

## Case Discussion

# Can Healthcare Workers Reasonably Question the Duty to Care Whilst Healthcare Institutions Take a Reactive (Rather than Proactive) Approach to Infectious Disease Risks?

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Healthcare workers (HCWs) carry a substantial risk of harm from infectious disease, particularly, but not exclusively, during outbreaks. More can be done by healthcare institutions to identify risks, quantify the current burden of preventable infectious disease amongst HCWs and identify opportunities for prevention. We suggest that institutional obligations should be clarified with respect to the mitigation of infectious disease risks to staff, and question the duty of HCWs to care while healthcare institutions persist with a reactive rather than proactive attitude to infectious disease threats.

## Introduction

There has been an increasing emphasis on the prevention of avoidable harm to patients arising as a consequence of healthcare-associated infection (HCAI). In many countries HCAI (of patients) is subject to mandatory surveillance, reporting and analysis of potentially remediable risk factors. In some countries (such as the UK), healthcare institutions are subject to a variety of penalties when HCAI targets are breached or preventive standards are deemed to fall below acceptable levels. By contrast, there is no mandatory surveillance and no formal system of reporting of HCAI of healthcare workers (HCWs), and the analysis of remediable risk factors for occupationally acquired infectious diseases is exceptional rather than routine in the majority of healthcare systems.

Recent articles on the duty to care during outbreaks of life-threatening disease have given little emphasis to institutional obligations to assure safe working conditions for HCWs (van der Weijden *et al.*, 2010; Ovadia *et al.*, 2010; Ruderman *et al.*, 2006). Unfortunately, recent experience has shown that risks associated with outbreaks of life-threatening disease only receive the attention of those who manage healthcare facilities *after* HCWs have suffered serious adverse consequences. Institutional responses have been reactive rather than proactive (Kilmarx *et al.*, 2014; McDonald *et al.*, 2004; Poon *et al.*, 2004; World Health Organization, 2014, 2015).

The duty of HCWs to care cannot be isolated from reciprocal societal and institutional responsibilities to assure the safety of HCWs. We suggest that when the priority given to HCW safety is reactive to changing perceptions of risk, the duty of HCWs to care can be

questioned. We argue that institutional reciprocal duty requires actions that anticipate risks to the safety of HCWs (proactive reciprocity), in contrast to a reciprocity that is informed by changing perceptions of risk.

## HealthCare Workers as Victims and Vectors

HCWs carry an increased risk of infectious diseases by comparison with the general public. Heightened risks to HCWs from certain infectious agents such as tuberculosis (TB) are well documented. Deaths from TB, human immunodeficiency virus (HIV) and hepatitis B and C were estimated in the 1990s to account for a larger proportion of deaths in the USA amongst HCWs than deaths from injury (Sepkowitz, 1996). A more recent review of the literature suggests that the risk of TB is higher in HCWs than the general population with an incidence rate ratio of 2.0 in low-incidence countries rising to over 5 in high-incidence countries (Baussano *et al.*, 2011). The World Health Organization (WHO) reports that ‘Among 35 million health workers worldwide, about 3 million receive percutaneous exposures to blood-borne pathogens each year’ (World Health Organization, 2003). The WHO estimates that as many as 15,000 will develop hepatitis C, 70,000 hepatitis B and 500 HIV. The WHO states that 90 per cent of these infections are in developing countries and most are preventable.

The risk of Ebola amongst HCWs during the autumn of 2014 has been estimated as 8285/100,000 compared with 80.4/100,000 in the non-HCW West African population (Kilmarx *et al.*, 2014; McDonald *et al.*, 2004). Severe acute respiratory syndrome (SARS), Ebola and Middle East respiratory syndrome have all been associated with a disproportionate burden of death and disability amongst HCWs by comparison with the rest of the population (Kilmarx *et al.*, 2014; McDonald *et al.*, 2004; Poon *et al.*, 2004; World Health Organization, 2014).

The control of infection risks to HCWs has substantial implications for patients and for public health. Large outbreaks of infectious disease have been attributed to HCWs (Danzmann *et al.*, 2013). HCWs have also been implicated in the transmission of antibiotic-resistant microbes within institutional contexts (Harris *et al.*, 2013), and from hospitals into the community (Mollema *et al.*, 2010). There are also descriptions of

HCWs carrying infectious agents from the community into hospitals (Chang *et al.*, 1998).

As an example of an infectious disease scenario during the Ebola outbreak in West Africa we report the case of a febrile returned traveller who presented in 2015 to a London hospital.

## Case Summary

A 45-year-old British man returned to the UK from a work trip to Kenya and Nigeria in early 2015. On the second day of his return, he became febrile and subsequently developed a widespread rash. When his temperatures failed to subside, he presented to the Accident and Emergency (A&E) department of his local hospital in the early hours of the following day. In light of the Ebola outbreak in West Africa, departmental staff became concerned about the possibility of Ebola virus infection. During the procedure of admitting the patient to an isolation room, there was considerable alarm among departmental staff. Several HCWs and auxiliary staff (including porters and domestic staff) refused to enter areas that the patient had passed through.

Designated personal protective equipment was identified, but only after involvement of senior staff members in the department. Many members of staff remained concerned about the personal risk of infection, and some time elapsed before a junior doctor and nurse were identified to assess the patient. Following basic bedside investigations and a brief clinical history and examination, relevant blood samples were taken in anticipation of diagnostic testing. Advice from Infectious Diseases and Virology experts was that the travel history made the diagnosis of Ebola unlikely. It was also agreed that samples should be sent to a national reference laboratory for tests to include Ebola. Several hours ensued before relevant laboratories and appropriate courier services could be organized. Meanwhile, the patient remained clinically stable, but was increasingly concerned about the lack of communication and apparent anxiety of the departmental staff. In total, 6 hours after admission of the patient to the A&E department, a member of staff noticed that the patient had absconded from the department.

This case illustrates a number of failings at an institutional level related to risk communication to staff, availability of personal protective equipment and the training of HCWs. The consequences of the patient

absconding, had the patient been suffering from a severe communicable disease, could have been both serious (for the health of the patient and contacts) and wide ranging (public anxiety). There was a written policy for the management of suspected Ebola cases. Unfortunately, most staff members were not familiar with the details and had not received formal training. A number of the staff were temporary and relatively unfamiliar with the A&E department. There were also many non-medically qualified staff with varying degrees of insight or understanding of infectious disease risks. The case highlights the necessity of robust institutional policies for the protection of HCWs, and illustrates the potential consequences to HCW, patient and public in situations when these are lacking.

## The Safety Culture of Healthcare Institutions

The US Occupational Safety and Health Administration in a recent report (Occupational Safety and Health Administration, 2013) identifies hospitals as one of the most hazardous places to work—more hazardous than construction and manufacturing, with nursing aides and auxiliary staff carrying a substantial proportion of the harm that results from healthcare employment. Much of this harm is not attributable to infections, but it does suggest that there is scope to do more to limit occupational harm to HCWs.

The ‘safety culture’ of healthcare institutions impacts on staff outcomes (Health Foundation, 2011), and the degree of compliance of HCWs working in a healthcare system with personal protective measures reflects the attitude of the institution to safety. A report from the US National Academies (Goldfrank and Liverman, 2008) questions the safety culture of US healthcare institutions with respect to HCW safety and compliance with personal protective measures. The report identifies ‘developing and disseminating effective supervisory and reporting procedures that encourage feedback and fairly enforce adherence to infection prevention practices’ as challenges. This report states that ‘assessments of the explanations for noncompliance and the solutions to these issues need to focus beyond the individual and address the institutional issues that prevent, allow and even favour non-compliance’ (Goldfrank and Liverman, 2008). The implication of these statements is that institutions could do more to mitigate risks to HCWs from infectious diseases.

Zohar identifies a number of factors determining the safety culture of institutions including the relative priority of competing demands, and the gap between espousal and enactment. Zohar in a review of safety climate research states that ‘how organizational leaders trade-off production-related policies and procedures when situations arise where some policies are in direct conflict with safety will provide the clearest message to employees regarding which is important. . . .if productivity is favoured over safety across a variety of situations, it implies a higher priority and employees will align their behaviours accordingly to the detriment of safety’ (Zohar, 2010).

There has been much concern in the press that English National Health Service A&E departments are understaffed, with targets designed to maximize patient throughput, while at the same time financial constraints are compromising staffing levels (Donnelly, 2016). Even so there is also evidence that the safety culture of institutions can be improved when given sufficient priority and that improving safety does not necessarily compromise efficiency (King’s Fund, 2016).

It is important to remember that many workplace risks, including infectious disease risks in the context of healthcare, can be controlled if given sufficient priority. Mandatory reporting of staff sickness rates attributable to infection, staff vaccination rates and the reporting of incidents and outbreaks from the perspective of HCW experience are achievable.

## The Duty to Care

It is hard to see how an ethical argument can be made that HCWs should be prepared to sacrifice themselves during a period of heightened risk. We cannot argue that HCWs should become vectors, or that an overall benefit is sufficient to justify the loss of individual HCWs. The loss of HCWs from Ebola during the recent outbreak in West Africa probably contributed to a substantial rise in deaths from malaria, TB and HIV (Parpia *et al.*, 2016).

The majority of HCWs’ work in a managed cooperative system and the majority of individual HCWs who have died during recent outbreaks of life-threatening infectious diseases such as SARS or Ebola have been institutional employees rather than independent operators. Many HCWs have no special training in infectious diseases and rely heavily on their employing institutions to communicate risks and assure their personal safety. Individual HCWs do not (generally) hold substantive responsibility for the cooperative action required to

control the spread of infectious diseases. Surveillance and the implementation of risk mitigation measures require cooperative action. An outbreak is rarely curtailed by the actions of a single HCW. It is the engagement of multiple actors in coordinated action, often decided at a distance from the point of risk that determines the degree of risk. In the case of infectious disease, the adequacy of the coordinated response determines the risk to which an HCW, patients and community contacts are exposed. Individuals have little control of infrastructure, facilities, work-load, communication, training or teaching within the institutional context.

We are not arguing that the responsibilities of health-care institutions to protect HCWs from infection risks should be unlimited, rather that if the safety of patients can be improved without compromising efficiency then why are we not asking the question—can harm to HCWs from HCAI also be avoided without compromising efficiency. Efficiency and safety are not necessarily incompatible objectives (King's Fund, 2016).

Giving more emphasis to the proactive mitigation of infection risks to HCWs can only help with the recruitment and retention of staff, with minimizing the potential role of HCWs as vectors, and to shorten the response time of institutions during periods of heightened risk, because deficiencies and potential risk mitigation measures will have already been considered or implemented.

We suggest that institutional obligations should be clarified with respect to the mitigation of infectious disease risks to staff, and question the duty of HCWs to care while healthcare institutions persist with a reactive rather than proactive attitude to infectious disease threats.

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