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MADS NISSEN/PANOS

The trauma caused by death and fear is having long-term ramifications on the people of Sierra Leone.

PSYCHOLOGY

Ebola's mental-health wounds linger in Africa

Health-care workers struggle to help people who have been traumatized by the epidemic.

BY SARA REARDON

The Ebola epidemic in West Africa may be fading, but its impact on mental health could linger for years. Survivors are often haunted by traumatic memories and face rejection by society when they return home, and those who never contracted the disease may grieve for lost relatives or struggle to cope with extreme anxiety.

Aid groups and governments are battling to address the situation in a region that has little in terms of mental-health infrastructure. There has been some progress: on 25 February, for example, the World Bank and the governments of Japan and Liberia announced a US$3-million plan to provide psychosocial support in Liberia. But the fear and distrust of authorities that have helped Ebola to spread also make it difficult to manage the toll on mental health. And measures to contain the virus, such as quarantines, can limit access to the necessary treatment.

"We're still seeing anxiety, and people in survival mode," says Georgina Grundy Campbell, a mental-health nurse with the non-profit International Medical Corps (IMC) in Lunsar, Sierra Leone. "The majority of psychological problems are because the country is frozen, with nothing moving forward," she says.

West Africa is no stranger to crises. In the past two decades, the countries hit by the Ebola epidemic have seen civil war and unrest as well as torture and other human-rights abuses. These events have sparked efforts to improve the nations' limited mental-health-care systems, including a programme funded by ▶

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the European Commission in which the first 20 psychiatric nurses graduated from the University of Sierra Leone in 2013. But clinical expertise is still scarce in the Ebola zone: Liberia has just one psychiatrist; Sierra Leone has none.

Even the simplest interactions between people with Ebola, their families and health-care workers are complicated by the precautions needed to prevent infection. Because doctors and nurses can wear their heavy personal protective equipment only for short periods, they focus on providing treatment. Tasks such as counselling bereaved families are often left to mental-health providers from aid groups. In Sierra Leone, for instance, the non-governmental group Community Association for Psychosocial Services (CAPS) has redirected its 18 employees from assisting war survivors to helping people with Ebola and educating communities about the disease. "In this emergency, everyone's kind of in slow motion, making sure that the health staff are safe," says Cynthia Scott, a psychologist with Médecins Sans Frontières (also known as Doctors Without Borders) who recently returned from Sierra Leone.

Surviving the virus presents its own challenges. Some patients refuse to eat or leave their beds. Many blame themselves for contracting the disease. And those who return home are often barred from housing complexes or workplaces. That is a distinct contrast from the way in which communities hit by war or natural disasters typically rally around victims, says Inka Weissbecker, psychosocial adviser at the IMC in Washington DC.

Non-governmental organizations are working to decrease the stigma using approaches such as portraying Ebola survivors as heroes. They are also addressing another contentious issue — regulations that outlaw traditional burial rites — by providing families with photos of their loved ones' bodies, which offer some comfort. "I have heard people say, 'If we cannot bury our people properly, we feel our community is sick,'" Scott says.

"The majority of psychological problems are because the country is frozen, with nothing moving forward."

But some actions taken to limit Ebola's reach are harder to deal with. Fear of spreading infection among doctors and patients prompted the E. S. Grant Mental Health Hospital in Monrovia — Liberia's only such facility — to cease most of its operations last autumn. The facility has discharged most of its patients, including several dozen with psychotic conditions. "There's no doubt there's an increase in the number of people in the streets because the hospital is still not functioning at the normal level," says Benjamin Harris, Liberia's only psychiatrist.

Efforts to build treatment capacity in West Africa are showing encouraging signs. The programme in Liberia will, over a three-year period, deploy mental-health clinicians in schools, among other actions. The Liberian Ministry of Health lists mental health as a priority in its Ebola-recovery plan, along with issues such as maternal care (see page 24) and HIV. And in Sierra Leone, CAPS has treated roughly 1,500 people affected by Ebola.

These developments are part of a broader shift in the global health community's attitudes toward mental health. The World Health Organization increasingly addresses psychological care in its reports, and donors to groups such as the IMC are becoming more amenable to supporting mental-health programmes. But there is still much work to be done to ensure that psychological care is a priority in the Ebola response, Weissbecker stresses. "We have to be vigilant about this," she says, "and make sure it stays on the radar." ■

TECHNOLOGY

Robo-rescuers battle it out

Nimble bots rise to the challenge in DARPA competition.

BY BOER DENG

When the humanoid robot SAFFiR gets a shove, it reflexively moves to maintain its balance. SAFFiR can also walk over uneven terrain, turn its head to scan its surroundings and — with the help of a human operator — reach out to grasp objects.

Built by a team at Virginia Tech in Blacksburg, SAFFiR is a firefighting robot and a prototype for one that will compete in the final stage of the DARPA Robotics Challenge (DRC), a contest run by the US Defense Advanced Research Projects Agency. The aim is to produce robots with improved mobility, autonomy and responsiveness to human commands. On 5 March, DARPA will announce the 25 finalists who will vie for the US$2-million first prize at the final event in June.

Most advanced robots today follow preset instructions in familiar environments, such as a factory floor, or are almost entirely remotely controlled, says Gill Pratt, a programme manager at DARPA who is running the contest. But there is a need for shrewder, nimbler machines that can operate in less-predictable situations.

A robot developed by Japanese company Schaft takes the DARPA Robotics Challenge in 2013.

AP/PA

For example, radiation from the 2011 Fukushima nuclear meltdown in Japan made it unsafe for people to manage the contamination. The robots that could be deployed for clean-up were slow and maladroit, and could do little more than survey the damage.

DARPA set up the contest to spur the development of robots that might perform better in future disasters, and several rounds of the competition have been held since the event's launch in 2012.

A key to winning will lie in a robot's ability to do things on its own, such as deciding how high to lift a leg to climb a step, or tracking its location relative to a target object. During trials in December 2013, robots had to complete tasks such as shutting off a valve, climbing a ladder and driving a car through a winding speedway course. Those with greater autonomy performed better, according to an analysis by Holly Yanco, a computer scientist at the University of Massachusetts at Lowell. Robots were faster and errors were easier to fix when they needed less human input.

For the final round, the machines will compete with a time limit, without an external

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