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Ebola outbreak preparedness planning: a qualitative study of clinicians' experiences

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ABSTRACT

Objectives: The 2014–15 Ebola outbreak in West Africa highlighted the challenges many hospitals face when preparing for the potential emergence of highly contagious diseases. This study examined the experiences of frontline health care professionals in an Australian hospital during the outbreak, with a focus on participant views on information, training and preparedness, to inform future outbreak preparedness planning.

Study design: Semi-structured interviews were conducted with 21 healthcare professionals involved in Ebola preparedness planning, at a hospital in Australia.

Methods: The data were systematically coded to discover key themes in participants' accounts of Ebola preparedness.

Results: Three key themes identified were: 1) the impact of high volumes of—often inconsistent—information, which shaped participants' trust in authority; 2) barriers to engagement in training, including the perceived relative risk Ebola presented; and finally, 3) practical and environmental impediments to preparedness.

Conclusions: These clinicians' accounts of Ebola preparedness reveal a range of important factors which may influence the relative success of outbreak preparedness and provide guidance for future responses. In particular, they illustrate the critical importance of clear communication and guidelines for staff engagement with, and implementation of training. An important outcome of this study was how individual assessments of risk and trust are produced via, and overlap with, the dynamics of communication, training and environmental logistics. Consideration of the dynamic ways in which these issues intersect is crucial for fostering an environment that is suitable for managing an infectious threat such as Ebola.

Introduction

The Ebolaviruses are members of the family Filoviridae and were first identified in 1976 after two outbreaks in Africa.[1] The frequency of confirmed outbreaks of Ebola has increased in the last two decades, with the 2014/15 Ebolavirus outbreak in West Africa representing the largest Ebolavirus outbreak in history, with 28,616 suspected cases and 11,310 deaths.[2] The Ebolavirus outbreak is set against a background of increasing

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globalisation, international travel and migration, with associated infectious threats. These have included, among others; severe acute respiratory syndrome, Middle East respiratory syndrome, Influenza A subtypes, and more recently, Zika virus.[3,4] All of these outbreaks have resulted in significant public health responses internationally, with large resource requirements and implications for frontline healthcare professionals.

The 2014/15 Ebola outbreak in West Africa precipitated Ebola preparedness planning internationally,[5–9] with extensive planning, policy development and considerable resource utilisation in countries (including Australia) that ultimately never experienced the management of a patient with Ebola. Guidance and policies provided varied significantly over the time of the outbreak. Locally at the institution in which this study was performed, guidance on Ebola management was formed at an institutional level, and more broadly at an organisational level (which resulted in alternations to local guidance), and both of these sources of guidance were modified in response to changing international guidance from organisations such as the Centers for Disease Control and Prevention.

Although phase 3 clinical trial for a vaccine is now underway,[10,11] this does not represent the end of infectious threats, or indeed Ebola, with cases of Ebola in Guinea confirmed as recently as March 2016.[12] The challenges of outbreak management more broadly will continue, particularly in an environment of increasing globalisation and international travel.[13]

It is important to glean critical transferable knowledge from the experience of Ebola preparedness planning, to inform planning and policy development in the face of future epidemic threats.[14–16] To this point, there has not been an in-depth study of the experiences of frontline hospital staff in preparing for Ebola in a resource-rich setting. This study provides a detailed qualitative analysis of the experiences of frontline healthcare professionals in an Australian Hospital, and the cultural/organisational dynamics which impacted on preparedness planning in the context of Ebola.

Methods

This qualitative study explores a range of hospital doctors' and nurses' experiences of the Ebola 2014/15 outbreak at a teaching hospital (450 beds) in Queensland, Australia, in February 2015. Following ethics approval (#HREC/14/QPCH/233), the directors of the particular hospital departments who would be responsible for delivering care to a presenting Ebola patient were approached for participation. The final sample of 21 health professionals included eight consultants and 13 nurses (four doctors and two nurses with managerial roles) of whom 12 were female and 9 were male. The sample included participants from Emergency Medicine, Infectious Diseases, Infection Control, and Management. To ensure confidentiality, further demographic details, including specific participant positions, have been withheld. The data were thematically analysed and systematically coded. Two members of the research team independently coded and cross-checked the data, which were then refined to further develop themes and an overarching interpretation of the data. Analytic rigour was enhanced by searching for atypical and contradicting cases in coding and theme development.

Results

Theme 1: Communication volume and inconsistency resulting in mistrust

Participants reflected on both the inconsistency and the volume of information that was being provided to them locally, and more widely from an organisational and a government level. This resulted in dismissal of information as clinicians were unable to assimilate the information in the limited time they had:

> *The flood of resources, as in documents from the CDC, or WHO or [organisational name] or whoever it is has just been incredible. You open up my Ebola file on the computer it's incredible. How would you ever make use of all of that? [gap in interview] …And sometimes we were getting three or four different links per day [gap in interview] …you'd get the West Dallas Journal sending out something about whatever. And everything would contradict each other. 'Do this, don't do that.'*
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> *Participant 5 (nurse)*

> *I have to say you get bombarded with email and occasionally – well even the [organisation name] email, 'Ebola' delete, 'Ebola' delete.*
>
> *Participant 6 (doctor)*

Rapidly changing guidelines and policies were reportedly developed and altered 'on the fly', with contradictory messages from different sources and limited control over the changes at a local level, resulting in participant confusion and lack of trust in the information received.

Participants also reported inconsistencies in the information provided about transmission risks and the personal protective equipment required to be used:

> *…they didn't have much information on how to contract it. So that was scary and made you not want to do it [gap in interview] …How it was transmitted. Like even they were saying it wasn't airborne, but yet we were wearing airborne masks.*
>
> *Participant 15 (nurse)*

Almost all of the participants discussed the fact that changing guidelines and the distribution of (even subtly) different information at a rapid pace limited training efficacy and produced heightened levels of uncertainty among staff:

> *That's why we're in need, well I believe, of a central expert group saying 'this is the plan, this is what's going to happen.' Rather than bureaucrats and politicians saying 'this is what we're going to tell everyone is going to happen and you're going to make sure it happens.'*
>
> *Participant 7 (doctor)*