Preparing for Operation GRITROCK: military medical ethics challenges encountered in the planning stages of the UK Ebola response mission

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1. Introduction

In early September 2014, Médecins sans Frontières (MSF) took the unusual step of calling on governments to deploy military, as well as civilian, assets to help combat the Ebola Virus Disease (EVD) epidemic raging in West Africa (MSF, 2014). The UK government announced a package of aid in response to the outbreak, including the deployment of military experts, targeted primarily on Sierra Leone. (Gov.UK 2014) The scale of the outbreak and the responses to it attracted comment from many quarters and raised ethical issues. We were interested in the ethical challenges that would confront the troops on the ground in Sierra Leone, particularly those who were healthcare professionals. We successfully secured UK funding council research funds to explore these challenges. During the preparatory stages of this project, however, it became clear that ethical decisions had also been made during the planning stages of the deployment in anticipation of issue that may be faced on the deployment. These planning issues are of interest in their own right, even though they fell outside the aims of our project, and we explore of some these in this chapter.

We will start with a brief background to the British medical military involvement in Sierra Leone during the 2014-2015 EBV outbreak in West Africa. We then outline and discuss

some of the ethical challenges that confronted those involved in the planning for the military side of this operation. As one of our aims was to use the experiences of those who deployed to produce materials that could be used in future ethics training for both military and civilian humanitarian responders going forward, we have included an example based around one of the issues explored in this chapter, namely whether it is permissible to use surveillance cameras in an Ebola treatment unit.

2. Background

Operation GRITROCK was the name given to British Ministry of Defence (MOD) mission in Sierra Leone during the 2014-2015 EVD outbreak.[1] Amongst other measures, military clinical and clinical support staff were deployed in two distinct kinds of role: to provide general, non-EVD related healthcare support for deployed military and other eligible personnel, and to staff a small EVD treatment unit (ETU) for EVD-affected healthcare workers and other eligible personnel. This chapter will focus on preparations in relation to the latter role.

It is fair to say that the UK Defence Medical Service (DMS) has less recent experience in purely humanitarian response than other national military services.[2] The main focus of DMS over recent years has been supporting UK troops in Afghanistan, with most of DMS personnel with any deployment experience having deployed at least once to the Role Three hospital in Camp Bastion. With the withdrawal of British forces planned for October 2014, however, DMS had at the time of the EVD outbreak in West Africa already moved to contingency training/planning. Potential deployment as part of a UK government response to a humanitarian disaster or emergency had already been anticipated, though perhaps with more of a focus on trauma care than an infectious disease outbreak. Indeed, the UK Government strategic defence and security review, published in November of 2015 (HM Government, 2015) places humanitarian assistance first on the list of available responses:

> The Armed Forces will also contribute to the Government's response to crises by being prepared to:
> • Support humanitarian assistance and disaster response, and conduct rescue missions.
> • Conduct strike operations.
> • Conduct operations to restore peace and stability.
> • Conduct major combat operations if required, including under NATO Article 5.

[1] A concise account of the support given by the Defence Medical Services to Operation GRITROCK has been published by Bricknell, Hodgetts, Beaton et al (2015)

[2] The Canadian military, for instance, has organisational responsibility for Canadian Disaster Assistance Response Team (DART), whose scope includes the provision of primary healthcare services. See http://www.forces.gc.ca/en/operations-abroad-recurring/dart.page

Moreover, the threat to national and global security of emergent microbial disease is also highlighted in the review. Accordingly, we should expect that the British medical military will have an increasing humanitarian response role going forward.

Responding quickly to the EVD outbreak was a considerable challenge that required innovation in terms of training and protocols and was beyond the existing experience of many of those involved. Moreover, the military deployment was part of a cross-governmental response that involved the Department for International Development (DFID), Foreign Office and Department of Health, amongst others. As Bricknell et al (2015) noted:

> "There was an early acknowledgement that there should be a strong medical voice as part of the military-planning process as this was a public health crisis rather than the usual DMS role of providing medical support to a military plan." (Bricknell et al, 2015, 170)

Moreover, any plans had to take into account that the MOD

> "had responsibilities as an employer to ensure that any risks to health and safety [of military personnel ordered to deploy] were fully assessed, mitigated and any residual risk managed to be as low as reasonably practicable". (Bricknell et al, 2015, 170)

Furthermore, DFID retained responsibility for purchasing equipment for the ETU. Finally, a general election had already been called for May 2015. It is reasonable to assume that any party in government, or any one of the opposition parties, would seek to gain maximum political capital from the national response to the EVD outbreak, and also to minimise any potential political damage as a consequence of this response. Thus, these sorts of political preoccupation may have influenced how the UK response in Africa was offered, funded and executed, but also – once the seriousness of the outbreak had been accepted – government plans for preventing or managing any spread to the UK, by whatever means that spread might occur.

One advantage that the British military had was that of prior experience in Sierra Leone. In spring 2000, British forces were deployed to evacuate foreign nationals during the civil war (Operation PALLISER), which operation was expanded as evacuations plans were jeopardised when the Revolutionary United Front prevented access to Lungi airport. British military forces were involved in training the Sierra Leonean military, including restoring its medical military capability. The military operation, and more specifically the actions of the Commander British Forces General (Brigadier at the time) David Richards, are conjectured to have brought the civil war to an early end (Renton, 2010; Little, 2010; Richards, 2014). For this reason, the British military had a positive reputation in Sierra Leone. This, according to some of our informants, made it easier for troops in uniform to enter Sierra Leone without this being interpreted as a covert military combat intervention

and generating local hostility. At the same time, the military was also well aware of how austere an environment Sierra Leone was to operate in, even without the threat of EVD. Historically, West Africa was dubbed the 'white man's grave' by Europeans (Curtin, 1990) because of the endemic cerebral malaria and yellow fever, amongst other things such as some of the most venomous snakes in the world. Of the population (aged 15-49 years) in 2014, 1.4% is estimated to be infected with HIV (UNAIDS, 2014), which would need to be considered when deciding on the treatment package that should be available in the ETU, and sanitation infrastructure remains poor, especially in rural areas (UNICEF, 2015).

The international agreement covering military involvement in humanitarian relief (The Oslo Guidelines) is that military or civil defence assets can only be used as a "last resort" in circumstances when there is "no comparable civilian alternative" and when military assets would help bridge the "humanitarian gap" and provide unique advantages in terms of capability, availability and timeliness, and "complement civilian capability" and "meet a critical humanitarian need" (OCHA, 2007). Military humanitarian deployments are therefore only meant to be a short-term measure. Accordingly, the DMS were planning to staff the ETU for 60 days, before handing responsibility over to an NGO (Conner et al 2015). In the event the responsibility for the unit was not relinquished until June 2015, and four ~~different groups~~consecutive cohorts of clinical and support staff were deployed.

3. Methodology

We designed a qualitative study to explore the challenges that military medical personnel had faced during Operation GRITROCK, with a view to using this data to create training materials to assist deployees on similar future operations (see last section). To inform the interview guide for the main participant interviews, we conducted ~~a set of~~ five preliminary interviews with key informants. We refer to these people as 'key informants' to distinguish them from 'participants' (those who later took part in the study itself). These key-informant interviews were semi-structured and each lasted approximately one hour. Key informants were selected using purposive sampling. They were chosen on the basis of having played a central role in advising the UK government before the UK response was announced, and/or then having a central role in ensuring the success of the operation before it started e.g. designing and delivering training to those deploying, collaborating on identifying equipment, writing standard operating procedures etc. Four had a clinical background and one did not. Four were in senior 'command' positions. The key informants understood the purpose of the interview, and that it would be recorded. Written or verbal consent (audio recorded) was also obtained. The interviews were transcribed for ease of

access to the data and to ensure accuracy, but were not formally coded (unlike the participant interviews).

In addition, field notes were taken during observations of pre-deployment training being delivered to Canadian and British personnel at the Army Medical Services Field Training Centre (AMSTC), Strensall, England. Notes were also taken of conversations with those running and assessing the training (with their knowledge and agreement) during this period of observation. Some of those not formally interviewed who provided information at this point later participated in the study. These field notes were used in combination with the main ethical issues identified by the key informants to develop the interview guide for the later, larger set of interviews. Some of these ethical issues are reported and explored in the following section. The ethical commentary on these issues reflects the views of the authors and not those of the key informants, DMS, or the MOD.

4. Some of the ethical issues

The ethical concerns around the decision to commit DMS personnel to treat EVD, eligibility criteria and risk were raised by more than one person. The issue of evacuation was raised in some form by everyone, and while the balance between informing troops and maintaining morale was mentioned by only one key informant, it was also described in the larger interview set (as a minor theme); the use of closed-circuit television cameras (CCTV) emerged during the field work in Strensall.

The planning for what became Operation GRITROCK started in July 2014 and the ETU was built and staffed ready to accept patients by the end of October 2014. In between was an intense period of activity including reconnaissance in September to determine whether it would be possible to set up treatment units and whether a unit should be set up and staffed by DMS. Pre-deployment training also had to be devised and provided, based on simultaneous planning for how the ETU would run, with what equipment, and what level of service to provide. In addition, the reconnaissance had identified the need to assist the Sierra Leonean government in planning and coordinating the local crisis response, and to provide local workers with training in the use of personal protective equipment (PPE), in which the military also played a prominent role. This took place against the backdrop of the outbreak intensifying in severity, with modelling over the summer months suggesting expediential increases in the numbers of those affect in the coming months (though this turned out to be ~~wrong~~ mistaken (Butler, 2014)). In addition, there was increasing media interest at this time, and international debate on how best to contain the spread of infection. Over the summer of 2014, borders in neighbouring countries were

intermittently closed, whole communities 'locked down' and airlines suspended flights to affected areas.

4.1 'Making the call'

The interviews with key informants suggested that those charged with advising the government struggled with the ethical issues that surrounded deploying the military to have an active role in the care of those afflicted with the EVD virus. For instance, one prominent issue was whether this could be done effectively whilst simultaneously guaranteeing medical support for British troops elsewhere in the world, including combat troops should the need arise. Related to this, and given the estimates in circulation about the scale and duration of the outbreak, there was a need to have a clear exit strategy, which required there to be in place an identified organisation to whom responsibility for the ETU could be handed. Clearly, this kind of consideration speaks to the prime organisational responsibility of DMS and need not be debated further here. There were operational concerns about how few of DMS staff were already trained to deal with infectious disease, and also concerns about an absence of existing kit, policies and procedures in a medical service that, up to this point, had been geared primarily towards treating trauma. Finally, there were concerns about how dangerous the mission would be, how effectively the risk to the troops could be mitigated, and the degree of confidence there could be in the predicted risk calculations. In talking to our key informants, we found that individuals had different ways of evaluating these kinds of concerns. For one, the final justification rested on that individual's understanding of what the military was for:

> I equated it to a special forces uh hostage rescue mission, where we as a nation demonstrate that we will do everything we can in order to look after our people if they're in trouble... some of our bravest and best as a nation... had deployed out to that country for no reward financially, but only to try and help... we should be proud of our nation's ability to produce people like that, and if they get into that situation then they should be supported.

For another, the justification seemed to be located more in the obligations that flowed from being a healthcare professional:

> there was a very strong ... moral push from the clinicians that we should be doing something and indeed also er that our heritage is very much in development of erm infectious disease ... so this this was a natural er thing for us to do.

Another spoke about being very concerned about the risks because:

> you can take interventions to reduce chances of something happening but the event, when it happens, is still catastrophic... an individual may develop a severe infection and die... no matter what you could do, you're still going to be left with a significant risk [that] people become ill and die.

For this informant, the risk assessment appeared to be influenced by a strong sense of obligation to juniors: "*I was worried about the safety of my people and was I actually doing the right thing in endorsing it* [the decision to deploy]."

It was interesting for us to see, once all of the study data had been analysed, that this division between a military understanding of the mission and what we called a more humanitarian understanding of the mission was also found in how the participants themselves evaluated and understood the risks involved. This was also the case for the strong desire to protect those in their command, conceived as a military obligation owed to those commanded.

4.2 Determining the Medical Rules of Eligibility (MRoE)

At the time that Operation GRITROCK was in the planning phase, predictions about the course of the outbreak were pretty dire (see above). Initial capability was sufficient only for a small, 8 bed ETU (with four beds for recovery, making 12 in total). This unit would be reserved for healthcare professionals (and other eligible persons). The ETU that was staffed by the British (and later Canadian) military was only part of the UK response. Other treatment units were built with the help of British military expertise, including a 70 bed unit – to be run by Save the Children, with funding support from DFID – that would cater for the general population.

The rationale for establishing a unit for healthcare professionals was described by our informants in the following terms:

> We were deploying a 12-bed Ebola treatment facility. Not to try and stop the spread of Ebola and treat everybody that deserved care, but to stiffen the resolve and confidence of overseas workers that were coming to the country to help.
>
> It was all about sustaining the will of healthcare workers to stag on

This view is reflected in the account of the operation provided by Bricknell and colleagues:

> In the early stages of planning, the government's medical advice was to retain Ebola cases in country to reduce the risk of transmission in the UK. It was agreed that this would require the best available hospital services to be deployed *to provide reassurance to volunteers and their families that they would receive care at a standard comparable to that which would be delivered in the UK*. (Bricknell et al, 2015. Our emphasis)

Given that planners were anticipating arriving into a situation of huge need, it was decided~~termined~~ that the beds in this unit would need to be strictly ring-fenced in order to maintain confidence.

> I thought that we would struggle to cope just with healthcare workers... that we would eventually have to turn healthcare workers away...there was significant pressure, understandably from the clinicians, to say why can't we take more people? ...we should be filling up our beds with those in need... because they're good people and they want to be useful and want to help... So that was a dilemma that I hadn't envisaged happening. Because I thought the beds would be full. But actually we had

> the ethical dilemma of empty beds in a Ebola treatment facility and people dying outside. But if I responded to the clinician's claim and said right fill the beds up with non-entitled but next week suddenly we get an outbreak in a Ebola hospital somewhere and we have ten international staff that needed a bed, and wouldn't be able to come in because we'd had the non-entitled there.

It was against this background that the MRoE were devised (and the empty beds referred to created, according to our participants, the most prevalent and difficult of the ethical challenges they faced on deployment). However, even at the planning phase the MRoE seem to have been contentious:

> initially we were told it was just for international healthcare workers - that didn't make sense

Ultimately, the MRoE gave the medical commander discretion to admit local healthcare workers (capacity permitting) (Bricknell et al, 2015).

Even taking into account that this ETU was only part of the UK response in Sierra Leone, the principles behind the MRoE and the resulting order of priority (international workers over local workers) seem controversial. According to a WHO report published in May 2015 (WHO, 2015) the local health service workforce had borne the brunt of the outbreak, being disproportionately affected (being 21-32 times more likely to be infected than the general population). In Sierra Leone, 368 of the country's health care workers were infected and 69% of these died. Nurses and nurses' aides represented 57% of this number and the country also lost some of its most significant medical leaders, such as virologist Dr Sheik Umar Khan. There was a real risk that the country's already fragile health service would be completely disseminated, hampering the country's recovery for years to come. It is therefore difficult to see why healthcare workers were not granted greater entitlement under the MRoE, notwithstanding the difficulties of determining how broadly 'healthcare worker' should be defined for this purpose.

4.3 The use of cameras in the ETU

One of the measures developed to minimise the risk to personnel in the ETU was a system of CCTV cameras (Bricknell, 2015), with two-way communications capability. According to our field work the cameras had four broad potential uses:

- they enabled patients to be constantly monitored without the need for staff to be present at all times in areas where those suspected or confirmed to have EVD were being cared for (so called 'the red zone');
- they enabled team leaders to determine how many staff of what kind to send into the red zone if a patient was in unexpected need of assistance. For example, it would enable the monitor to see whether a patient had hit his or her head when

falling. This would reduce the number of staff needed to enter the red zone to attend to the patient;

- they enabled the monitoring of staff; team leaders could observe staff for e.g. signs of fatigue or potentially risky practice with a view to advising them to leave the red zone or offer advice on practice using two-way radios;
- they enabled infection control staff to potentially investigate the source of any infection to personnel by enabling them to 'follow' the actions of that member of staff in the period leading up to them becoming unwell with a view to improving infection control process.

The introduction of cameras was not however ~~without its~~un-controversial~~y~~. Despite the advantages outlined above, there were concerns that their use violated the privacy of patients. These kinds of concern are not unfamiliar when surveillance technology is used in health care (see for instance, Draper and Sorell (2013) and Sorell and Draper (2012)). The view taken during design of operating procedures for the ETU was that the use of cameras within the ETU was no more than a more modern way of looking through a window at a patient, with the advantage of being able to converse with the patient using the two-way microphone system. The opportunity to interact from a distance when dealing with such a dangerous pathogen provided an additional layer of force protection to staff. In the event, patients were subsequently asked what they thought about the use of CCTV and feedback was that they felt reassured that they were being monitored and felt that if they needed assistance CCTV provided a robust adjunct to staff intervention[3]. Much ethical consideration was given both by the Training Team and deploying Command Team to the use of the video data that was captured as a component of the technical makeup of the CCTV system. Consideration had to be given to the collection of video imagery of patients (including some in great distress) and whether and when staff safety was outweighed by patient dignity. The decision-making process for this was handed over as a command decision to the Command Team within the ETU.

Whether or not concerns about patient privacy are justified rather depends on whether the capture of images was a proportionate response, how the resulting images are used and whether the data is stored. The conditions that pertained in the ETU were challenging. The working temperatures were exacerbated by the need for PPE, and it was not possible for staff to remain in the unit for more than a couple of hours before becoming exhausted, dehydrated and prone to errors that may have resulted in a breach of PPE or harm to their patients. These gruelling conditions taken together with the legal obligation to minimise

[3] Informal Patient interviews conducted by Commander 2nd Medical Brigade, Brigadier K Beaton in Nov 14 (personal correspondence).

the risks to staff (see above) meant ETU policy and practice was designed to restrict entry into the red zone to that which was strictly necessary. 'Strictly necessary' was of course not a threshold intended to limit the treatment and care of patients who need it. 'Hands on' care was provided when needed, but where 'hands on' care was not required, just 'eyes on' care, this 'eyes on' care was provided at a distance using CCTV. This does not seem objectionable from the point of view of the provision of care. Some MSF units appear, from pictures at any rate, to have been designed so that patients could be monitored through Perspex screens on either side of a central corridor. One difference between the two systems was the amount of time it would take to get staff to a patient in need, since in the camera system, PPE would need to be donned prior to entry. Keeping staff in PPE whilst not needed in the unit would have reduced entry time, but not the physical wear and tear of being encased in impervious garments. On the other hand, the camera system meant that someone had 'eyes on' the patient all of the time, whereas other systems depend on a member of staff to be present when a need arises, unless all patients are nursed in open nightingale style wards, which compromise privacy in different ways and increase the difficulties of infection control.

There is an obvious trade-off to be made between being monitored all of the time (CCTV) and having periods of privacy during which need may go unnoticed (having a greater staff presence in the red zone). One difference is that patients, assuming they were not too ill to notice, would know when there is someone nearby but would not know if, who and when someone is watching them on the camera. The use of CCTV increased the possibility of someone who might not otherwise have entered the red zone inadvertently violating privacy. For example, someone not related to direct healthcare entering the office where the CCTV screens were. This inadvertent violation could however be readily limited by restricting access to the office.

In terms of proportionality, however, given that patients are generally subject to a degree of scrutiny even when direct care is not being provided, the additional intrusion on privacy is a small burden compared to the burdens and risks to the staff of the monitoring alternatives, particularly if these risks to staff would have knock-on effects on the care received by patients.

Whether it would be privacy-violating for the CCTV system to record as well as to transmit images again probably depends on who accesses those images and for what purpose. Being able to revisit, for example, the moment a patient fell could be directly beneficial to the patient in terms of gaining a complete history. Revisiting CCTV images of an infected member of staff as part of an investigation of the source of their EVD infection would mean the member of staff and not the patients being observed, though it may be impossible not

to see patients too (much like ordinary citizens might be viewed by police retracing the movement of a suspect through a crowd). Clearly, different people hold different views about the extent to which such surveillance activities are intrusive, and one clear difference is that a patient's bed-space is not a public area in the same way that e.g. a shopping mall or street is. However, in both cases the images are not being perused out of idle curiosity or some variety of prurient interest. Rather, there is a legitimate interest in play. Healthcare practitioners have an interest in infection risks to them being minimised by improved infection control practice; and their employers have a legitimate interest in being able to discharge their legal obligation to mitigate as far as possible the risks to employees going about their duties.

Clearly, policies should be in place that ensure that images are not stored for longer than necessary and are securely destroyed, and to ensure that access to stored images is limited to legitimate purposes. The consent of patients should be secured before stored images are used for training or other purposes.

4.4 Evacuation of EVD-infected personnel

Despite the WHO recommending the air travel should not be suspended, some groups lobbied hard to prevent all air travel from affected countries. There was debate, including in the UK, over repatriating affected nationals and the risk of transmission. Indeed, this seems to have been one of the rationales for establishing the DMS-run EVD treatment unit (Bricknell et al, 2015). Accordingly, it was not clear – particularly in the run up to the initial deployment – whether military personnel who became infected could or would be brought back to the UK, including being repatriated for burial if they succumbed to the virus.

This raised two issues: the first was whether there was a moral obligation to evacuate military personnel back to the UK for treatment (or burial) and second, in face of the uncertainty over whether staff could or would be brought home, what information should be provided to deploying personnel on this issue.

4.4.1 Was there an obligation to undertake to evacuate infected military personnel?

During Operation HERRICK (the codename given to British operations in Afghanistan 2001 - 2014), care provided to injured soldiers was improved by the establishment of an increasingly well-equipped Role Three hospital in Camp Bastion and also the increase in skills and techniques forged through experience of treating the wounded between 2006 and 2014 (Hodgetts, 2014). One aspect of this care was the rapid evacuation of the British wounded, by the Royal Air Force (RAF) Critical Care Air Support Team, for definitive care in the UK. Likewise, those who were killed in action were repatriated for burial with full

military honours (Walklate et al, 2015), which was not historically the case. The Commonwealth War Graves Commission maintains 23,000 cemeteries and memorials in 154 countries that commemorate soldiers who were buried where they fell in combat zones. The routine evacuation of the injured and dead of Operation HERRICK may have created a cultural *expectation* of repatriation but this expectation may not have a moral basis.

During the planning and first training stages for Operation GRITROCK there was no policy for repatriation.

The Royal Free Hospital in London is the only High Level Isolation Unit in the UK and has only two beds. At the time that the planning for Operation GRITROCK was taking place, only one patient with EVD had been treated in the unit, a volunteer civilian nurse (Will Pooley) who had been repatriated by the RAF in August 2014. Accordingly, it was unclear whether there would be sufficient beds in the UK to evacuate infected military personnel to, nor whether the standard of care provided in the UK would actually be superior to that planned in the EVD treatment unit (albeit that this care would be provided in more comfortable surroundings). Indeed, it might be contended that given the experience of treating multiple EVD cases, the care provided in the unit would surpass that provided by the Royal Free. Moreover, as Bricknell et al suggest

> "the goal for deploying the EVD TU [Ebola Virus Disease Treatment Unit] was to demonstrably deliver a level of care to infected healthcare workers...as close as practicable to that provided in Western national infectious disease containment facilities." (Bricknell et al, 2015)

This suggests two things. The most obvious is an expectation that the standard of care would in fact be very good. But second, confidence in that standard may conceivably have been undermined, rather than demonstrated, if those staffing the facility were routinely removed for care elsewhere. Moreover, there was the additional question of whether repatriation was the right thing to do given the potential risk of transmission to the UK, which would pose a risk of harm to the general civilian population.

Michael Gross (2008) has argued that military personnel who cannot be rehabilitated for battlefield duties fall outside the concern of military medicine and become the concern of civilian medical services, where they should not be regarded as a higher priority for treatment than civilians with similar health needs. This argument assumes that the military medical effort at the time is concentrated on sustaining the fighting force, which is an assumption that may not be appropriate in cases of *humanitarian* military intervention such as Operation GRITROCK. Nonetheless Gross's argument appears, at least at first sight, to have some relevance in the circumstances of Operation GRITROCK. Here the military medics were deployed to the ETU, as part of a humanitarian effort, to treat – at least in the

first instance - *civilian* healthcare workers. The 'enemy' was the virus and the 'troops' were the 'coalition' of healthcare workers, local and international, treating the affected local population. By analogy, then, those who should be prioritised for treatment in the ETU should have been those 'troops' most like to return to the 'frontline' of treating EVD patients. Indeed, such 'troops' would be arguably more effective since they would have immunity from further infection. Given that the predicted British military tour of duty was between 60-90 days (depending on role) it seems unlikely that any British military personnel who recovered from EVD would realistically have continued to work in the unit. Local healthcare workers, on the other hand, could reasonably have been expected to return to work upon recovery. The situation in relation to the expatriate civilian volunteer workers is less clear: some may have chosen to return to work on the 'front line' (Will Pooley returned to Sierra Leone following his successful treatment). Others may have chosen repatriation (or simply come to the end of their agreed period of volunteering). This line of argument suggests that the correct order of priority for the British military medics in the ETU (see MRoE above) should be first to treat the local healthcare workers, then any international workers likely to remain in Sierra Leone on recovery, with the British military and international workers unlikely to remain in country being third in line. If, on the other hand, the battle being fought was that of combating the fear of international civilian responders (as the 'mission' reported by Bricknell et al 2015 suggests) than the prioritisation of international workers may have been justified, though infected British forces would have remained in third position (since they had no choice but to go if ordered to).

Gross (2008) also argues that not providing sophisticated treatment to wounded service personnel (who cannot be returned to battle) is unlikely to have negative impact on morale. He argues that "[a]bandonment is probably more corrosive of morale than lack of sophisticated care" because the "cries of the wounded left on the battlefield were probably far more demoralising for an army than anything the enemy could throw at them." (Gross, 2008, 5) Bien, Kinoshita and Rosen (2008) respond to this point by suggesting that not being able to offer care to the 'unsalvagable' wounded may undermine the morale of the military *medics* (if not the troops generally). They contend that "one core motivator for the United States military is their commitment to comrades" and that "[a]s members of the military, it is likely that blocking a helping professionals' ability to assist their comrades would result in burnout and compassion fatigue" (Bien et al, 2008, 22). If they are correct, and if the same motivations can be applied to the British military, then expecting the medics in the ETU not to prioritise the care of their infected co-workers might be equally damaging.

Selgelid argues that when

> "volunteers suffer injury in the pursuit of selfless activity, they deserve compensation from the societies they serve. A principle of reciprocity would hold that when volunteers make sacrifices for the sake of society, it is right to expect society to give them something back in return." (Selgelid, 2008, 19)

He continues that whilst soldiers injured in the discharge of their duties are clearly owed what Gross (2008) categorises as a right to healthcare on the grounds of their humanity – just like anyone else – they may have additional rights that are generated from reciprocity, and that to fail to recognise this by prioritising them over citizens in equal need of care is to unfairly place all of burdens of the 'health harms' of war onto soldiers. The UK Armed Forces Covenant (MOD, 05/11) in part reflects Selgelid's position by stating the in recognition of society's moral obligation to its armed forces, those *injured whilst on duty* should get priority care. It is a little more ambiguous, however, when it comes to veterans: "veterans...should receive priority treatment where it relates to a condition that results from their service in the Armed Forces, subject to clinical need." (MOD, 05/11) Selgelid-type reciprocity arguments would, however, apply equally well to anyone who volunteers (even if as a paid worker) to care for those with EVD, so it may not help to determine priority within even a military-run ETU. It may, however, bring duties of reciprocity to bear when considering whether or not to repatriate military (or other) personnel for treatment when this runs the risk of transmission to the home nation.

Repatriation that runs the risk of transmission may equate to sharing the burdens of the health harms of the response to EVD with the home population, who would be otherwise sheltered from these harms. On the other hand, if one of the aims of deploying the military was to attempt to contain EVD in West Africa, rather than sharing the health harms of the fight against EVD, repatriation potentially brings the fight itself home. In this respect, then, what the volunteers (military or otherwise) might be sacrificing for the sake of others, is not just the effort they expend abroad, or even just their health or their lives. They would also be taking on the *additional* burden of *not* being able to be repatriated for treatment. The magnitude of this burden depends upon the quality of the care being offered in the ETU (in our case, remember, the standard of care was assumed to be very good). Moreover, there may be a motivational difference between the military and civilian deployees. Military deployees are ordered to deploy and the motivation for deploying belongs to their government (which may or may not have primarily been the protection of the – in this case – British population by containing EVD in West Africa). We might suppose civilian volunteers to be primarily motivated by the plight of those in West Africa, in which case it is the EVD-affected population who might be regarded as having some kind of reciprocal duty. Returning to the military deployees, if repatriation is not possible

then the reciprocal duty may need to be met in other ways, for instance through compensation or prioritisation for ongoing care back home once repatriation without risk of transmission is possible.

As things turned out, only one of those deployed to the ETU was infected. The infected individual and five close contacts were repatriated in early March for treatment and observation respectively. In addition, at the end of January 2015 two serving healthcare workers sustained needlestick injuries in the EVD TU and were also evacuated. (Bricknell et al, 2016).

4.4.2 Should the debate about repatriation be shared with those deploying?

So much for treatment and repatriation. Our second issue regarding the possible evacuation was whether this uncertainty over repatriation should have been shared during pre-deployment training. Our field observations and preparatory interviews suggest a reluctance to have a full and frank exchange with deployees in answer to their questions about evacuation. One reason for this was that, because there was uncertainty, those being questioned felt that they had no definite information to share and were understandably reluctant to give, or even appear to give, false reassurances. Another concern related to this was that sharing uncertainty may itself undermine morale, particularly in the less experienced junior ranks. This was also an issue in relation to discussing the risk of infection, which was also something of an unknown. This type of concern is another example of the tension the dual obligations of a military career give healthcare workers. Certainly, the norms in healthcare practice point to a full and frank disclosure of information, including not shying away from the technically difficult communication of information about uncertainty and risk. Equally, maintaining the trust and confidence of troops is important in the military. There is arguably a case for maintaining a position of 'honest but less than full disclosure' where those receiving the information have little scope for autonomous decision-making, and loss of confidence may undermine operational effectiveness. Whether this line of reasoning is as justified in the face of non-combat risks may depend on how swayed one is by the arguments elsewhere in this collection that this kind of operation, because of its nature, should have been conducted on a volunteer-only basis. At the time, there was very little time to devote to peripheral issues such as this one during the planning phase for Operation GRITROCK. The training given to the first set of deploying troops was devised and delivered within a matter of weeks. It is, however, a topic that the military might like to reflect on as they begin to absorb the lessons of this deployment and plan for future operations.

5. Conclusion

Operation GRITROCK was the first purely humanitarian mission that the UK military had undertaken for some years, and as a consequence, planning for this deployment raised some new ethical challenges. These ranged from bigger picture questions about what the role and the purpose of the mission was, to specific issues like how to the balance the privacy of patients against the safety of medical personnel. This project has helped to identify and explore issues to facilitate the creation of training materials to help those deploying on similar missions in the future, so that they can benefit from the experiences of those on Operation GRITROCK. A partial, illustrative example of this on-going work has been included in this chapter. If anyone reading this chapter would like to contribute to this on-going work they are invited to make contact with the first author or the editors of this collection.

* * *

Example of case-based training materials generated from the reported experience

The Process

One of the aims of our project was to create training materials to prepare military personnel for the ethical challenges they might face, initially on Operation GRITROCK but also more broadly when deployed on humanitarian missions. For the most part, we are working on developing case studies for discussion based on the experiences of those who worked in the Kerry Town ETU. We have used the experiences of participants to create these, but have generated composite cases to preserve anonymity.

Working on the assumption that those involved in medical military policy, planning and governance might benefit from some exposure to ethical issues, we included the issues discussed here in our expanding portfolio.

The cases will, as far as possible, be publically available. We have therefore also been working with members of the COST action 'Disaster Bioethics' on these cases, and we have also piloted them at the 2015 DMS Ethics Symposium. ~~Below we provide a sample of this work in progress.~~ The format is a brief case study with questions for group discussion. ~~We also provide notes to guide a group facilitator. We have not included these 'facilitator notes' out of respect for the chapter word limit. In the case below, these take the form of bullet point notes on issues that may, could or should arise in response to each of the questions.~~

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A Sample:

The case: Cameras replacing carers?

A treatment unit is being set up as part of a humanitarian effort to combat an outbreak of a severe and infectious virus in a low-income country. The affected country is hot and humid. Staff are only able to work for a couple of hours in personal protective equipment (PPE) due to the extreme heat and humidity as there is no possibility of effective air conditioning. It is possible for cameras to be fixed in the treatment areas of those affected by, or suspected of having, the virus. This would enable staff to monitor patients without having to don PPE and be exposed to risk by entering the 'red zone' (the area where there is risk of infection). Fixing cameras would enable patients to be monitored remotely.

The feed from the cameras could be recorded. This would enable staff to decide how many personnel to send in to a patient needing care (e.g. if the patient collapses and falls, it would be possible to replay the tape to see whether they hit their head or if a patient is agitated). A potential longer term use for the recordings would be re-tracing the movements of anyone working in the Unit who succumbs to infection. This could potentially improve infection control routines and also assist training back in the sponsoring nation's training facility. The recording of patients could, however, be regarded as an intrusion of privacy and a failure to respect dignity. The use of recorded data for purposes other than patient care might also be regarded as a misuse of personal data.

Please discuss the following questions with your group members:

1. Using an ethical framework that focuses on consequences, list and discuss the arguments for and against using camera in this way.
2. Taking the perspective that 'our duties to our patient come first' list and discuss arguments for and against using cameras in this way.
3. Compare the arguments that you have generated. Note whether and if so why some arguments appear in both exercises. Which set of arguments do you find most persuasive and why?
4. What is your overall view about this use of cameras? Do you think your views have changed during the course of this exercise? Reflect on what changed your views.
5. If using cameras is an acceptable response, should there be any limits to the use of cameras? If so, what and where? Who should be able to view the recordings?
6. Should patients' consent be gained? At what point? Should the patients be allowed to refuse consent and still receive treatment in the unit?
7. What should happen, and why, if a patient is admitted to the unit who is unable to give consent (lacks capacity)?
8. To what extent would you be prepared to impinge upon an individual's liberty and privacy by overruling their autonomy for 'the greater good'?
9. Is consent required from the staff too as all of their movements will also be recorded?

Issues raised by the case

1. Patients' right to privacy and dignity
2. Justifiable breaches to patients' privacy
3. Minimizing risk to staff by compromising individual patient care

Potential learning outcomes

1. Identification and consideration of ethical issues
2. Increased understanding of ethical issues and duties

3. Beginning to understand and apply consequentialist ways of addressing issues and associated problems
4. Beginning to understand how ethical issues may be anticipated and avoided

Sample of Tutor Guidence Notes:

Question 1
Using an ethical framework that focuses on consequences, examine the arguments for and against using cameras.

Arguments FOR:
Monitoring patients and their needs without having to go into the unit:

i) Lessens the risk of infection to staff as staff are able to assess what is needed without having to enter the 'red zone' to determine patient needs
ii) Reduces staff discomfort and the need to work in PPE in extreme heat and humidity where/when not necessary
iii) Less time in PPE might equate to less staff fatigue/stress and risk of associated mistakes in clinical care and infection control
iv) Increased monitoring of patients, any patient's needs should be easily observable and therefore clinical care can be more responsive and therefore improved
iv) Record of infection control measures taken- may prove a useful tool in tracking possible routes of infection/risk of infection
vi) Record of treatment of patients with EVD- can be used for future training and research purposes

Arguments AGAINST:

i) Treats patients as objects of surveillance rather than people – which may translate directly into how staff then treat patients.
ii) Staff may spend less time with patients and patients will consequently feel uncared for.
iii) Staff may be made nervous by cameras and may make more mistakes and therefore increase their risk of infection and infection spread.
iv) The local population and further populations may perceive this monitoring as intrusive and undesirable and it may lead to a loss of trust in healthcare workers/military in the UK.
v) Patients may feel their rights have not been respected as they haven't been asked about the cameras. Staff may also perceive that the ethical norm of the doctrine of informed consent has not been complied with- or if patients' consent has been sought it is conditional – in that no treatment is available without the use of cameras. This may be perceived –as coercive and 'big brotherish' and counter to the concept of patient autonomy. This may also erode trust and confidence in the service being provided.

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