affected, but also among healthcare workers themselves (MSF, 2015:11).

The following accounts were taken from healthcare workers in Monrovia, Liberia, where EVD was at its fiercest:

> We had two choices – let those in who were earlier in the disease, or take in those who were dying and the most infectious. We went for a balance. We would take in the most we safely could and the sickest. But we kept our limits too – we refused to put more than one person in each bed. We could offer very basic palliative care and there were so many patients and so few staff that the staff had on average only one minute per patient. It was an indescribable horror (Crestani, cited in MSF 2015:10).

Brett Adamson, a MSF field coordinator in Monrovia, summarised the agony and distress that healthcare workers had to endure (MSF, 2015:11):

> I am horrified by the scale of the centre we're constructing and the horrible conditions inside, what people are enduring. It's horrible what our staff are having to do, with the risk and the heat. We're struggling to deal with the number of patients. We're trying to adapt and build as the need increases, but we're not keeping up. We feel tremendous guilt and shame that we can't adequately address the needs of the people.

Dr Javid Abdelmoneim, an MSF doctor in Sierra Leone, related his experiences (MSF, 2015:17):

> We are all scared of Ebola, and rightfully so. It is something in the way it is emitted – through the blood, sweat and tears of human beings. Imagine being the patient, you are sick and scared, your doctor is fearful, and when he comes to you he is unrecognisable in a space suit. And what are my tools to heal my patient? A bed, three meals, fluids, tablets, antimalarials, painkillers. I do my best to make sure your immune system is able to fight Ebola as best as it can. But in the end I am physically isolated from my patients and, when I get to them, I can only say that you have around 50 percent chance of dying and I can do very little about it for you.

Barbara Bono, a healthcare worker in Monrovia, Liberia during March 2014 relates that the virus was initially unknown to them before they received training (WHO, 2015:e1)

> In the training, we used proper protective gear, but at the hospital we only had basic gowns and aprons…We doubled our gloves when in contact with suspected cases. But

we had no rubber boots, no goggles, none of the heavy zipped PPE that would help protect us. The situation at the hospital was growing increasingly chaotic and frightening. Health centres in the area were collapsing like dominoes and few Ebola treatment centres were going up. Patients were flooding Elwa hospital, including many suspected Ebola cases, yet there was no triage set up, no system to isolate and screen suspected cases. Sick patients were everywhere and we were highly exposed. It was a terrible time. We knew that any of us could be infected at any moment and I was so afraid. But I came to work every day, out of concern, even though my relatives and my community were shying away from me.

The picture illustrated by the words of these healthcare workers shows the agony, fear and distress they had to endure. As part of their training and profession, physicians and healthcare workers have an obligation to care and provide treatment. According to Yakubu *et al.* (2014:e1), the medical guidelines used by Nigerian health professionals (*Rules of Professional Conduct for Medical and Dental Practitioners in Nigeria*) provided limited guidance for healthcare workers caring for patients during emergency situations. Healthcare workers only had access to limited supplies and infrastructure for managing EVD during the outbreak. The disease could not be controlled without running water, and factors such as climate control, and the lack of the necessary personal protection supplies, laboratory facilities and environmental sanitation contributed to EVD's devastating spread. Yakubu *et al.* (2014:e1) was of the opinion that these conditions affected the response to EVD in ways that had implications for patients and the healthcare workers. The very danger threatening the frightened patients also threatened the under-resourced healthcare workers. In the absence of clear guidelines, healthcare workers

faced a moral dilemma as their conscience urged them to care and to treat but the circumstances did not allow them to do so.

In disaster situations where there is a personal threat to life, the healthcare worker could be so concerned about the risks associated with the disease that quality of care may be compromised (Yakubu *et al*., 2014:e1). In the case of EVD, healthcare workers faced the risk of becoming infected with the disease due to the possible failure of PPE as a result of accidents or their substandard quality, violent patients, and improper decontamination management.

Many ethical dilemmas challenged their decision-making during the EVD outbreak. These were specifically to care and treat sick patients in failed healthcare systems. They had to endure the emotional trauma of not being able to care for those patients that have been sent away due to the lack of beds or to care for those with inadequate treatment. There was physical danger involved in facing patients and their families in showing sick patients away or when informing them of the patient's passing. Making life and death decisions in an inadequate facility, coupled with long hours and a life-threatening virus that may cause your own death, all placed immense pressure on decisions about treatment options to be made by healthcare workers. This higher than normal demand with regard to the duty to care, increased healthcare workers' own vulnerability (Yakubu *et al*., 2014:e1). In the next section of this chapter, guidance from codes of medical ethics with regard to infectious diseases will be discussed, with specific reference to the duty to care, in order to shed light on the difficulties faced by healthcare workers during these kinds of events. I will end the section with a discussion on decision-making during disasters.

3.3 Challenges to codes of ethics during a disaster situation

A disaster situation demands a move away from the normal care giving obligations and duties familiar to medical codes of conduct. The obligation and standard of care in a normal day-to-day hospital situation is different from that required in disaster situations. Professional codes of ethics have in the past provided inadequate guidance to healthcare professionals during infectious disease outbreaks, for example, during the human immunodeficiency (HIV)/acquired immune deficiency syndrome (AIDS) and severe acute respiratory syndrome (SARS) epidemics (Rudermann *et al*., 2006:e2). The code of ethics of the American Medical Association (AMA) tried to deal with these kinds of problems by reformulating their "duty to treat" principle in response to the increasing frequency of terrorist attacks. This code now provides specific guidance covering disaster situations, and now reads as follows: "Because of their commitment to care for the sick and the injured, individual physicians has an obligation to provide urgent medical care during disasters. This ethical obligation holds even in the face of greater than usual risk to their own safety, health or life" (Rudermann *et al*., 2006:e4; Torabi-Parizi *et al*., 2015:1461). However, Rudermann *et al*. (2006) argue that while this change is a step in the right direction, many professional codes still fall short when it comes to providing healthcare workers with guidance during infectious disease outbreaks. If one looks at the World Medical Association's (WMA) code of medical ethics, for example, specifically as it relates to emergencies; it requires that physicians give emergency care as a humanitarian duty until others are willing and able to give such care (WMA, 2006). However, this code is silent on the duty to care of healthcare workers during an infectious outbreak.

The Health Professional Council of South Africa (HPCSA)[2] has 16 booklets on ethical conduct and ethical rules and regulations. In Booklet 1, containing the general ethical guidelines for the healthcare professions, it states in item 5.1.13 that Healthcare practitioners should in emergency situations, provide healthcare within the limits of their practise and according to their education and/ or training, experience and competency under proper conditions and in appropriate surroundings. If unable to do so, one should refer the patient to a colleague or institution where the required care can be provided. In Booklet 15 item 10 it is stated that in the course of an epidemic, physicians will be directly involved with mass patient care, with mass immunization and antibiotic prophylaxis, with providing information to the public and in a variety of hospital and community efforts to control the epidemic. Thus physicians should participate with local and national health authorities to develop and implement disaster preparedness and response plans for intentional and natural infectious disease outbreaks. The ethical codes in the South African context are informative on emergency situations where physicians are protected in the sense that they only assist within their scope of practise and training. During epidemic situations, physicians are needed in mass patient care and efforts to control the epidemic. There are no specific codes for healthcare practitioners to prepare them for an infectious outbreak or disaster situation.

3.3.1 A duty to care

The duty to treat and take care of the sick is fundamental to the understanding of the role of any reasonable healthcare worker. Reid (2005:348) argues that the duty to care is not based upon virtues that are particular to the health professions, but derives instead from social

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[2] HPCSA – source obtained at http://www.hpcsa.co.za/Conduct/Ethics

reflection on what kind of response to an epidemic would accord with our shared values and needs, taking into account our common vulnerability to disease and death. Reid (2005) further explains that the issue with regard to the duty to care in the context of an epidemic is whether it is fair to expect healthcare workers to take on the risk of personal injury and death, and the associated psychological stress, in order to provide care to affected patients (Reid, 2005:351).

Healthcare workers who have to deal with this question during an outbreak face a difficult task as clear guidelines on what to do remains absent. Sokol (2006:1238) argues that the distinction between the duty to care, and actions which go beyond the call of duty, is not clear cut but is in fact very fuzzy. The limits of the duty to care may differ from location to location, and from situation to situation. For example, a doctor practicing in Kinshasa in the Democratic Republic of the Congo may incur more risk than a doctor practising in rural Dorset, England while carrying out their normal duties (2006:1239), and this may impact on how the duty to care is interpreted in each of these contexts. Sokol (2006) is of the opinion that the duties and obligations of healthcare professionals during a disaster need to be specified more precisely in order to assist such professionals in making decisions in these situations, and that in general, the limits of these duties depend on "the actual risk to the doctor and the potential benefits (including the alleviation of pain and distress) that his or her presence will bring to the patients" (2006:1240). Rudermann *et al.* (2006:e5) also called for the establishment of clear and unambiguous guidelines for healthcare professionals during infectious outbreaks, which should be informed by "greater discussion and dialogue among all interested parties and stakeholders", although they are not prescriptive about the content of these guidelines.

During the Ebola outbreak healthcare workers were challenged with regard to interpreting what was required of them with regard to their duty of care. The lack of clear guidance on what is expected during infectious disease outbreaks in particular made it difficult for local healthcare workers to act decisively when making decisions about their treatment duties. This was compounded by having to face the severity of the condition of dying patients, with new patients arriving, and without the necessary resources and beds which were required to treat them. The MSF doctors and other volunteers in the centres that had access to PPE and limited treatments followed strict protocols with regard to the admission of patients, based on the availability of beds. These decisions must have been difficult even when following protocols that the MSF are familiar with. From the accounts of the doctors working in the most affected areas, the situation and kind of decisions they had to make was like nothing they had encountered before.

The lack of guidelines in ethical codes makes it difficult to determine whether healthcare workers indeed had a duty to treat in these situations. However, as noted above, the limits of the duty of care depends on "the actual risk to the doctor and the potential benefits (including the alleviation of pain and distress) that his or her presence will bring to the patients" (2006:1240). I have indicated above the high level of risk that healthcare workers were faced with. The extent of those risks, and the extent of the benefits of treatment, would have differed greatly for the local volunteers in hospitals, who often did not have access to PPE or to adequate resources to treat patients, and the MSF doctors, for example, working in equipped centres, although these doctors too faced risks and experienced doubts about the effectiveness of the treatment they could offer.

There are two important points that should be noted here. Firstly, it is probable that many of the healthcare workers involved in the treatment of EVD behaved in a way that was

supererogatory – they did more than was required of them by the duty of care, given the risks that they were taking in the context of uncertain benefits. Secondly, the duty of care can be weakened or strengthened by context, even when one is dealing with the same disease condition. Risks are increased, and benefits decreased, by various factors, including the level of training received by healthcare workers, the number of staff available, and the availability of resources. Questions about the duty of care at the clinical level therefore cannot be separated from questions about the context in which healthcare workers operate. In the context of EVD, these were influenced by the state of the healthcare systems in the affected countries, and by global inequities in healthcare. These issues will be revisited in Chapters 4 and 5.

Given the difficulty of making decisions during the epidemic, as discussed above, it is worth considering this issue at a more general level. In the following section therefore, decision-making during disasters will be discussed, by making reference to the ethical dilemmas health professionals face in these situations.

3.3.2 Making decisions during a disaster

A disaster situation is characterised by the fact that it frequently entails a direct threat to one's personal existence. Decision-making in a situation where you fear for your life, as well as the life of others, is complex. How do healthcare workers make decisions on treatment in such life-threatening circumstances?

Bilasová and Smatanová (2016:45) explain that the complexity of the disaster situation is often intensified across time and space (its effects extend beyond the diagnosis and treatment time of the affected patient, and are spread beyond the initial site). Making decisions on symptoms and treatment in an emergency situation places a higher than usual demand on healthcare workers. Bilasová and Smatanová (2016:46) cite psychologists as asserting that in the initial phase of a disaster, people are responsible for their own life, and around 75 percent of people react passively when thinking and acting, which makes them the weakest link in a disaster situation. Of the remaining 25 percent, 10 percent can be hysterical and endanger others, whereas 15 percent will remain calm and try to save the lives of others.

In a study by Sevimli *et al*. (2015:5) it was found that there is a significant difference in healthcare services in terms of triage[3], ethics, and legal regulations such as patients' rights, in disaster situations. This study was done amongst healthcare workers assisting survivors during earthquakes. In Turkey, there have been great traumas related to three earthquakes in 2011, and in the following two years, up to 2000 aftershocks followed. The earthquakes have resulted in 644 deaths. They also measured the difference between the most important ethical dilemmas identified by those who had previously assisted earthquake victims, and those experiencing this situation for the first time. The study reported that healthcare workers who had experienced earthquakes before ranked the treatment of injured patients, the limitation of treatment opportunities and the expectations of the family members as the most significant ethical dilemmas that they were faced with. The participants that had no previous experience with earthquake disasters before ranked time management and decision-making about treatment as

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[3] Triage is explained as the process of deciding which patients should be treated first based on how sick or seriously injured they are. (Merriam Webster Organisation)

the most significant ethical dilemmas (Sevimli, 2015:5). In this study, 67.7 percent of participants confessed to having faced ethical dilemmas in these situations almost all the time, with 27.7 percent saying that they only faced such dilemmas sometimes, and only 4.4 percent claiming to have only experienced ethical dilemmas rarely. This study observed that treating injured patients, applying cardiopulmonary resuscitation (CPR)[4] and fairly allocating available medical resources were identified as the most important ethical dilemmas among healthcare workers (Sevimli *et al.*, 2015:5). The results of this study indicated that during an emergency, the participants are using triage in making decisions rather than recognising or executing the ethics principles of autonomy and justice. In the absence of clear guidelines in codes of ethics as to what is required during a disaster, healthcare workers must rely on their own capacity and abilities to make decisions when faced with ethical dilemmas, which significantly increases the difficulty experienced in making such decisions.

In the following and last section of this chapter, the ethical dilemmas faced by healthcare workers and other decision-makers with regard to the allocation of available treatment interventions during the EVD outbreak, and particularly unregistered treatment interventions, will be discussed. The focus will be on the testing of unregistered interventions in clinical trials, and on the justification of prioritising healthcare workers in selecting trial participants.

3.4 **Treatment interventions during outbreaks**

In the WHO report on the approval of unregistered interventions for EVD (WHO, 2014:6) it

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[4] The participants experienced difficulties in obtaining the informed consent to supply CPR, also with family intervention during the application of CPR and some express emotional difficulties with the decision-making process and time management during the process.

was decided that the prioritisation of healthcare workers in the allocation of experimental interventions works in the service of reciprocity (as they put their lives at risk to care for others) and social usefulness (as they are instrumental in controlling the outbreak). An important consideration for the WHO in approving the use of unregistered interventions was the exceptional circumstances prevailing during the outbreak in West Africa. These circumstances cannot be mimicked in any clinical trial and the WHO therefore saw it as a moral obligation to collect data and share this data with the scientific community, to allow them to put plans in place for the future, and to develop vaccines to avoid such disasters.

A few experimental vaccines and drugs for the treatment or prevention of EVD were recognised by the WHO, and their use in emergency clinical trials was approved (WHO, 2015). The rVSV-ZEBOV vaccine, which has previously been studied in Phase 1 and 2 studies, was used in a ring vaccination[5] cluster randomised design in Bassee-Guineé in the coastal area of Guinea (Hanao-Restrepo *et al*., 2015:858). This trial, referred to as the *Ebola ça Suffit* (Ebola this is enough) trial, took place between 1 April 2015 and 15 July 2015. The interim result of the trial has shown that immediate single vaccination can establish protection and the vaccine might be effective at the population level by administering ring vaccination (Hanao-Restrepo *et al*., 2015:864).

A further experimental treatment called Faviparavir, was used in a multicentre, proof-of-concept, non-comparative trial called JIKI[6], in four Ebola treatment centres in Guinea from

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[5] Ring vaccination controls and outbreak by vaccinating and monitoring a ring of people around each infected individual (MedicineNet)
[6] Jiki means "hope" in Kissi, a language spoken by the Kissi people in Liberia, Guinea and Sierra Leone

December 2014 to April 2015 (Sissoko *et al*., 2016:e2). The trial could not determine whether the Faviparavir treatment was safe or whether it reduces mortality. In patients with high viral loads, it seemed ineffective, and the results confirmed that viral load is a strong predictor of mortality (Sissoko *et al*., 2016:e2).

Another large phase 2 trial aimed to test the efficacy of the treatment intervention ZMapp (PREVAIL II). Patients were enrolled at sites in Sierra Leone, Liberia, Guinea and in the United States (Davey *et al*., 2016:e1). Findings showed that the treatment provided benefits, but the prescribed statistical threshold for efficacy was not met. It was reported that the patients with high viral loads experienced less benefit. The investigators asserted that the decline in new cases and the end of the outbreak was not due to treatment interventions and could not show superiority to standard supportive medical care during the EVD outbreak (Davey *et al*., 2016:e6).

The case of the use of unregistered treatment interventions during the EVD outbreak was surely an exceptional situation. Some believed and argued that it was the only decision to make during the outbreak, and others argued that it was unacceptable and should not have been done as it challenged the ethical principles usually associated with clinical trials, given the unique circumstances of this situation. In the next part of this section, the use of unregistered interventions during the EVD outbreak will be discussed with specific reference to the prioritisation of healthcare workers.

3.4.1 Experimental treatment and healthcare workers

One of the ethical issues related to the use of unregistered interventions is whether to prioritise healthcare workers as study participants during the clinical trials of these interventions. According to Folayan *et al*. (2016), the use of healthcare workers as study participants for EVD experimental treatment research seems to make perfect sense as they make a good study population, due to the possibility that they could benefit from the EVD experimental treatment directly, taking into consideration the fact that they are providing treatment in the context of greater than normal risks to safety, health and life, as previously argued.

However, Folayan *et al*. (2016:4) also indicate that the prioritising of healthcare workers as study participants for EVD clinical trials comes with other challenges, such as the possibility that governments may be motivated to compel healthcare workers to participate in these trials so that they can continue to provide care. They are also of the opinion that prioritised access to EVD experimental treatment should not be promulgated as a benefit, given that the efficacy of the investigation product is still uncertain.

Donovan (2014:3) argues that it is a duty to assign healthcare workers priority in receiving experimental treatment since their actions reflect the higher altruistic ideals of the medical profession. According to him, there is a practical reason to consider treating the healthcare workers first, as it serves the interest of the majority of patients to keep their medical workers and caregivers alive. It also increases the likelihood of others being willing to come and help. Another reason offered by him is that healthcare workers are more likely to accept enrolment in clinical trials, as they understand the requirements of informed consent, and this is

particularly important given the widespread misinformation and mistrust regarding Western clinical trials in Africa.

Rid and Emanuel (2014:1897) argue that it was understandable that healthcare workers were prioritised as an act of reciprocity for helping a large number of patients, but one may counter argue that some healthcare workers are well-off in comparison to the rest of the affected population, and prioritising them to receive experimental treatment, for example, could be seen as privileging the already well-off. The authors also criticised the lack of collaborative partnerships with local communities and stakeholders in decision-making around who should have access to these trials (2014:1898), which they see as essential in the context of an epidemic.

The viewpoints discussed above rightly indicate some of the ethical challenges around the prioritisation of healthcare workers in receiving unregistered interventions, especially in clinical trials. However, as stated while introducing this section, the exceptional case of the EVD disaster seems to merit making decisions which some may view as being unfair, even in the absence of community participation, when one considers what healthcare workers were faced with. The use of unregistered interventions and the prioritisation of healthcare workers seem to be justified, given how many lives were endangered, and in a context where there was no indication when the outbreak would end. From the real-life accounts of the healthcare workers given in the first section of this chapter, it is clear that many of these workers returned to work daily to continue their task, despite their fear of the disease, and often without adequate training or resources. In the midst of this terrible situation, community involvement and

benefit-sharing may perhaps be less important, given the often heroic and supererogatory actions of many of these workers. Further to this, the number of healthcare workers available during EVD was not nearly enough to serve the number of patients. In the end EVD was stopped with the endurance and persistence of only a small number of local healthcare workers and volunteers. Although they had access to protective clothing and more knowledge in protecting themselves than the community from EVD, they had more than normal everyday risk and worked long hours without adequate remuneration. If healthcare workers were not a priority in receiving treatment (which was a risk in its own right since most if not all were investigational products) it would have been an injustice to the infected patients that needed critical care.

3.5 **Concluding remarks**

The decisions made by healthcare workers during the EVD disaster given their limited resources and infrastructure were commendable. In this chapter, I have attempted to describe the conditions in the midst of the epidemic, in order to illustrate the fears and distress experienced by healthcare workers. I then went on to describe how the notion of a duty to care was challenged during the EVD disaster. Moving away from the normal day-to-day routine of hospital life, where resources are available and there is a lower urgency placed on immediate decision-making, into a disaster situation where healthcare workers have to immediately respond to many challenges at once, calls for another set of values and another standard of practise.

The ethical principles and codes of practise of healthcare workers were frequently challenged. Here I have to acknowledge that altruism and deep ethos of care expressed by many of these healthcare workers. I have argued in the final section of this chapter that this kind of behaviour, which often went beyond the duty to care and may be described as supererogatory, also justified the prioritisation of healthcare workers with regard to the use of untested or unregistered interventions.

I have also argued in this chapter that the limits of the duty to care are also influenced by structural and contextual factors. In the next chapter, I will discuss the larger context in which the EVD outbreak took place, with specific reference to the public healthcare systems and the key determinants of health in the three most affected countries.

CHAPTER 4: Public healthcare systems challenged during the Ebola outbreak

4.1 **Introduction**

In this chapter, the situation within the countries affected by the recent EVD outbreak will be discussed with regard to the state of their healthcare systems. Many questions were raised concerning the reasons for the uncontrolled spread of EVD in Sierra Leone, Liberia and Guinea. In the first part of this chapter, an overview will be given of reports that blamed the EVD outbreak on poor healthcare delivery systems and poor healthcare infrastructure in the affected areas. Following this, a brief overview of the political background of Liberia, Sierra Leone and Guinea will be given. A review of the public healthcare systems and key health determinants in these countries prior to the EVD outbreak will then be provided. In the final part of the chapter, a short introduction to public health will be followed by a discussion on ethical challenges in healthcare systems. A discussion of the relevance of the political climate of a country with regard to the health and wellness of its population will conclude the chapter.

4.2 **Weak healthcare systems**

The rapid spread of EVD, and the lack of effective containment of the virus, resulted in numerous publications and reports which at least partially attributed these consequences to the resource-poor and fragile healthcare systems of the affected areas (MSF, 2013:8; WHO, 2014:2; Chowell & Nishiura, 2014:e10). McCoy *et al*. (2014:723), for example, argue that the severity of the EVD outbreak resulted from a combination of resource-poor healthcare delivery systems, difficulties in surveillance, densely populated capitals, local customs and high

population mobility. Dhai (2014:42) notes that this situation is not unique to the three worst affected countries – she is of the stark opinion that most African countries will only reach the UN's Millennium Development Goals (MDGs) 35 years or more after 2015 due to natural disasters, political instability, wars, poor political governance, inadequate health financing, inattention to the social determinants of health and, notably, weak healthcare systems overall.

The WHO advisory panel's report deciding on the use of unregistered EVD interventions (2014:2) stated that the EVD outbreak was occurring in countries that had never experienced the disease before, and that the outbreak was placing extreme demands upon fragile healthcare systems. Briand *et al*. (2014:1182) explored some of the weaknesses undermining healthcare services in the affected countries, which included understaffing, an inadequate supply of essential equipment and laboratories, and limited clinical management and surveillance, all of which contributed to the uncontained spread of EVD. They further claimed that healthcare services in these regions operated in a climate of fear and discrimination. Ebola patients and their families were ostracised in some areas where the disease was thought of as a product of witchcraft. This fear then also turned to hostility against national and international response teams and directly compromised health care delivery, and the transport of essential equipment and samples to laboratories Briand *et al*., 2014:1182).

Omonzejele (2014:420) is of the opinion that African governments need to significantly improve their public health infrastructure, and argues that this improvement must be supported by attitudinal and behavioural change in daily life and traditions. For example, he explains that one of the recommended preventative measures to help curb the spread of EVD was regular

hand washing. However, he points out that in much of West Africa, regular hand washing and the drying of hands is not as easy as in other places in the world. Some residents do not have access to clean piped water, for example, and public institutions may not have driers and hand towels (2014:417). Further to this, burial practise in the West African region entails traditions in the washing of the corpse. If the diseased is a married male, the wife/wives, need to drink from the water that was used to wash the man's body. In another practise the body is opened to remove the ailment that was the cause of death or to detect if the person was a witch. Both of these practises could increase the spread of EVD (2014:418). This supports the idea that both behavioural change and infrastructure development should go hand in hand in promoting public health – problems in one area may hamper the effect of interventions in the other.

As illustrated above, a great deal of the blame for the uncontained spread of the epidemic was placed on the weaknesses of the healthcare systems in the affected countries. In the next section, a short overview of the political climate in these countries will be discussed in order to provide some context, before I go on to give a more detailed description of the healthcare systems in Liberia, Sierra Leone, and Guinea.

4.3 **The political climate in Liberia, Sierra Leone and Guinea**

4.3.1 Overview of the political climate in Liberia

Liberia is the oldest republic in Africa, and its origin is intertwined with the end of slavery (Riley, 1996:2). The origins of the Liberian state date back to the mid-19th century when the Republic of Liberia was founded for the purpose of resettlement of freed slaves from the United

States and the Caribbean (Riley, 1996:4). Many elements of its society and its dominant culture were American in origin. A small Americo-Liberian group had been in power from the beginning of the republic until the coup d'état[7] of 1980 which brought Master Sergeant Samuel K. Doe to power. Doe's regime was a disaster for ordinary Liberians and brought with it extensive human rights abuses, gross corruption and economic decline, as well as fraudulent elections (Riley, 1996:4). This was followed by a prolonged and brutal civil war between 1989 and 2003, which resulted in the loss of many lives.

During 2005, Ellen Johnson Sirleaf was elected as the first female president in Liberia (and Africa). She has served since 16 January 2006, and has concluded her second six-year term in office (the president's term in office may only be renewed once). She had to implement programmes to address unemployment, and the shortage of basic services such as electricity and running water while dealing with problems inherited from the civil war years, such as corruption and economic decline. President Sirleaf was awarded the Nobel peace prize in 2011 for her efforts to secure peace and promote social and economic development in the country. In the recent presidential election Mr George Weah won against the current Vice-President Joseph Boakai to be inaugurated as the new president of Liberia (BBC News, 2017).

4.3.2 Overview of the political climate in Sierra Leone

Sierra Leone was once known as the "Athens of West Africa" because of its university and learned society (Riley, 1996:2). In the 31 years following independence in 1961, political

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[7] Coup d'état also called Coup, is the "sudden, violent overthrow of an existing government by a small group. The chief prerequisite for a coup is control of all or part of the armed forces, the police, and other military elements" (Encyclopaedia Britannica, 1998).

power has changed hands between leaders such as Milton Margai, Albert Margai, Siaka Stevens and his successor Joseph Mamoh (Riley, 1996:5). Mamoh's government implemented a structural adjustment programme[8] and was making slow progress to liberalism until the coup d'état of 1992 led by Captain Valentine Strasser. Riley (1996:5) indicated that due to the corruption of this latter political regime, very little wealth has subsequently been returned to those who produced it. The resources found in Sierra Leone are potentially lucrative – in fact, upon independence, Sierra Leone was described as the "Land of Iron and Diamonds" due to its substantial iron ore deposits and large alluvial diamond diggings. However, due to political instability and extensive corruption following the coup, the population at large has not reaped the benefits of these resources, and living conditions have declined, fuelling public animosity towards government (Riley, 1996:5).

In 1996, Valentine Strasser was ousted by a military coup led by his defence minister, brigadier Julius Bio Maake. During the years following, a civil war resulted in a number of rapid changes of leadership, and UN forces were called in to stabilise the situation unfolding in the country. In 2002, President Kabbah came into power in a landslide victory. In 2006, former president Charles Taylor was put on trial for his part in war crimes. In August 2007, President Ernest Bai Koroma and his party won a majority in parliament. During the outbreak and to date, Ernest Bai Koroma has served as the President of Sierra Leone. He has served in this position since 17 September 2007 and is in his second five-year term in office (BBC News, 2017).

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[8] "SAPs are created with the goal of reducing the borrowing country's fiscal imbalances in the short and medium term or in order to adjust the economy to long-term growth. The bank from which a borrowing country receives its loan depends upon the type of necessity. The International Monetary Fund usually implements stabilization policies and the WB is in charge of adjustment measures" [Wikipedia]

4.3.3 Overview of the political climate in Guinea

Guinea was a former French colony which broke ties with France upon independence, becoming the Republic of Guinea in 1958. Its first President, Achmed Sékou-Touré, adopted a radical pro-African programme that rejected Western values. He died in 1984 after 26 years of dictatorship, during which time his government accused surrounding countries of trying to destabilise the country, as ongoing rebellion persisted on the borders of Liberia and Sierra Leone. He was succeeded by Lansana Conté, who remained in power for 17 years, during which time diplomatic and economic ties were restored with France and the rest of Western Europe. The long period of isolation from Europe made Guinea poor, but financial support from France and the EU brought some relief in the late 1990's. Alpha Conde became President in the first democratic election in 2010 and has been appointed for a second term in 2015. The burden of refugees that fled Liberia and Sierra Leone during many years of civil war and the instability generated by internal rebels has resulted in ethnic tension and instability in Guinea (Education Encyclopedia State University, 2015).

4.4 **Public healthcare systems in the affected areas prior to the Ebola outbreak**

The status of healthcare in Liberia, Sierra Leone and Guinea will be explained with regard to two indicators: firstly, by reporting on the healthcare system support provided by government, and secondly, by providing the statistics on key social determinants of health in these areas. Statistics and data from the WHO Health Situation Analysis of the Africa Region (WHO, 2011) will be used to review these indicators.

4.4.1 Healthcare systems

In this section, the status of the healthcare systems in Liberia, Sierra Leone and Guinea will be discussed with respect to government expenditure on health, the ratio of physicians to population, and the ratio of nursing and midwifery personnel to population. Statistics on South Africa and Africa as a continent, as well as from other regions globally, have been added to provide some context. It is important to note here that the statistics available for the years prior to the EVD outbreak have been used.

Table 4.4.1.1 Healthcare system infrastructure (WHO, 2011)

	Liberia	Sierra Leone	Guinea	South Africa	Africa	Global
Population in thousands (2008)	3793	5560	9721	49668	804865	*
Total expenditure on health as total of GDP (2007)	10.6%	4.4%	5.6%	8.6%	6.2%	9.7%
Ratio of Physician-to-population per 10 000 (2008)	0.5	0.5	1	8	2	14
Ratio of Nursing and midwifery personnel-to-population per 10 000 (2008)	3	2	0.5	41	11	28
Hospital beds per 10 000 population (2008)	7	4	3	28	9	*

*Statistic not available

Table 4.4.1.2 Total expenditure on health as percentage of GDP in WHO regions (WHO, 2011)

REGION 2009	Percentage of GDP on health
Africa	6.2%
South East Asia Region	3.6%
Eastern Mediterranean Region	4.1%
Western Pacific Region	6.5%
European Region	8.8%
Region of the Americas	13.6%
Global	9.7%

To interpret the results in the regions that were affected by EVD, I have taken data from these areas before the EVD outbreak. Using the data in Table 4.4.1.1, it is clear that Sierra Leone and Guinea spent less on health as a percentage of their GDP than Liberia[9] or in comparison, South Africa. All three of these countries have a much smaller population than South Africa. If one considers Table 4.4.1.1 and compares expenditure in Africa with expenditure on health around the world, they spend 3.5 percent less than the global average, spending 2.6 percent less than Europe and 7.4 percent less than the region of the Americas. Although the data here is limited as you need to include population, geographical size and income levels to make any solid conclusions, this nevertheless gives one some perspective on expenditure on health as a percentage of the GDP in the affected countries.

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[9] Coming from fourteen years of war leaving healthcare facilities in a devastating state, Ellen Johnson Sirleaf created the National Health Policy to improve health and social welfare. They have committed to increase health spending to reach the target of 15% of the national budget (Lee, Patrick T et al. "An Analysis of Liberia's 2007 National Health Policy: Lessons for Health Systems Strengthening and Chronic Disease Care in Poor, Post-Conflict Countries." *Globalization and Health* 7 (2011): 37. *PMC*).

The ratio of healthcare workers per population in Table 4.4.1.1, which includes physicians, midwives and nurses is extremely dismal and of great concern. Although the countries are small, one physician per 20 000 inhabitants in Liberia and Sierra Leone, and one physician per 10 000 inhabitants in Guinea, is inadequate to protect the health and wellness of that population. The numbers of other healthcare workers (nursing and midwifery personnel) are also concerning. The number of hospital beds per 10 000 members of the population also indicates a severe shortage in medical facilities. Statistics on Africa as a continent, taking into account average expenditure on health per GDP, the ratio of physician-to-population, and hospital beds per 10 000 of the population, give a stark account of the dismal healthcare systems in Africa overall. From the three countries in the most affected areas, Liberia seems to have a better healthcare support system in comparison to Sierra Leone and Guinea, although staff shortages are still severe.

4.4.2   Key determinants of health

The use of social determinants is a well-known assessment indicator of the health of a population. The social and economic circumstances that people live in are indicative of their social status and wellbeing. Access to household sanitation and drinking water, as well as to other needs such as work, education, leisure, and access to health services, constitutes the social determinants of health (WHO, 2008:1). In table 4.4.2.1, a few key determinants are identified to form an idea of the health situation in the three affected regions of Liberia, Sierra Leone and Guinea. These are only a small number of social determinants but relevant to this study to illustrate the state of the healthcare in the three regions. It is acknowledged that using key determinants limits the scope of comparison. Statistics from South Africa, Africa and global numbers (where available) are again added to provide context.

Table 4.4.2.1 Key determinants of health (WHO, 2011)

	Liberia	Sierra Leone	Guinea	South Africa	Africa	Global
Percentage of population living in urban areas	60%	38%	34%	61%	37%	***
Urban settlements: Living in slums[10]	*	97%	46%	29%	62%	***
Access to improved drinking water [11]**resources**	68%	49%	71%	91%	61%	87%
Access to improved sanitation[12] **facilities**	17%	13%	19%	97%	34%	***
Under 5 years mortality rate per 1000 live births	112	192	142	62	127	60
Maternal mortality rate per 100 000 live births	990	970	680	410	620	260
Literacy 15-24 years	72%	54%	43%**	95%	75%	***

*No statistics available in the WHO report on this category for Liberia.

**No statistics in the WHO report on this category. The 43% figure provided here refers to

the adult literacy rate in Guinea.

***No global statistics available in the WHO report.

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[10] A slum household is defined as a group of individuals living under the same roof lacking inadequate sanitation, water, durable housing and safe tenure (WHO 2011: 66).

[11] Improved water means access to public taps and standpipes, tube wells or boreholes, protected spring wells (MGD, 2015).

[12] Improved sanitation means flush toilet to piped sewer system, septic tank, various pit latrine systems (MDG report, 2015).

Two of the social determinants identified above – access to drinking water resources and access to sanitation – are seen as fundamental needs which are included under the human right to health and dignity (WHO, 2011:99). In table 4.4.2.1, data for Sierra Leone indicates that less than half of the population has access to improved water resources which is alarming as a health determinant. Even though two thirds of the population in Liberia and Guinea have access to improved water resources, this is still dismal. If you compare this data with Africa where only 61 percent of the population have access to improved water resources, the picture looks stark for health and wellness on the continent. Globally, 87% had access to improved water resources in the same period. Access to sanitation services in these countries is alarmingly low, with less than 20 percent of the population having adequate access to such services in all three of the affected countries. This picture is also grim across Africa as a whole, where only 38 percent of the population overall has adequate access to sanitation (WHO, 2011:65).

Urbanisation and the conditions of people living in slums are also a social determinant of health. Urbanisation itself shapes population health, and people in these areas have better access to health systems and specialists in larger hospitals for example. It also has social and economic disadvantages among the poor that live in slums. In the densely populated urban areas, infectious diseases, non-communicable diseases, obesity, injuries and traffic accidents, as well as alcohol and substance abuse are threats to health and well-being (WHO, 2008:62). In Liberia, more people live in urban areas than in Sierra Leone. Only 38 percent of the population of Sierra Leone lives in urban areas. What is most concerning, however, is that of the number of people living in urban areas in Sierra Leone, almost all of them (97 percent) stay in slums. Across Africa as a whole, 37 percent of the population resides in urban areas, of which 62 percent stay in slums (WHO, 2011:66). These numbers are concerning, as is the fact

that a great number of people in Africa still do not have adequate access to drinking water and sanitation a decade after the start of the millennium.

Under five-year old and infant mortality rates are leading indicators of child health and development in the world (WHO, 2011:86). In Sierra Leone, the number of child deaths under five years of age was 192 in every 1000 live child births and in Liberia 112 deaths in every 1000 live births (WHO, 2011:73). In Africa overall, the mortality rate of children before the age of five was 127 per 1000 live births, and in South Africa this number was 62 . Globally, this number was 60 deaths in every 1000 live births for children before the age of five in the same period (WHO, 2011:75). Sadly, six years later (2009 to 2015), the situation in Sierra Leone did not improve and they are listed as one of the eight worst performing countries in the world, where one in every eight children dies before the age of five years old (WHO 2017:12). According to the WHO, the best performing countries in 2015 only had one in 400 die before the age of five years old. The WHO indicated that these numbers are unacceptable. It is critical to tackle deaths during the first 28 days in the neonatal period as these accounts for the largest share in childhood deaths. The 2030 target for death loss in live births is 12 per 1000 (WHO, 2017:13).

The rationale for the use of the maternal mortality rate per 100 000 live births as a key indicator of health is that complications during pregnancy and childbirth are still the leading cause of death in women of reproductive age in developing areas (WHO, 2011:86). The Millennium Development Goals report (2015:38) indicates that maternal deaths have been halved since 1990, but even so in developing countries only 56 percent of women in rural areas are attended

to by skilled healthcare workers during birth, as opposed to the 87 percent in urban areas. Only half of women in developing regions receive the four minimum required antenatal care visits. In Sierra Leone there were 970 maternal deaths out of 100 000 live births in 2008. In Liberia, this number is slightly higher at 990 maternal deaths out of every 100 000 live births. In Guinea this number is lower at 620, matching the number in Africa overall. Globally, there was 270 maternal death out of 100 000 live births in the same period, reiterating the stark picture for Africa as a continent (WHO, 2011:75).

Education is a key indicator for health equity. Education, both formal and informal, is understood as a lifelong process starting at birth which promotes language and cognitive development (WHO, 2008:56). The statistics with regards to the young people who can read and write look very dismal in all three of the affected countries in the 2008 reporting year. Sadly this situation has also been reported on as a target that has not been met as a millennium development goal in developing regions, and this is explained by factors such disparities in income, children leaving school in adolescence, and displacement due to internal conflict situations (MDG report, 2015:26). In South Africa, 95 percent could read and write in the same age group and year, and the figure was 75 percent across the African region overall.

From the findings above with regard to healthcare systems and key health determinants in Liberia, Sierra Leone and Guinea, it is clear that these regions were woefully unprepared to face the deadly EVD outbreak. The lack of healthcare workers and hospital beds, and inadequate access to water and sanitation, contributed to the inability to contain EVD.

Who or what is responsible for this dismal situation? In the next part of this chapter, a short introduction to the concept of public health will be given, followed by a discussion on the ethical challenges in public healthcare systems. The chapter will be concluded by a discussion on the relevance of political stability and political leadership to the health of a population.

4.5 **A definition of public health**

What is public health? Jonathan Mann (1997:6) defines public health as the system which identifies and measures threats to the health of populations, which allows for the development of governmental policies in response to these concerns, and which seeks to assure the provision of certain healthcare and related services. Dawson and Verweij (2009:15) refer to the Winslow definition of public health[13], which defines public health as the science and art of preventing disease and prolonging life. This includes organised community efforts for the sanitation of the environment, the control of communicable diseases, the education of the individual in personal hygiene, the organisation of medicine in preventing disease, as well as the development of social institutions to ensure an acceptable standard of living and other health benefits. Dawson and Verweij (2009:21) further emphasise that there are two senses in which the term public health can be used. Firstly, it refers to the health of the population as a whole, or the public's collective health; and secondly it can refer to the set of practices or interventions which are aimed at protecting the health of individuals. The practise of public health then consists of collective interventions that aim to promote and protect the health of the public. With the emergence of new infectious diseases and recrudescence of old infections like malaria and tuberculosis in drug-resistant forms and public health threats from natural disasters, there is a

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[13] Winslow, C.E.A. 1920. The Untilled Fields of Public Health. *Science,* 51:23

resurgence of emphasis on the need for public health control measures (Benatar & Upshur, 2013:135-136).

4.6 **Ethical challenges in public healthcare systems**

Health is a human right. In the constitution of the WHO (2006:1) they offer a well-known description of the right to health: "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition".

Moodley (2011:96) warns that it is important to realise that the right to health does not mean the right to be healthy, as people have different genetic potentials and all cannot be equally healthy. It also does not imply that the government should put in place infrastructure that they cannot afford. It does however require governments to put in place actions and policies that will lead to accessible healthcare for all.

Nussbaum (2004:13) asserts that we ought to think in an Aristotelian/Marxian way about living a life that is fully human rather than subhuman, a life worthy of the dignity of the human being. In her article, *Beyond the Social Contract*, she draws from the Rawlsian theory of justice and on Amartya Sen's transcendental approach and offer a capabilities approach. Sen (2006:216) believes fair negotiation should be the central point for societies to deliberate common grounds for a society to function. Under the Theory of Justice, this deliberation is done under the veil of ignorance, assuming that all are equals and all will have the same level of attributes, not one gaining more than the other (2006:229). In societies, and in different countries, the levels of

rich and poor differ greatly. Nussbaum (2004:10) stated that although we may justify a set of benchmarks of justice for all the world's societies, we are not entitled to use military force or economic sanctions, except in very exceptional circumstances, as long as the state meets some minimal conditions of legitimacy. She further states that the focus on capabilities adds an important clarification to the idea of human rights; it emphasises that its goals are not negative liberty or the absence of interference by state action, but the full ability of people to be and choose important things in their society (2004:13).

To simultaneously protect and promote public health and human rights sometimes brings forth difficulties in practising public health ethics. Surveillance and monitoring of diseases, and public health campaigns, may require restrictions on people's rights in order to protect population health (Mann, 1997:9).   Kass (2001:1777) proposed a 6-step framework for public health ethics that can be used by public healthcare officials as an analytical tool to consider the ethical implications of proposed interventions, programmes, research initiatives and policy proposals.

These six steps align the interventions of health programmes and optimise the practise of ethical programmes with the following questions:

1) What are the public goals of the programme? Here the goals ought to be expressed in terms of public health improvement. Public health interventions are often targeted to one set of individuals to protect other citizens' health. If the programme has as its goal to reduce morbidity and mortality of citizens, this would be a very good end goal, as example. If the programme has at its end-goal to increase employment or safety of a

community, it is a social programme and not a public health programme (Kass, 2001:1778).

2) How effective is the programme in achieving its stated goals? Here it is important to assess the burden that the programme will have on already vulnerable segments of a population, for example. Many interventions are imposed on people by the government, and the burden of proof that the intervention will achieve its goals has to be proven by the healthcare practitioners (Kass, 2001:1779).

3) What are the known or potential burdens of the programme? The use of disease surveillance, vital statistics, communicable disease reporting and contact tracing raise potential privacy concerns. Vital statistics and other publicly collected data can reveal patterns of groups or areas that may stigmatize those people. Health education programmes are potentially paternalistic, and work is required to assess where paternalism in public health is justified (Kass, 2001:1779).

4) Can burdens be minimised? Are there alternative approaches? Here burdens that were identified need to be minimised in intervention programmes, said Kass (2001:1780). If two options exist to address a public health problem, we are required, ethically, to choose the approach that poses fewer risks to other moral claims such as autonomy, privacy, opportunity and justice.

5) Is the programme implemented fairly? Here the ethics principle of distributive justice is referred to. Interventions only in certain segments of the population can cause stereotyping and social harm. However, Kass (2001:1781) argues that public health has a responsibility to lessen societal inequalities where they relate to health outcomes. This will imply that public health needs to reduce poverty, substandard housing, poor household services and threats to a meaningful education to reduce the incidence of disease.

6) How can the benefits and burdens of a programme be fairly balanced? Solutions to the differences in what government and society wants with the implementation of public health interventions must be reached through a system of fair procedures. In balancing values and interest, the greater burden the programme imposes on society, the greater must be the expected benefit (Kass, 2001:1781)

It is difficult to assess what the public health policies were in the three countries in West Africa before the Ebola outbreak. Given the reports of mistrust of healthcare practitioners during the Ebola outbreak in certain areas, and taking into account the inaccessibility of minimum household services in most of the areas, I would say that public health interventions programmes may not have been implemented successfully before. When one looks at what ought to happen in public health programmes drawing on Nancy Kass's six steps directive, one can assume that the three countries affected most by the Ebola outbreak, did not practise distributive justice in public health interventions to reduce a lack of societal inequalities or include values and interest of the communities.

During the EVD outbreak, public health measures included informing the population about how to avoid contracting the disease, quarantining individuals that were exposed to infected persons, and restricting the movement of communities, for example, limiting travel in order to prevent onward transmission (Chowell & Nishiura, 2014:e13). Quarantining of patients made sense and contributed to preventing the further spread of EVD. The quarantine of returning healthcare workers from West Africa to the US in particular, sparked a controversial debate. There was outrage when returning healthcare workers in some states in the US were

quarantined for 21 days. The Center for Disease Control and Prevention (CDC) in the US called for voluntary isolation with routine check-ups but without isolation. Drazen *et al.* (2014:2029) believed this practise was unjustified – rather than honouring healthcare workers who keep the citizens of the US safe by risking their lives in affected areas, this added barriers that could have prevented other healthcare workers from getting involved.

In the next section of this chapter, the relevance of the political stability in a country will be discussed with regards to their healthcare system.

4.7 **The relevance of political stability to health and healthcare**

It is clear from the discussion in section 4.3 that the countries of Liberia and Sierra Leone had been crippled by long-running civil wars. Constant changes of leadership and political instability resulted in catastrophe for the population. Without stability, and without adequate leadership, there can be no clear guidance or policies to determine the manner in which resources are expended in state departments. However, O' Hare (2015:e71) is of the opinion that the civil war that ended in 2002 is not the only cause of the weak health infrastructure in Sierra Leone but also relates to the Government's underinvestment in the economic and social sectors. O' Hare (2015:e71) further states that the government of Sierra Leone spends ten times more on tax incentives to companies than on their health budget. She indicates that increasing shareholders and companies' profits by starving the health sector had serious consequences, culminating in the catastrophe seen in the EVD outbreak.

In a study done by Kruk *et al*. (2010:e11) on healthcare services in rural Liberia, the limited services available were found to be dismal. Although the government set a target to have 70 percent of their health facilities able to provide all basic services in 2010, this goal was not reached. This study suggested that the slow pace of progress was consistent with the experiences of other countries recovering from conflict.

In Guinea, the mistrust in the healthcare system resulted in a number of new cases of EVD which were not reported since some residents were hiding cases rather than reporting them. In September 2014, eight members of a team consisting of Guinean Government's official's health teams were murdered by local villagers in the town of Worney. The team was distributing EVD information and doing disinfection work[14].

"Despite many successes, the poorest and most vulnerable people are left behind." The statement from the UN's 2015 year report on the millennium development goals underlines the fact that despite many successes, progress remains uneven across countries, and challenges remain (MDG report, 2015:8). These include poverty and a lack of basic access to household services (water and sanitation). Conflicts remain the biggest threat to human development. By the end of 2014, conflict had forced 60 million people to abandon their homes. Children account for half of the global refugee population. In countries where conflict is ongoing, the number of children out of school has risen from 30 percent in 1999 to 36 percent in 2012 (MDG report, 2015:8).

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[14] Ebola virus epidemic in Guinea, Wikipedia

What the above discussion indicates is that discussions about ethics at the level of the clinical relationship, such as what the duties of healthcare workers are in disaster situations, cannot proceed without a discussion of the context in which healthcare services are offered. Many factors complicated decision-making during the EVD outbreak, such as a lack of resources and inadequate staff numbers which increased the risks and compromised the benefits of treatment. These factors can be related to the weaknesses of the healthcare systems in the affected regions, and these weaknesses in turn relates to the political climate and longstanding political instability in these regions.

4.8 **Concluding remarks**

Fragile healthcare systems were blamed for the uncontained spread of EVD in West Africa. The political background, as well as statistics on a few key determinants of health in Liberia, Sierra Leone and Guinea, reveals a stark picture of countries that have been crippled by long-running civil wars, political instability and unpredictable changes of leadership, which had a profound effect on the development of these countries. The political stability of a country has a direct impact on the health, wellness and development of its population. The lack of an effective public healthcare system is often indicative of a lack of political will, participating members of the society, resources, effective guidelines and policies. Distribution of governmental and donor funds needs to be directed effectively towards services and infrastructure in order to build a resilient healthcare system. The failure to achieve this in the affected regions must be widely attributed among political leaders, and must be interpreted not just as a political failure, but as an ethical failure.

In the next chapter, I will move away from a discussion of the local context in which the EVD outbreak took place, towards the global context, by discussing the role of the global community during the EVD outbreak and the importance of health equity for global bioethics.

CHAPTER 5: The role of the international community during the Ebola outbreak and the importance of health equity for global bioethics

5.1 **Introduction**

The world was first introduced to the deadly EVD outbreak when two American missionaries were infected. They were treated with the experimental drug, ZMapp and then transferred to an isolation ward at the Emory medical school in Atlanta for supportive therapy and survived (Donovan, 2014:e2). Subsequently another patient, a Spanish priest who was also airlifted out of the region and received ZMapp in Spain, died. This was during July 2014. The WHO declared the Ebola epidemic in West Africa a *Public Health Emergency of International Concern* on 8 August 2014. This was after the MSF raised the alarm publicly on 21 June 2014 to indicate that the epidemic was out of control and that they could not respond to the large number of new cases alone (MSF, 2015:7). On 30 September 2014, the CDC confirmed the first case of EVD to be diagnosed in the US in a person who travelled to Dallas, Texas, from West Africa (McCoy *et al*., 2014:723). In this chapter, the role of the global community and international response to the EVD outbreak will be discussed in terms of ethical concerns. The importance of global health equity for global bioethics in relation to the events taking place in West Africa during the EVD outbreak will also be discussed.

5.2 **The role of the international community during the Ebola outbreak**

A public health emergency, such as the one that was declared by the WHO on 8 August 2014, carries immediate consequences for international health regulations (Briand *et al*., 2014:1180).

The immediate response in the affected regions will include a number of regulations that will include travel restrictions on infected persons and their contacts; restriction on people's movement by providing clinical care in designated facilities and the attendance of funerals and burials by trained personnel to reduce the risk of spreading the infections. Supplementary measures such as quarantine may also be implemented (Briand *et al.,* 2014:1180). These measures were applicable for the regions where the EVD outbreak was ongoing. As part of the declaration of the emergency, International health regulators and centres for disease control were placed on high alert to curb the disease when located. As part of the response to the outbreak, special guidelines regarding clinical protocols were released to assist healthcare workers to be ready in the event of EVD reaching their shores (Torabi-Parizi, 2015:1460; McCoy *et al*., 2014:723).

The CDC in the US worked with partners to help stop EVD at its sources in Africa. They assisted the affected countries with their exit screening protocols to other countries and alerted clinicians to request travel history and then promptly isolate and test ill travellers who returned from the affected regions in West Africa (Frieden *et al*., 2014:1177). There was also special guidance for airline flight crews to minimise their risk of exposure. During the height of the EVD outbreak in 2014, the CDC in the US partnered with other governments, organisations and the WHO, to launch the Global Health Security Agenda which aimed to better protect all people from health threats (Frieden *et al*., 2014:1179).

Did the world do enough during the EVD outbreak? After the initial slow response of the WHO to declare an international public health concern, they launched awareness campaigns

worldwide. The slow response from the international community could be due to a number of reasons but a lack of urgency to respond to low income and developing countries was one of them (Dhai, 2014:42; MSF, 2015:22). It was argued by MSF that member states should engage more swiftly and strongly to support those countries that lack the capacity to respond to infectious outbreaks. The public healthcare systems and political instability in these regions caused difficulties with preventative and control measures. I believe that much more could have been done if the communities had trusted their public healthcare systems. They would have cooperated and brought officials to sick people rather than shying away from the threat and misbelieving what EVD really was. The international community could have played a role by reinforcing the number of healthcare workers as well as resources to prevent and monitor the spread of the disease. The poorly resourced healthcare systems in the most affected regions in West Africa were not able to react in a responsive manner. Sadly, the international community (other than MSF and WHO teams that had been working actively in these regions) only became involved when EVD left the borders of Western Africa.

Benatar (2005) is of the opinion that in the context of the impact of historical forces that shaped the wealth and health of all nations, one needs to appreciate how we are all implicated in the lives of others, and individuals cannot hide behind the barrier of physical distance while billions of people live impoverished lives. In the next part of the chapter, the importance of global health and global equity will be discussed.

5.3 **Global health and health equity**

The onset of the HIV pandemic in 1980 and the SARS epidemic in 2003 prompted a renewal of interest in public health and the development of ethical principles that could be applied to population health within a nation, but that could also be extrapolated to the global community to the benefit of global health (Benatar & Upshur, 2013:136). Before global health equity is discussed in some depth, a definition of global health will be offered.

5.3.1 A definition of global health

According to Koplan *et al*. (2009:1995) global health places a priority on improving health and achieving equity in health for all people worldwide. Global health therefore refers to a wide scope of problems, in that "global refers to any health issue that concerns many countries" (2009:1995). Not all of these problems are necessarily located across borders, as these could also include domestic concerns such as local health inequities, as well as concern about global health disparities (2009:1994). The social determinants of health are important in determining health equity both within and across populations, as seen in Chapter 4.

5.3.2 Global health equity

Health inequality refers to the uneven distribution of health in or between populations. Health inequity refers to the disparities between the social determinants of health in populations (Reidpath & Allotey, 2007:e1). Reidpath and Allotey argue that poor health is affected by factors such as the quality and availability of supportive physical infrastructure, healthcare services and social services.

In 2008, the WHO released a report from their commission on the social determinants of health where they have looked at countries' healthcare sector to draw inferences about health and disease (WHO, 2008:1). Although access to healthcare delivery is important, the mortality rate in certain regions, which is largely due to the circumstances in which people are born, is of great concern. They argue that poor and unequal living conditions are the consequences of poor social policies and systems, bad politics and unfair economic conditions. In the previous chapter, I have discussed how these factors had a great influence on the severity of the EVD outbreak. For these countries, action is needed on the social determinants of health, which must involve all sectors and programmes in government, and all other civil societies, businesses, local communities and international agencies (WHO, 2008:1). An important recommendation from the Commission was to place responsibility for health equity at the highest level of government to ensure a coherent consideration for health across all policies (WHO, 2008:111).

The WHO's (2017:31) ten year report on global health refers to this commission's work as groundbreaking in terms of the importance it places on the social determinants of health for health equity. To them, the commission's report has changed thinking about health in a way that captures the true meaning of health itself, and which really addresses the root causes of poor health and social and economic disadvantage. They emphasise the need for practical action in order to address these root causes of health inequities, not just as feasible but as a moral imperative (WHO, 2017:32). Health inequities, and therefore inequities in the social determinants of health, ought therefore to be a major concern of global bioethics.

5.4 **The importance of EVD for global bioethics**

Ethical concerns affect the practice of healthcare workers, irrespective of location and circumstances, and it is essential to take into account economic, cultural and social factors in order to effectively deal with health, disease and medicine at the global level, argue Benatar and Upshur (2013:134). The EVD outbreak on the level of global bioethics includes a number of issues. Some of the questions raised during the EVD outbreak were about the lack of a preventative vaccine although it was identified since 1976 that the Ebola virus has been the known cause of the disease. Donovan (2014:e14) highlights this question and argues that pharmaceutical companies produce medicine and therapies for the people who can pay for it. The unfortunate reality is that EVD has caused fewer deaths than other diseases which disproportionately affect the developing world, for example diarrhoeal diseases, malaria or tuberculosis. In fact, further to this, in a systematic assessment on drugs and vaccines for neglected diseases (tropical diseases inclusive) during a period from 2000 – 2011, it was found that of the 850 new therapeutic products registered, only four new chemical products were approved for neglected diseases, three for malaria and one for diarrhoeal disease (Pedric *et al*., 2013:e371). The study has shown a persistent insufficiency in drug and vaccine development for neglected diseases.

Another concern for global bioethics is the use of unregistered treatments and randomised clinical trials during emergencies or outbreaks. Some of these opinions were discussed in Chapter 3. The clinical trials during the Ebola outbreak have shown that it was possible to successfully run trials during a disaster and these findings obtained were valuable as this was done during circumstances that could not be mimicked in any laboratory. Rid and Emanuel (2014:1898) was of the opinion that the practise of the MSF to pre-approve some generic

research protocols in the wake of possible emergency situations is valuable and could be useful in future EVD outbreaks.

The importance of social determinants in global equity with regards to health and healthcare of populations is of great concern for global bioethics. The disparities in health are important with regards to global justice. The rights to goods and services such as a decent minimum of health through public measures, sanitation supply and clean drinking water, should be modelled on a global order and for an international justice system (Beauchamp & Childress 2013:261). The access to basic household services and healthcare infrastructure in the affected regions in West Africa and in most of Africa is a critical component in ensuring global health justice. The failed public healthcare systems and poor infrastructure in the three regions mostly affected by EVD in West Africa caused a disaster.

5.5 **Taking global bioethics forward**

The difference in social and economic conditions that people live in around the world is of great concern for global bioethics. In a chapter written by Ten Have (2015:149), he argued that the major problems for global bioethics are related to structural injustices and social inequalities in health and health care, and that therefore "the goal of bioethical activities in the global era should be to address global health inequities and to reinsert a social commitment in healthcare, not as a business but as a human engagement".

Gordijn and Ten Have (2015:293) argue for a human rights as well as a normative approach in global bioethics. By strengthening human rights in all world issues and policies, it can assist to change soft law declarations and guidelines in ethics into hard law to strengthen the bioethics debate globally (Gordijn & Ten Have, 2015:294). Placing more emphasis on human rights in

policies and guidelines in the countries most affected by the EVD outbreak in West Africa will assist in rebuilding the systems that failed.

During the EVD crisis, the committed effort from local and international healthcare teams testifies to the importance of human engagement irrespective of the great challenges experienced due to the social conditions and the lack of public healthcare systems in the most affected countries. Valuable lessons have been learnt during the EVD outbreak, not only for the countries concerned, but also for the world watching when the disaster unfolded. The importance of global bioethics debate in the national and international forums is crucial in order to strengthen human rights and social commitment in policies and programmes.

5.6 **Concluding remarks**

The role of the international community in strengthening countries with inadequate healthcare systems and infrastructures is crucial to ensure global health security. The social determinants of health in countries need to be prioritised in health and healthcare policies nationally and internationally to strengthen global health equity. The EVD outbreak in West Africa was instrumental in focusing attention on the importance of political stability and robust healthcare systems for global health security. Post Ebola, the importance of global bioethics on the agenda of governments and organisations to ensure global health is crucial.

CHAPTER 6: Conclusion

This study identified and analysed the ethical dilemmas experienced by various stakeholders during the EVD outbreak. The problems with the spread and containment of EVD and the slow reaction of international health and aid systems that were identified as a major contributing factor to the number of cases and deaths in Sierra Leone, Guinea and Liberia, were discussed in three main areas of ethical concern.

The first main area of ethical concern was related to the ethical dilemmas that the healthcare workers faced with specific reference to the notion of the duty of care, and the use of untested interventions during the EVD outbreak. In the main findings it was seen that healthcare workers were challenged to understand what was required of them with regard to their duty of care. The lack of clear guidance on what is expected during infectious disease outbreaks in particular made it difficult for local healthcare workers to act decisively when making decisions about their treatment duties. This was compounded by having to face the severity of the condition of dying patients, with new patients arriving, and without the necessary resources and beds which were required to treat them. The exceptional case of the EVD disaster seems to merit making decisions which some may see as being unfair when one considers what healthcare workers were faced with. The use of unregistered interventions and the prioritisation of healthcare workers seem to be justified, given how many lives were endangered and the heroic behaviour of many healthcare workers, and in a context where there was no indication when the outbreak would end.

The second area of ethical concern was related to the public healthcare systems and reasons for the uncontrolled spread of EVD in Liberia, Sierra Leone and Guinea. From the findings it is clear that these regions were woefully unprepared to face the deadly EVD outbreak. The lack of healthcare workers and hospital beds, and inadequate access to water and sanitation, contributed to the inability to contain EVD. The political background, as well as statistics on a few key determinants of health in Liberia, Sierra Leone and Guinea, reveals a stark picture of countries that have been crippled by long-running civil wars, political instability and unpredictable changes of leadership, which had a profound effect on the development of these countries. Political stability was indicated as being a crucial factor in the status of healthcare systems of countries.

The third area of ethical concern was regarding the role of the global community during the EVD outbreak and importance of health equity for global bioethics. Findings indicate that the slow response from the international community could be due to a number of reasons but a lack of urgency to respond to cries of assistance from low-income and developing countries was one of the reasons. Although EVD has caused fewer deaths than other diseases which disproportionately affect the developing world, for example diarrhoeal diseases, malaria or tuberculosis, there is a persistent insufficiency in drug and vaccine development for neglected diseases globally. The study showed that social determinants with regards to health and healthcare of a population were a contributing factor for global health disparities. The importance of basic household services through public measures, sanitation supply and clean drinking water, still remains important to ensure the health of a population. Healthy populations are the key to global health justice and the importance of global bioethics on the agenda of national and international policy-makers have been emphasised.

This ethical analysis of the Ebola outbreak in West Africa during 2014 has emphasised the importance of the medical codes of ethics to assist healthcare professionals during disasters. It has also drawn attention to the critical importance of social determinants in healthcare and how public healthcare draws from competent health policies. The importance of ethics is crucial in public health policies and principles. Health is a human right and the necessity of states to recognise that political instability and unfair socio-economic practises impacts negatively on the health of their citizens was highlighted. Global bioethics plays an important role in securing healthy populations and need to receive space on international agendas. Lessons learnt from the Ebola outbreak during 2014 ought to prepare us to own up to the mistakes made and invest knowledge and ethics leadership in the future of humankind.

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