Fighting Ebola in Sierra Leone: the experience of frontline NHS workers

A group of UK trainees find themselves face-to-face with one of the most catastrophic health crises in recent times.

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Greetings from quarantine. We have just returned from Sierra Leone, where we have battled against the lethal Ebola virus that has ravaged West Africa. Out of an impressive 1,000-plus NHS volunteers, we were among the first 60 health workers dispatched by the United Kingdom. Our group consisted of a mixture of trainees (surgery, emergency medicine, anaesthetics, acute medicine), GPs, nurses, paramedics and a healthcare assistant. Our team was seconded to the American NGO International Medical Corps to work in a British-built Ebola Treatment Centre (ETC) in Makeni, Bombali district.

TRAINING AND SET-UP

Our mission started in December 2014 with a five-day intensive pre-deployment course, run at a facility in Worcestershire. This programme included practical sessions on personal protective equipment (PPE), teaching on the humanitarian framework and cultural training for what was many volunteers' first-ever trip to Africa. Psychological resilience testing and training was an integral part of pre-departure preparation.

Patient arrival: the team disinfects the ambulance, then brings a suspected Ebola patient into the triage area

Once in the country, the Royal Engineers handed over the newly completed, empty 100-bed facility, fit with generators, double-insulated tents, functional plumbing, drainage and incinerators. The speed and efficiency with which these ETCs were built is astounding, and the British commitment to the response (not least £230 million, invested in seven centres across Sierra Leone) has been truly inspirational. Our first task was to bring the ETC to life by organising stock, designing wards, arranging a pharmacy, planning workflows and the most important task of all – acquainting ourselves with our national colleagues.

THE TRUE HEROES

Working with Sierra Leonean staff proved to be one of the highlights of the mission. We knew that we would be unable to make dramatic differences to clinical outcome of patients, but working with the national staff provided a great motivation. These healthcare workers are the true heroes of this outbreak. Every single one of them has a story centred on Ebola. With more than 850 healthcare workers infected and almost 500 deaths, most of the national staff have been personally touched by the loss of colleagues, friends or family. A few were Ebola survivors themselves, and had returned to fight the disease that almost took their own lives. Working alongside them was an honour.

Six million inhabitants are currently served by eight surgeons, with two of their best losing their lives in the current outbreak

PATIENT CARE

The patient suffering in this crisis is significant. The deaths are lonely, undignified and painful. They are often sudden. It was not uncommon to see a patient mobile and communicative on arrival, only to find them dead a few hours later. The true cruelty of this disease is that it affects those who cared for their dying – often young men and women. Profound lethargy and frequent odynophagia made it difficult for patients to remain hydrated. They typically had large-volume diarrhoea and quickly developed severe hypovolaemic shock. This was a situation from which it was difficult to rescue patients with limited resources, and the challenges of working in short bursts in PPE. Naturally, a language barrier compounded all these problems.

Despite this, we attempted to provide aggressive supportive treatment. Our mainstay was resuscitation with intravenous fluids in those most unwell, and oral rehydration solution in those who could drink. Our

Sunlight as a disinfectant: boots dry in the sun

Ready for action: fully gowned in PPE

treatment protocols included broad-spectrum antibiotics and empirical antimalarial treatment, as suggested by both the WHO and Médecins Sans Frontières. For those at the end of their lives, we instituted comfort care with morphine and midazolam when required. Despite our efforts, less than half of our patients survived.

STATE OF SURGERY

Surgery in Sierra Leone is in dire straits. The *Scientific American* reports that this country of six million inhabitants is currently served by eight surgeons, with two of their best losing their lives in the current outbreak. Essentially all surgery is halted and there are reports of women and their babies dying in obstructed labour, as the risk of catching Ebola through an operative intervention is unacceptably high. The surgical input into the response has been through aggressive resuscitation, high-acuity triage and an intrinsic understanding of situational awareness and safety in PPE through its parallels with surgical practice – in particular, gowning.

THE JOURNEY HOME

Coming home has been challenging. As the Ebola outbreak leaves the attention of the public eye, people seem far less interested in the plight of West Africa than we had anticipated – a shock to those of us who have thought of little else for months. In addition, there is certainly the additional pressure of Ebola stigma. It is a delicate balance – in one sense you are praised for having put yourself in danger's way to help others; in another, some resent the imagined threat we pose to public health.

FUTURE DIRECTIONS

The most obvious benefit of our deployment is to local trusts, which now employ health workers who have experience of Ebola and are well-versed in the principles of working in a Level 4 biohazard environment. As each hospital develops systems to deal with a possible case of Ebola, these healthcare workers will be helpful in the identification, isolation and management of patients as they are transferred to a higher level of care.

Second, this response has been, in Dame Sally Davies' words: 'A real testament to [the volunteers'] commitment to public service.' The United Kingdom International Emergency Trauma and Medical Registers (UKIETR and UKIEMR), which register NHS practitioners interested in international deployments, have seen a swell in applications. These registers, run by the medical charity UK-Med, are sponsored by the Department for International Development (DfID). In the past, UK-Med deployments have often been of a specialist surgical nature, but with this response the effort has broadened considerably. As the registers develop, the UK and its NHS will be world leaders in global emergency response.

CONCLUSION

To our relief, the latest figures suggest that the Ebola outbreak in West Africa is slowing considerably. The most recent World Health Organization (WHO) Situation Report puts the incidence of Ebola in the past 7 days at 99 new cases in Sierra Leone, Liberia and Guinea combined. This occurs on a background of 22,092 suspected, probable or confirmed infections and 8,810 deaths since the outbreak started in March 2014. However, this is not a time to get complacent. As the focus moves from treating patients in ETCs to contact tracing led by Community Care Centres, the decimated healthcare systems need to be urgently rebuilt. Their remaining healthcare staff needs our support now more than ever to regain confidence, augment their numbers, and re-open facilities.

References

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