

# Chapter 15

## Health Care Workers' Obligations in CBRNE Crises



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**Abstract** Health care workers (HCWs) often suffer the brunt of injuries during chemical, biological radiological, nuclear and explosive (CBRNE) events. Throughout history, those caring for the injured, dying and dead put themselves at risk of harm, infection or contamination. Recent events include the 2014–2016 infectious outbreak of Ebola virus disease in West Africa and the targeting of health facilities in the conflict in Syria. Decisions by HCWs to care for others in the face of such risks have been lauded as heroic whether undertaken for personal moral reasons or in response to an ethical duty to care. However, some have questioned whether such a duty to care is ethically obligatory in the face of some CBRNE events. Ethical analysis of the SARS outbreak found that additional ethical reflection was needed on HCWs' obligations during CBRNE events. The ethical arguments used to justify the duty to care are reviewed in this chapter. However, other duties exist for HCWs which may conflict with the duty to care. The World Health Organization's guidance on ethics in pandemics notes that the duty to provide care in pandemics is not unlimited, and that employers and governments have reciprocal obligations to provide training and protective equipment to HCWs during CBRNE. Empirical research raises questions about whether health care organisations are adequately prepared for CBRNE, particularly for the ethical decision-making that will be required. Rather than taking a regulatory or legal approach to this issue, this chapter will argue that the ethical virtues of courage and volunteerism should be fostered in HCW training. In keeping with a virtue ethics approach, leadership takes on an important role in ethical decision-making, as well as praising those who respond to CBRNE by caring for others in spite of the personal risks and their conflicting obligations.

**Keywords** Duty to care · Health care workers (HCWs) · Ethical obligations · Courage · Virtue ethics · Leadership

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## 15.1 Introduction

Health care workers (HCWs) have a crucial role to play in responses to chemical, biological, radiological, nuclear and explosive (CBRNE) events. These workers often take on serious risks when they do so. The Black Death (bubonic plague) swept through Medieval Europe on various occasions, leading to debate over whether physicians and other public officials had a duty to remain with the sick (Luther 1527). During the 1918 influenza pandemic, many nurses and others who volunteered to care for the infected themselves contracted the deadly influenza (Godderis and Rossiter 2013). After the 1995 Aum Shinrokyo Sarin attacks, 10% of hospital HCWs involved in treating exposed patients ended up needing to be treated themselves because patients' clothes exposed them to Sarin (Rebera and Rafalowski 2014). In the 2002–2003 SARS outbreak, approximately 30% of all cases occurred in HCWs; in Toronto, about half of the cases were in HCWs, three of whom died (Malm et al. 2008). Towards the end of the Ebola virus disease outbreak in West Africa, 898 cases of Ebola infection had occurred in HCWs, of whom 518 died (Statista 2015). The lethality of the virus is well-known, but the HCWs were disproportionately impacted. Liberia was worst hit, where 8.07% of its health workforce died from the virus, compared to 0.11% of its general population (Evans et al. 2015). Not only did caring for patients put HCWs at risk of physical disease and death, but some who survived faced stigmatisation and discrimination afterwards (OHCHR 2014).

Yet possibly the most egregious example of the risks HCWs find themselves exposed to has been in the ongoing war in Syria. In spite of the traditional and internationally protected status of health care facilities and workers during conflict and war, they have become common targets of violence (ICRC 2015). In Syria alone, between November 2015 and December 2016, over 400 violent acts against health care facilities have been documented (Elamein et al. 2017). These resulted in 677 injuries and 261 deaths, with one quarter of the victims being HCWs. As a result, health care services are being divided between locations and staff numbers on site are kept to a minimum to reduce the impact of individual attacks.

HCWs who respond to CBRNE events typically put themselves in harm's way to an increasing degree compared to responders to other disasters that do not involve infectious agents or contaminants. Disaster responders typically choose to enter disaster zones, and usually have specialised training to prepare for such events. This chapter will not focus on such responders, but on HCWs who find themselves in the midst of a CBRNE event. They may find themselves grappling with whether or not they have an ethical obligation to continue to provide health care to those injured in the event. The ethical question is whether HCWs have a duty to care for any and all patients in the event of a CBRNE crisis. In other words, are HCWs obliged to accept the risks that accompany caring for patients after a CBRNE event? In recent years, 'the issue of duty to care has emerged as a matter of paramount concern among health care professionals, hospital administrators, public policy makers, and bio-ethicists' (Ruderman et al. 2006, 2).

## 15.2 The Current Situation

Before proceeding to examine the ethical issues involved, this discussion must be prefaced by the finding that many HCWs accept the risks of their work and diligently care for their patients in spite of the dangers involved. The heroism apparent during the Ebola outbreak led *Time* to declare these HCWs the 2014 Person of the Year (Von Drehle and Baker 2014). A report into the SARS outbreak in Toronto found that, 'Workers generally showed heroism and altruism in the face of danger during the SARS outbreak' (University of Toronto 2005, 10). However, this was not the case for all. The Toronto report continued that 'some balked at caring for people infected with SARS, and a few were dismissed for failing to report for duty. Post-SARS, many health care workers raised concerns about the level of protection to themselves and their families. Some even left the profession' (University of Toronto 2005, 10).

CBRNE crises lead to ethical challenges that involve individual and societal decisions. On an individual level, workers have to balance their ethical duties towards their patients and the public with those towards themselves and their own health, and their duties towards their families and other dependants. The societal level is seen most clearly by the devastation brought by Ebola onto the healthcare workforce in the affected countries. These systems started with woefully inadequate healthcare workforces, and the deaths of so many HCWs from Ebola have left the systems even more debilitated. Although Ebola was directly devastating in many ways, an additional 25,000 deaths may occur each year because of the deaths of so many HCWs in these countries (Evans et al. 2015). A healthcare system, and society more broadly, must somehow balance its ethical duty to care for those presently sick while knowing that this can increase the risks to the long-term health of the people in their societies who will require care in the future.

With the constant risk of an incurable pathological agent appearing, the growing fear of an imminent pandemic, and the threat of terrorists obtaining nuclear materials, the importance of reflecting on the duty to care and other ethical challenges associated with CBRNE has been noted (and was one of the impetuses for the two projects than contributed to this book). Ethical decision-making skills are needed to address such issues. Yet in spite of the acknowledged importance of such topics, the Toronto SARS report found that 'There is currently a vacuum in this field' (University of Toronto 2005, 10). In the US, for example, the 2009 H1N1 flu pandemic led to several calls to develop pandemic readiness plans. Such plans identify the duty to care as one of several ethical principles (Koenig et al. 2011). Some US states have pandemic plans, but few address the duty to care explicitly. Louisiana, the state most directly hit by Hurricane Katrina, is one that does, defining the duty to care as 'the obligation of health care professionals to care for patients at all times' (Louisiana Department of Health & Hospitals 2014, 10). It notes that during pandemics HCWs will have to balance their duty to individual patients with that to all patients. Yet no discussion is provided about how HCWs should balance this duty with their duties to themselves and their families.

At the same time, other developments have occurred within healthcare that challenge the traditional view of this issue. Workers' rights and the importance of creating safe workplaces is increasingly recognised, appropriately so. Yet these developments could raise questions about policies that put HCWs at increased risk of harm. As noted above, the duty to care usually refers to individual patients. During a crisis, like a CBRNE event, a balance may be needed between the duty to care for individuals and for society as a whole. In addition, the duty not to harm is a strong ethical principle. HCWs may see their duty not to harm patients as obliging them to avoid contagious or contaminated patients because of the risk that they could pick up the agent and pass it on to others unknowingly. While the duty to care is a long-standing ethical principle in healthcare, it raises many ethical challenges that require further careful reflection and analysis.

### 15.3 Healthcare Readiness for CBRNE

Some discussion has occurred around the readiness of current healthcare systems for emergency responses to CBRNE. The World Health Organization (WHO) Regional Office for Europe published a checklist to assist hospital administrators and emergency managers prepare for disasters. The guidance states that 'Effective human resource management is essential to ensure adequate staff capacity and the continuity of operations during any incident that increases the demand for human resources' (WHO Regional Office for Europe 2011, 17). However, the document does not discuss the ethical issues faced by HCWs, nor does it provide guidance on ethical decision-making. Instead, the focus is on policy and management preparation.

A systematic review examined qualitative research into nurses' preparations for ethical issues in public health emergencies and disasters. The authors identified 'a failure to directly address the issue of ethical considerations in planning, preparedness, and response to public health emergencies and disasters by nurses' (Johnstone and Turale 2014, 73). The American Nurses Association (2017) acknowledged the conflict between nurses' duty to care for patients and their own right to self-preservation, and the challenge of finding the right balance. The American College of Chest Physicians (CHEST) has a prominent role in preparing US doctors who will be at the front line of any respiratory pandemic. They issued a Consensus Statement on the ethical issues of caring for patients during pandemics and disasters. This Statement does not address the duty to care (Biddison et al. 2014).

With little explicit emphasis on the duty to care in crisis situations, HCWs may not be aware of their obligations or have reflected on how they might respond during a CBRNE crisis. Some surveys have asked HCWs if they would report for work in the event of different types of crises. In a survey in the US, roughly half of the HCWs who responded stated they likely would not report to work during an influenza pandemic (Balicer et al. 2006). Another survey of Emergency Department workers in Chicago asked whether people would work additional hours to help

victims of different types of CBRNE events. Among these HCWs, 98% said they would accept extra work after an airplane crash, 85% after a radioactive bomb, and 54% after the release of a biological agent (Masterson et al. 2009).

These types of studies have weaknesses because they ask people's opinions about hypothetical situations when they are not in a disaster. Just as questionnaires about past events suffer from recall bias, questionnaires about the future can also be biased. Studies of actual behaviour over a number of decades have found that the vast majority of those in emergency roles fulfilled their duty when called (Scanlon 2014). However, the on-going nature of a pandemic and the lethality of agents like Ebola, sarin and radioactivity, may lead some to question whether their duty to care applies to those patients.

Changes to the nature of healthcare are also important to consider here. In some countries, healthcare is increasingly viewed and practiced according to a business model. Arguments are made to view healthcare organisations as businesses, patients as consumers, and HCWs as employees contracted to deliver a service. As such approaches come to infuse the ethos of healthcare, they may inadvertently impact responses to CBRNE crises. Sheri Fink's investigation into Hurricane Katrina included an exploration of some of the corporate decision-making that interfered with patient care and rescue (Fink 2013). This sort of approach can lead to a focus on contractual obligations towards workers and patients, which may not address obligations to society as a whole. As will be discussed more below, a contractual approach has particular limitations when altruism and sacrifice are required, which is usually the situation when the duty to care is invoked.

## 15.4 The Traditional View

Granted the limitations of the surveys cited above, the possibility that a significant proportion of the healthcare workforce might not show up in the aftermath of a CBRNE crisis is of concern. This conflicts with what can be called the traditional view of the duty to care in emergencies. Daniel Defoe captured this view dramatically in his fictionalised account of the Great Plague of London which may have claimed up to 20% of the population in 1665. The book examines many of the same ethical issues that challenged the responders to Ebola virus disease.

So the Plague defied all Medicine; the very Physicians were seized with it, ... This was the Case of several Physicians, even some of them the most eminent; ... it rather is to their Praise, that they ventured their Lives so far as even to lose them in the Service of Mankind; They endeavoured to do good, and to save the Lives of others (Defoe 1969, 35–6).

This traditional view is that doctors and nurses will lay down their lives for their patients and the good of society. This ethic has been lived out in HCWs and disaster responders throughout history. Those who stayed to take care of Ebola patients, or came to offer what they could, acted upon this view (Von Drehle 2014). In battle-torn Syria, the White Helmets formed a volunteer group to provide aid and rescue to those injured by chemical and explosive devices. Their motto is 'Whoever saves one life,

saves all of humanity' (Malsin 2016, 23). Among responders like these, the duty to care focuses on putting the needs of others above ones own needs. The belief is that those who have specialised training, or more opportunities than others, thereby have a responsibility to help those in need. Martin Luther gave similar advice to those facing the Black Death: 'paid public servants such as city physicians, city clerks and constables, or whatever their titles, should not flee unless they furnish capable substitutes who are acceptable to their employer' (Luther 1527, 477).

## 15.5 Changing Professional Ethics

This view was explicitly called for in earlier professional ethics codes. The 1847 *Code of Medical Ethics* of the American Medical Association stated that physicians have a 'duty to face the danger, and to continue their labours for the alleviation of the suffering, even at the jeopardy of their own lives' (American Medical Association 1847, 27). Something very similar was included in the 1922 Code of Ethics of the Canadian Medical Association (Ruderman et al. 2006). But things have changed. The 1949 International Code of Medical Ethics of the World Medical Association stated that, 'A doctor must give emergency care as a humanitarian duty unless he is assured that others are willing and able to give such care' (World Medical Association 1949). By the 1970s such strong statements about the duty to care in the face of infectious risks had disappeared from most codes (Ruderman et al. 2006).

The traditional obligation that a doctor should accept the risks of practicing medicine has faded. Different reasons have been given for this, including the general belief that infectious diseases had been overpowered, as least in those countries with access to effective antibiotics (Ruderman et al. 2006). The move from healthcare as a calling to one where healthcare is a rewarding and financially comfortable career has been implicated in this change, as well as the business model for healthcare organisations. The arrival in the 1980s of HIV and AIDS, especially at first when little was known about its transmission and less about its treatment, led to further weakening of the meaning of the duty to care. SARS, H1N1 and Ebola raised further questions about what the duty to care implies, both ethically and practically. In response, nurses in Liberia went on strike during the Ebola outbreak because of low wages and the lack of personal protective equipment (PPE) that guards against infectious diseases like Ebola (Agence France-Presse 2014). Likewise, nurses in the US protested, and some went on strike, to express concern over the lack of preparation and protective equipment for Ebola in their hospitals (Skinner and Johnson 2014).

In the 1800s, a doctor knew that caring for some patients entailed serious risks. In some parts of the world, that never changed. Many HCWs have died, and continue to die, in the service of their patients. As one doctor noted during Ebola, many HCWs 'found themselves "fighting a forest fire with spray bottles." They did not give up' (Von Drehle 2014). The prospect of a pandemic has brought things full circle and requires much more extensive discussions about the ethical requirements entailed in the duty to care.

## 15.6 Ethical Justification

The arguments brought up to ethically justify the duty to care can be grouped into five approaches, each with its counter-arguments. They will be summarised here, but are discussed in more detail with an extensive bibliography by Malm et al. (2008).

The first is that HCWs consent to take on certain risks as they go through their professional training. Risks are part of all forms of practice, and can arise physically, such as from needle-sticks, using certain equipment, lifting patients, etc., and also emotionally, such as from watching patients suffer and even die. Training should make people aware of these risks and therefore HCWs consent to accept these risks as part of professional practice. This is especially the case when someone works in infectious diseases, but applies to all HCWs. The criticism of this argument is that SARS, H1N1 and Ebola have changed healthcare practice. Risks from serious infectious diseases did not exist for many HCWs trained in earlier years, and hence people have not in any realistic way consented to take on some of the risks that exist today.

The second approach uses an analogy to argue that HCW give implied consent to certain risks. If someone becomes a soldier, she cannot legitimately object to the risks of combat. If someone becomes a firefighter, he cannot object to getting close to fires. As part of the decision to pursue particular careers, certain risks must be accepted even if this is done implicitly or changes over time. The criticism of this argument is that even if accepted in principle, it does not necessarily entail that all HCWs have a duty to care for all patients, particularly those who put HCWs at higher risk. For example, someone with training in infectious diseases may have a duty to care for infected patients, but this does not imply that a psychiatric nurse has the same duty to those patients. Thus, the duty to care should be limited to those who have relevant training and experience in the conditions that ail the patient.

The third argument is that someone with specialised knowledge, training and skills has an additional responsibility to use that knowledge to help those in need of that expertise. By their own training, HCWs are better able to care for such patients in ways that reduce their own risks. They also have easier access to the necessary protective equipment. However, objections to this approach point out that HCWs differ widely in their training and skills. If this implies that HCWs have different duties to care, this will lead to a confusing range of obligations.

The fourth approach uses that of reciprocity, or a social contract view. Many HCWs receive assistance from society in various ways (through scholarships or research funds) and often receive privileges and status from their careers, not to mention good salaries. As a result of such contributions from society, HCWs should reciprocate by taking care of patients who are in need. Some object that HCWs receive widely varying contributions from society and also vary widely in the privileges they receive. Some claim that the respect or status once given HCWs no longer exists, and in some places HCWs do not receive a commensurate salary.

The fifth approach is that many HCWs take professional oaths or accept ethics codes and these often commit them to a duty to care. However, these declarations

tend to be very general and also change with time. People entering a professional may view oaths as symbolic rather than a serious commitment to specific ethical values. Further, a review of 61 professional codes found that 85% either did not mention the duty to care or offered no clear guidance on its implementation (Upshur et al. 2006).

One further approach is regularly mentioned by those who volunteer to serve: the importance of serving one's community. The White Helmets help their fellow Syrians because, according to their director, 'At the end of the day, this is my country' (Malsin 2016, 26). The Ebola fighters regularly mentioned that they wanted to help their neighbours and their communities (Von Drehle 2014). This aspect gets at the importance of the internal ethical motivations of HCWs, and in particular the ethical virtues that will be discussed below. Healthcare ethics in Western contexts has become focused on individuals and their rights. Public health crises and CBRNE events remind us of the need to consider relationships and communities within ethics. At the same time, such approaches do not provide clear mechanisms for balancing the duties HCWs have to the variety of people they are in relationships with: family, neighbours, colleagues, patients. Guidance is needed on how to balance such conflicting obligations to various parties.

## 15.7 WHO Guidance

The World Health Organization (WHO) developed general guidance on the ethical issues in public health responses to pandemic influenza (WHO 2007). The document devoted one section to the duty to care, and provided some guidelines. This acknowledged that there is a need for open discussions and agreement between HCWs, their professional organisations, and the public on the duty to care. What was stated after SARS remains the case today: 'the time to address the ethical duty to provide care is at hand – before the arrival of the next public health emergency' (Ruderman et al. 2006, 6).

The guidance notes that the duty to care can be addressed in terms of moral, professional, contractual or legal obligations. A strong case is made for approaching this as a moral obligation. At the same time, WHO acknowledges that 'the duty to work notwithstanding risks to one's own health is not unlimited' (WHO 2007, 14). Rather than taking a rigid legalistic approach, the guidance offers some flexibility. Specific policies about the duty to care should be developed within jurisdictions through dialogue and consultation with all stakeholders. These should take account of differences in expertise and skills possessed by various HCWs, although as needs develop, people may be asked to work beyond their usual responsibilities. The risks that HCWs are asked to accept should reasonably be expected to make a difference in the pandemic. This highlights the importance of policies being based on the best available evidence. Reasonable accommodations should also be made for those whose own health changes their risk, such as those who may be immunocompromised or pregnant. A mechanism should be available by which risks are distributed among



individuals and groups in an equitable, fair and transparent way. Open consultation and dialogue help to show whether policies are viewed as fair and just.

As HCWs accept additional risks, employers and governments have reciprocal obligations to reduce risks to HCWs. These include providing training for pandemics, implementing appropriate preventive measures, and having available the necessary equipment to respond adequately, such as personal protective equipment (PPE). When people become ill or injured through their work, treatment should be provided, as well as access to psychosocial support. To uphold the duty to not harm, employers and governments should educate HCWs on their ethical obligation to reduce the spread of infection if they become ill.

These recommendations are applicable for HCWs responding to many CBRNE events. However, they were published in 2007 and their uptake has been relatively slow. For example, a CBRNE readiness survey was sent to all hospitals in Belgium and the results published in 2014. Seventy two percent of the hospitals responded, with 11% stating they had decontamination facilities close to the emergency department entrance, and 6% reported having appropriate PPE available for those doing triage and decontamination. At the same time, almost three-quarters of the facilities expressed the belief that they were ready for CBRNE events. The researchers concluded that 'There are serious gaps in hospital preparedness for CBRN incidents in Belgium' (Mortelmans et al. 2014, 300).

Much further work is needed to engage with HCWs on the duty to treat and the practical obligations this entails. Policies should be developed based on discussions between all parties involved, including the public. At the same time, evidence needs to be collected to support related policy and practice. As changes are made, and as CBRNE events occur, data should be collected on the effectiveness of various approaches, policies and recommendations, including those related to ethical issues. This area thus overlaps with chapters in this book on research ethics so that research conducted to generate evidence is carried out in ethically appropriate ways.

## 15.8 Ethical Virtues and the Duty to Care

While codes and regulations have their place, they have limitations. In his study of trust in the helping professions, Edmund Pellegrino finds that contractual agreements tend to lead to 'ethical minimalism' (1991, 79). 'The professional's necessity to efface self-interest will be blunted since legalistic and contractual relationships call upon the participants to protect their own interest, not that of the other party—except to the extent the contract requires. The impetus to do the "extra" that requires some compromise of self-interest is blunted if not destroyed entirely' (ibid.). In CBRNE crises, going the extra mile is exactly what needs to be encouraged, and this requires a return to traditional professional values and what are called ethical virtues: the personal character traits that lead people to strive for ethical ideals.

When the duty to care is seen as based on ethical virtues, as opposed to on legal or contractual obligations, HCWs will be guided by their personal integrity and

consciences on how to balance this duty with their other duties. Concerns have been raised that this may lead to many HCWs failing to report for work during CBRNE events. A small amount of research has been conducted on the factors that motivate people to work during CBRNE events. In one study, the leading motivational factor was a sense of duty to their profession, but other factors included concern for their family's health, personal safety and child care (Masterson et al. 2009). These are very personal factors, rather than ones based on professional and legal obligations.

When interviewed for *Time's* 2014 Person of the Year award, Ebola virus disease responders did not refer to regulatory or professional codes. Instead, they were motivated by personal factors. 'Ask what drove them and some talk about God; some about country; some about the instinct to run into the fire, not away.' Some were inspired by those who had come from far away. Some survived Ebola and said 'It looked like God gave me a second chance to help others' (Gibbs 2014).

Ways of communicating these personal ethical virtues need to be developed and included in the training of HCWs, especially those more likely to be involved in CBRNE events. The traditional way to encourage virtuous development has been through narratives (O'Mathúna 2008). Stories about courage, heroism and fear in the face of life's dangers have been used throughout human history to encourage reflection on the sorts of character traits that are necessary to deal with life's risks. Such was the purpose of the ancient folk tales and more recent moral fables. The real-life stories of responders such as those recounted in the Ebola issue of *Time* can be used to foster the development of virtues like courage and volunteerism in the face of CBRNE risks (Von Drehle 2014).

Leadership and mentoring are other important factors in this area. Dr. Jerry Brown was the Medical Director & General Surgeon of ELWA Hospital in Monrovia, Liberia. As he helped set up an early Ebola treatment unit (ETU) he realised that his leadership and example were going to speak more loudly to the other HCWs than any policy, code or contract. 'He was now forced to ... suit up in Tyvek and go to work in the ETU. Every willing hand was needed, and the fearful staff must see that the boss had enough courage to do as much as he asked of them' (Von Drehle 2014).

Leadership by example is more compatible with virtue ethics than leadership by decree or contract. Those leading facilities and developing policies may at times need to take on the same risks as other front-line workers. Dr. Carlo Urbani accepted this as part of his role within the WHO and as a result became exposed to SARS and died from the infection (Ruderman et al. 2006). His leadership and example can motivate others to have the moral courage to serve in the face of CBRNE risks.

## 15.9 Conclusion

Stories set in dramatic circumstances sometimes receive much publicity. In this way, the movie *Megan Leavy* tells the story of a US Marine and her dog Rex whose job was to search for explosives to protect their colleagues (Cowperthwaite 2017). In spite of the dangers to themselves, she and other CBRNE responders enact the

virtues needed to fulfil the duty to care in crisis situations. The *Time* stories thus reveal modern-day heroes who chose to act on their duty to care as a result of their virtues and in spite of their fears. It is just as important to praise those who in less dramatic ways act on the basis of their moral courage and exemplify the ethical traits needed to promote sacrificial behaviour on behalf of others and society. These are ordinary people who do extraordinary things based on virtues like courage, compassion and commitment to the good of others. As those values and virtues are promoted, the duty to care will once more be seen as part of what it means to be a virtuous healthcare worker.

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