



Evidence and lessons on efforts to mitigate the secondary impact of past disease outbreaks and associated response and control measures

Luke Kelly
University of Manchester
14 February 2020

Question

What evidence or lessons exist regarding efforts to mitigate the secondary impact of past disease outbreaks and associated response and control measures etc.

Contents

1. Summary
2. Economic mitigation
3. Cultural awareness and messaging
4. Health services
5. References

The K4D helpdesk service provides brief summaries of current research, evidence, and lessons learned. Helpdesk reports are not rigorous or systematic reviews; they are intended to provide an introduction to the most important evidence related to a research question. They draw on a rapid desk-based review of published literature and consultation with subject specialists.

Helpdesk reports are commissioned by the UK Department for International Development and other Government departments, but the views and opinions expressed do not necessarily reflect those of DFID, the UK Government, K4D or any other contributing organisation. For further information, please contact helpdesk@k4d.info.

1. Summary

This rapid literature review finds limited evidence and lessons on responses to the secondary effects of disease outbreaks. The secondary effects are explained in more detail in a companion paper (Rohwerder, 2020). They include disruption of livelihoods and markets, disruption to communities, disruption to services (especially health), stigmatisation, psycho-social problems, human rights violations and weakening trust in governance.

The report finds evidence on a number of efforts to counter the secondary effects of disease outbreaks. The majority of the literature is focused on Ebola. However, it should also be noted that many programmes focused on controlling outbreaks, rather than their effects, meaning there is less evidence on the latter. Several evaluations point to a lack of funding, consideration and action to combat these effects as a failing or learning point, and guidelines recommend such action is taken (WHO, 2008; Elmahdawy *et al.*, 2017). Therefore, many of these lessons are general and do not go much beyond pointing out the need to address particular secondary effects and recovery priorities (UNDG, 2015; UNDP *et al.*, 2015). Nevertheless, broad lessons on funding, prioritisation and co-ordination can be drawn from this.

Causality between epidemics and some of their secondary effects is bi-directional, and secondary effects such as distrust of health authorities and disruption to health services are seen to make it harder to fight the disease. Therefore, a large number of programmes indirectly acknowledge the secondary effects and the need to address them, even if their primary reason for addressing them is to better control the disease (Lamoure and Juillard, 2020). Evaluations and programmes often focus on social, cultural, political and economic factors as barriers to better management of the epidemic, insights from which can also be used to mitigate secondary effects (Alcayna-Stevens, 2018).

Some programmes made recovery efforts more central. In West Africa, many development programmes sought to support those affected by the disruptions of Ebola by supporting livelihoods (Adams, Lloyd and Miller, 2015; Hempel, 2016). The report also finds examples of programmes to support survivors and healthcare workers affected by stigma and psycho-social problems. Studies have also looked at the effects of specific measures such as the cessation of user fees for health services. Several programmes have focused on health systems strengthening in the face of disease outbreaks. Not all of these programmes have been fully evaluated, but are nevertheless included as evidence of the approaches taken.

Lessons and evidence includes:

- Responses have been seen to focus on victims of the disease and thereby neglect existing health or other needs. Some authors therefore highlight the need for responses to take a 'whole society approach that attends not only to those individuals directly affected by the outbreak, but also to their broader communities' (Alcayna-Stevens, 2018)
- The use of disciplines such as anthropology to make sure responses can be informed by context-specific knowledge of the social dynamics around healthcare, ethnic minorities, women, youth etc. rather than generic ideas of 'community engagement' or 'gender sensitivity' which may not apply (Wilkinson *et al.*, 2017). This can help combat effects of the disease or the response that specifically affect certain groups, such as those involved in hunting and selling foods linked to disease transmission like bushmeat (see Rohwerder, 2020).

- Community engagement to reduce the coercive nature of some responses, and to mitigate effects borne of fear and aversion (Anoko, 2014).
- Effective utilisation of and support for existing health structures to minimise disruption to health provision, particularly community health structures (Siekmans *et al.*, 2017).
- Policy actors taking the need to address secondary impacts into consideration from the start and providing the necessary funding (Elmahdawy *et al.*, 2017; Kolie *et al.*, 2019).
- The importance of intersectoral responses to tackle the multiple effects of disease outbreaks, including coordination between different national and international policy actors (WHO, 2016; Kristine M Smith *et al.*, 2019).

The literature found in this review engaged with gender dimensions but there was a gap in relation to the experiences of people with disabilities.

2. Economic mitigation

Macro-economic lessons and recommendations include:

- A World Bank analysis considers the role of government information in reducing the economic effects of outbreaks. It considers responses to SARS and the 1994 plague outbreak in Surat, India, which 'entail large economic costs which are primarily the result of excessive preventive behaviour by individuals and (on occasion) governments'. It argues that given the availability of non-official sources of information, 'a **transparent and credible public information strategy** is likely to be the best way to minimize unwarranted panic and, indeed, to mobilize the public as a partner in controlling the disease outbreak', and reduce the economic costs of panicked behaviour (Brahmbhatt and Dutta, 2008).
- Given the socio-economic consequences of outbreaks, it has been suggested that inclusion of '**relevant non-health stakeholders in risk and impact assessments may provide more informed health impact assessments and enhanced awareness regarding preparedness opportunities, and may provide access to new collaborations and potential risk mitigation and resources**' (Kristine M. Smith *et al.*, 2019, p. 4). Some private sector actors have taken steps to contribute to planning, such as the Ebola Private Sector Mobilisation Group in West Africa (Oxfam, 2014; Kristine M Smith *et al.*, 2019, p. 4).
- Funding is needed to 'contain direct and indirect costs from sickness and mortality in the hardest hit countries and provide financial support to enhance growth in fragile economies affected by the outbreak' (Elmahdawy *et al.*, 2017, p. 69).
- Leading international organisations should adopt policies 'that allow for the free flow of relief and trade in the affected countries' (Elmahdawy *et al.*, 2017, p. 69).
- The importance of strengthening governance capacity, health systems coordination and engaging with communities to ensure responses to disease do not harm at-risk groups or cause social breakdown has been highlighted (UNDP, 2015).

Livelihoods protection

A recent lessons paper on epidemic response argues that 'support to livelihoods and economic recovery is a critical component of an effective epidemic response' (Lamoure and Juillard, 2020,

p. 22). A number of programmes supported livelihoods during the Ebola outbreak (for example, UNDP, 2015, pp. 45, 51, 55; FEWS NET, 2017, pp. 14–17).

Welt Hunger Hilfe programmes worked to help re-start agriculture in Ebola-affected districts of Sierra Leone. This included **cash transfers to help resume farming or business** for 684 Ebola virus disease (EVD)-affected households and the establishment of seed banks in 68 communities affected by quarantines (Hempel, 2016). **An Irish Aid-funded project implemented by Action Against Hunger provided cash transfers and help with vegetable farming in Moyamba district between May 2015 and May 2016.** Although a full impact assessment has not taken place, and despite delays in implementation, the transfers were seen to lead to increases in 'income and diet diversification' (Dumas, 2016).

USAID provided cash transfers to help people recover from the economic effects of the Ebola outbreak in Liberia and Sierra Leone. It supported 120,000 households with Unconditional Cash Transfers (UCT), Cash for Work (CFW), Agricultural Input Vouchers (AIV), and conditional cash transfers for market traders. It also provided some **training on farming techniques or business management skills**. It found that cash transfers were initially spent on food, and later more was also spent on health, schooling and shelter as priorities changed with seasons and the development of the outbreak. According to surveys, almost all participants 'viewed [UCT] as the preferred assistance modality to respond to the needs arising from the Ebola crisis' (Guluma, 2018, p. 17). 'Undoubtedly, the cash transfer programme (CTP) intervention contributed to the revival and even growth in trading and smaller markets used by villages and towns receiving the cash transfers' (Guluma, 2018, p. 37). The evaluation noted that there were inclusion and exclusion errors, and that the 'targeting of beneficiaries was one of the most contentious issues emerging from discussions held with community members, including former cash transfer recipients' (Guluma, 2018, p. 22). A UNDP report noted that in Guinea, 'the poor state of liquidity in the nation's banks and mobile money agents outside of the capital city, limited formal education, illiteracy and inexperience with formal financial services and digital services pose challenges' (UNDP, 2015, p. 13).

There is some evidence that this type of economic support can be effective in the longer term. A study of social protection programmes for survivors found that 'for EVD survivors, short-term instrumental social protection during the vulnerable period post-discharge can pay positive dividends with respect to wellbeing and food security two years later'. It was based on a sample of 200 randomly selected recipients of protection programmes in Sierra Leone (Richardson *et al.*, 2017).

Programmes also supported nutrition. A study based on workshops and interviews outlines the following priorities identified by stakeholders from government and civil society in Guinea and Sierra Leone to improve nutrition responses during disease outbreaks. In both Sierra Leone and Guinea, some of the most important factors to better respond to nutrition needs included political will, food assistance and increased funding for nutrition (Kodish *et al.*, 2019, p. 86).

3. Cultural awareness and messaging

Communication

There is a large literature on messaging related to risk perception and making sure that citizens receive appropriate information, from which indirect lessons on mitigating effects of fear and stigma can be derived (ACAPS, 2015a; Garcia *et al.*, 2016, pp. 82–86).

Research into the communication of Ebola risks and best practices has focused on:

- Understanding different economic needs and cultural practices that may be impacted by Ebola control measures;
- How understanding the power dynamics behind resistance to control measures can lead to better communications;
- How communications can involve communities and thereby gain more acceptance for the measures being communicated;
- How communications can lessen the stigmatisation of groups such as women or health workers.

Research has found that many communities prefer practical information. One study of communities in Liberia during the Ebola outbreak found a preference for “higher-order,” practical information and training that communities are desperate for -- “How do I manage a family of children, including infants and toddlers, in quarantine?” rather than information about the disease itself (Abramowitz *et al.*, 2015). An analysis of Ebola communication argues that ‘as households and communities have made clear when given the chance, what they would like is practical information about risk factors for Ebola transmission and, crucially, how to reduce risks when caring for the sick and burying the dead, as well as the material resources necessary to put this advice into practice’ (Chandler *et al.*, 2015).

Anthropological research has also emphasised the importance of tailoring public health measures and messages to local cultures. ‘Those tasked with asking people to change practices and activities associated with Ebola transmission should be allowed the time and flexibility to negotiate mutually agreed changes that are locally practical, socially acceptable, as well as epidemiologically appropriate’ (Chandler *et al.*, 2015). Research on villages in the Forest region of Guinea where health workers had been attacked argues that public health messaging should make sure communication about the disease is ‘rooted in a consideration of local circumstances, knowledge and the enhancement of regional cultures’ (Anoko, 2014). It emphasises the importance of understanding customs and cultures, and how Ebola responses may be understood in relation to local power dynamics (e.g. if they come from historically dominant groups to marginalised groups). Following the violence against health workers implementing Ebola control measures, a new communications strategy was developed. Trusted intermediaries and appropriate stakeholders were identified, and complaints were heard at a communication workshop, from which messages on Ebola were developed collaboratively (Anoko, 2014). Such approaches have the potential to reduce the chances of disease control measures leading to distrust, conflict and break downs in social cohesion.

Quarantine

Forcible quarantine can violate human rights (Eba, 2014).¹ In the Ebola outbreak, quarantine gave rise to 'cases of abuse of basic rights to protection and assistance and contributing to a pattern of coercion' (Adams, Lloyd and Miller, 2015). **Evaluations and lessons learned papers argue that quarantine should be as consensual as possible.** For example, an ACAPS paper found that 'community-led self-imposed quarantine was considered by all sources interviewed to be the most important factor deciding the success of a quarantine' (ACAPS, 2015b; Sustersic, 2015). This helps minimise rights violations, and makes quarantine more effective, and less likely to breed mistrust. With respect to rights violations, the paper notes that a community implemented quarantine will not necessarily avoid rights violations.

Moreover, the evidence shows the importance of ensuring that the basic needs of those quarantined are met. In Sierra Leone, Oxfam helped those in quarantine with food, water and sanitation and cash (Adams, Lloyd and Miller, 2015, p. 33). According to a 2015 assessment of their work, 'Oxfam's support to people in quarantine in Sierra Leone reduced the hardships and made quarantine more effective by reducing people's need to leave the quarantine area to seek basic necessities. The PHP teams also worked effectively to address stigmatisation of people who had been in quarantine' (Adams, Lloyd and Miller, 2015, p. 42). In addition, Oxfam lobbied 'leaders to adopt a human rights-based approach to epidemic response...that recognises affected individuals' and families' right to dignified treatment rather than simply regarding them as vectors of disease' (Minor, 2017, p. 32). The Oxfam review does not say what this work consisted of, although it was expected to improve wellbeing and reduce stigma (Adams, Lloyd and Miller, 2015, p. 49).

Stigma and reintegration

A policy brief by the Ebola Response Anthropology Team suggests principles to guide responses to stigma. It states that it is first necessary to understand how stigma works in a given context (i.e. whether it leads to shunning, exclusion from certain spheres, and whether it allows the stigmatised to receive care and support) and offers advice on those most likely to be stigmatised. It offers guidance to stigmatising processes in the context of Ebola, including how the disease response can worsen the process. According to the analysis, the two most effective interventions to de-stigmatise an illness are a) to improve survival and knowledge of the ability to survive, and b) to prevent catastrophic economic consequences of those actually or potentially suffering from the illness. It gives some specific suggestions and provides a matrix for assessing and reducing stigma in programming (Ebola Response Anthropology Platform, 2014).

Several programmes have sought to help Ebola survivors reintegrate into their communities. Psychosocial support, media engagement and survivor networks have also been used to help overcome stigma and help reintegrate Ebola survivors (Richardson et al., 2017).

The Firestone Rubber Plantation in Liberia was involved in responding to Ebola among its employees. Its response included a survivor reintegration programme. The programme includes a reintegration team visiting the survivor's home and talking about the planned reintegration with the community. The aim is to provide information of the transmission of Ebola and emphasise

¹ <https://www.hrw.org/news/2014/09/15/west-africa-respect-rights-ebola-response>

that the survivor will no longer be able to pass on the disease. The day of reintegration is marked with prayers, decoration of the survivor's house, talks from health professionals, and the survivor being given a certificate to say s/he is free from Ebola. The survivor is also given a 'solidarity kit' of money, food and other necessities. The reintegration team also undertake follow up visits. A survey of 22 such survivors found the technique to be effective, as it could 'legitimize family and community member concerns regarding Ebola transmission risks, offer opportunities for continued education, and provide an important first step in the necessary psychosocial support for survivors. When these programs are made public, they can help dispel rumours, provide hope, and encourage community members to report suspected Ebola cases or seek care early, which can, in turn, decrease transmission and increase survival among those with infection' (Arwady *et al.*, 2014).

In Koinadugu, Sierra Leone, Oxfam worked with local officials, ambulance and burial teams, health workers, Ebola survivors, to stage 'community information days'. These helped reduce stigma for survivors (Minor, 2017, p. 32).

There is evidence that survivors working in outbreak-response and health systems strengthening roles had their dignity restored (Richardson *et al.*, 2017, p. 8). For example, a qualitative, selective study of 121 Ebola survivors in Guinea found that 'In addition to being a source of revenue, getting involved in the EVD response was a way to accelerate their social acceptability' (Delamou, Camara, *et al.*, 2017). A report on reintegration in the Democratic Republic of Congo (DRC) found that 'celebrations organized when survivors leave Ebola Treatment Centres, in which broader communities can participate, and are reassured that it is safe to interact with survivors, are an excellent way of reintegrating survivors' (Alcayna-Stevens, 2018, p. 43)

Marginalised communities

Disease outbreaks and responses have differential impacts. **There is some evidence that programmes sought to address this in the Ebola outbreak, but many argue that not enough was done to understand and mitigate specific impacts.** For instance, an analysis of Oxfam's gender mainstreaming in its WASH programming during the Ebola outbreak is critical of the NGO's gender mainstreaming. It notes several secondary effects of the outbreak on women, and that Oxfam's approach did not address these in an effective way (Carter, Dietrich and Minor, 2017). While it does not provide any specific guidelines, it argues for 'the need to be bold in assuming women are politically under-represented, and faster and more creative in addressing this prevailing pattern, to allow for meaningful participation', particularly in securitised outbreak responses (Carter, Dietrich and Minor, 2017).

A study of a women's empowerment programme in Ebola-hit villages of Sierra Leone showed positive results. The Empowerment and Livelihood for Adolescents (ELA) intervention provided a club and training for women. The study analysed the effects on the activities of 4,700 women. The study showed the club helped overcome the negative effects of Ebola on women in these villages (transactional sex, out-of-wedlock pregnancies, and drops in school enrolment). It found that this is because the 'intervention enables young girls to allocate time away from men' and gives them training on contraception (Bandiera *et al.*, 2018).

CARE's analysis of the Ebola outbreak in the North Kivu, DRC in 2018 found that in some districts (Vutsundo and Katsya), use of maternity services did not decline with Ebola. Their research attributes this to: situation analysis and understanding of the locally relevant social norms and customs; development of adapted messaging addressing the identified norms and

customs; community dialogue; training and respect of standard precautions and protective measures in infection prevention and control amongst healthcare workers; provision of chlorine, hand-washing stations and other necessary items to promote infection prevention and control; weekly supervision sessions; dissemination of information on suspected Ebola cases' (Kapur, 2020).

CARE's analysis of gender in the Ebola outbreak in 2018 includes several recommendations and principles (Kapur, 2020):

- Disaggregated research into gendered effects. For example, with regards to transmission, the effects of vaccines on pregnant women, and transmission through breastfeeding.
- 'the need for hyper-localisation of key messages to ensure comprehension by people of all genders and ages' to take into account linguistic variation, or the fact that women might not have access to media such as radio in some contexts.
- Tailor and target EVD-related communication efforts.
- Women are key stakeholders and their role should be front and centre.
- Integrate conflict-sensitive and gender-transformative approaches.
- Promote prevention while reinforcing reporting and referral mechanisms for abuse survivors.
- Encourage and embed child-friendly innovations.
- Bolster community resilience through key entry points such as schools.
- More spotlight on inclusive practices and programming.

The WHO has recently published guidelines on the management of pregnant and breastfeeding women in the context of Ebola virus (WHO, 2020).

Several papers point to the importance of understanding specific community dynamics in a given context. One paper based on fieldwork in the DRC highlights the value of 'close, qualitative reportage... to render tangible the social, political and economic dimensions of an Ebola epidemic and to offer recommendations for the response which prepare communities for life "post-Ebola" at each stage of an intervention' (Alcayna-Stevens, 2018, p. 44). For example, socio-anthropological research on the Twa people of the DRC has been undertaken. It provides some background information and some general recommendations for humanitarian workers to consider when responding, including that 'as a result of increased stigmatisation because of the epidemic, some Twa may have moved deeper into the forest and are at risk of not being engaged with communication and public health control measures', and ways to be aware of the tensions between the Twa and the dominant Mongo groups when planning a response (Duda, Alcayne and Bedford, 2018). Similar analyses can inform responses to other marginalised groups and beneficiary targeting.

4. Health services

Healthcare for survivors

Programmes have also sought to mitigate the secondary health effects on Ebola survivors. Partners in Health (PiH) ran a clinic, with other NGOs, for Ebola survivors with vision problems. It included over 900 survivors in the Port Loko, Kono, and Western Area Urban district

between October 2014 and May 2015. It offered training, paid schools fees and employed survivors in social mobilisation and outreach (Cancedda et al., 2016, p. 158).

A brief on psychosocial support in North Kivu, DRC, suggests several principles for mental health and psychosocial support (MHPSS) during the Ebola outbreak. These include (Bedford, Jones and Streeb, 2018):

- The need for 'clear inter-sectoral coordination mechanisms and entry points for MHPSS technical expertise' within a broader disease outbreak responses.
- National or international MHPSS efforts should link to existing national and NGO services to make best use of resources.
- That it is important to build on existing community structures, 'as normal ways of coping are likely to be affected by the Ebola outbreak (e.g. socialising with friends and family, collective music and dance, economic activity etc.) ... community actors are best placed to help identify adaptations or safe alternatives'.
- The importance of a 'whole of society' approach that does not 'over-target' certain groups and thereby breed resentment or foster marginalisation.

Mitigation of effects on healthcare

Many low-income countries have weak health systems. Disease outbreaks in countries with weak health systems have been shown to limit the resources available for other health conditions, as well as reducing treatment seeking behaviour through fear and disruption. **The evidence on mitigating these effects falls into two categories:** policy papers and studies that advocate for work on strengthening health systems or co-ordinating responses to ensure continuity of care; and evidence on programmes that sought to mitigate specific reductions in care brought by disease outbreaks.

Health systems

A recent lessons paper on responses to disease outbreaks argues that 'ongoing healthcare provision should be supported during an epidemic response' and that policymakers should 'mitigate the impact of epidemics on education, psychosocial health and social cohesion' (Lamoure and Juillard, 2020, p. 22). Similarly, WHO guidance on influenza pandemics notes that the incidence of several other diseases may increase during a pandemic due to the interruption of health services. It seeks to encourage continuity of services for priority public health programmes (WHO, 2008, p. 7). For instance, it recommends making arrangements for the continuation of treatment programmes for chronic conditions, using home-based programmes (WHO, 2008, pp. 22–23). More generally, it is widely agreed that Ebola demonstrated the need to strengthen health systems (Elmahdawy *et al.*, 2017, p. 68).

A policy brief by the ReBuild consortium suggests several ways that the resilience of health systems can be ensured throughout shocks. Evidence is taken from disease outbreaks and conflicts. They are (Witter and Hunter, 2017):

- Protection for funding for health to mitigate for disruption to healthcare systems, citizen's ability to pay, and community support mechanisms.
- Equitable arrangements such as user fee exemptions, vouchers etc to ensure continued uptake of healthcare.

- Support for health workers who may suffer stress, stigmatisation and other challenges.
- Donor support for health systems strengthening. This 'includes support for health governance, supply chains, infrastructure, workers and information systems'
- The need for coordination between donors, national systems and local providers.
- The potential of crises as windows of opportunity for change.

Other papers offer suggestions for rebuilding health systems (Kruk *et al.*, 2015; Martineau *et al.*, 2017).

Several studies point to the importance of funding priorities. At the time of the 2014-15 Ebola outbreak, some donors were unwilling to pay for permanent infrastructure, which can hinder the kind of health systems strengthening needed to offset the effects of a focus on an outbreak such as Ebola (Cancedda *et al.*, 2016, p. 161; UNICEF, 2017, p. 44). **However, in some cases, the disruption to health systems brought by Ebola has prompted governments to reconfigure health systems.** Delamou *et al.* identify a 'paradigm change' in the policies of countries affected by Ebola, including increased health spending and community participation in health in Guinea (Denny, Mallett and Jalloh, 2015; Delamou, Delvaux, *et al.*, 2017; Kolie *et al.*, 2019). Such views suggest the importance of making sure that policy is configured to consider the whole health system.

Studies also point to the importance of working with existing health structures, and particularly providing support to community health workers (Denny, Mallett and Jalloh, 2015, pp. 30–31). A study of areas where a Liberian National Red Cross Society (LNRCS)-initiated maternal, newborn and child health (MNCH) project paid for community health workers in hard-to-reach areas of Liberia found that provision for child diarrhoea and pneumonia continued throughout the outbreak. The study reaffirms 'the value of recruiting and training local workers who are trusted by the community and understand the social and cultural complexities of this relationship' (Siekmans *et al.*, 2017). Besides funding, a study of health workers in Sierra Leone found a number of resources to strengthen health workers' resilience, including religious and national duty, family and community support, social media support, training, and government 'risk allowance' payments (Wurie, Witter and Raven, 2016).

There is some evidence of programmes that have aimed to strengthen health systems partly to help deal with the secondary effects of disease outbreaks. Partners in Health (PIH) argues that working with the national system and investing in long-term infrastructure is important. It worked with the public sector to strengthen the health sector in Sierra Leone during the Ebola outbreak. It worked alongside the Wellbody Alliance, a local NGO, as part of the Ministry of Health's long-term strategy. **Its lessons learned paper identified the importance of the National Ebola Response Centre for coordination between different donors, NGOs and public bodies.** Staff from the Ministry of Health were part of the centre, which 'facilitated the transition from the emergency Ebola response to a long-term health system strengthening strategy' (Cancedda *et al.*, 2016, p. 160).

Mitigation

A number of programmes have addressed the effects of the Ebola response on other healthcare services and the healthcare system. Many of these studies focus on specific interventions in relatively small areas, and have limited generalisability. According to a UNICEF evaluation, the organisation's 'response neither promptly nor adequately addressed Ebola's

secondary humanitarian consequences and specific effects on children' in the beginning of the outbreak. It attributes this to 'strategic 'de-prioritization' relative to stopping EVD transmission, different understandings of Ebola-related risks and participation in an inter-agency response that remained focused on stopping transmission' (UNICEF, 2017, p. 73). However, it began to work more effectively to address the secondary effects on children from 2015. Its work on the secondary effects of the outbreak included distance learning programmes for around 1 million children, and support to governments to reopen 24,000 schools in 2015 (in January in Guinea, February in Liberia and March in Sierra Leone)' (UNICEF, 2017, p. 45). It also provided 'a minimum package of psychosocial support services to all children affected by EVD and a minimum package of support – including family tracing and family-based care – to Ebola orphans and survivors', although initially struggled to make this effective (UNICEF, 2017, p. 39).

Studies have looked at how health systems have recovered from Ebola (Decroo, Fitzpatrick and Amoné, 2017). Others have looked at the effects of particular adaptations to counter the effects of the disease outbreak response. **Introducing free health care has the potential to mitigate reductions in health seeking behaviour brought on by infectious disease outbreaks.** In 2018, 'the Democratic Republic of Congo (DRC) announced a free health care policy during an EVD outbreak in affected and neighbouring areas'. The policy was found to increase the use of healthcare services for curative but not preventative measures, possibly from a fear of Ebola transmission through needles or blood. However, the authors suggest that the free health policy may have itself overwhelmed some health centres' capacity (Hung *et al.*, 2019).

Adaptations of service provision can also mitigate for disruption and aversion. The Italian NGO, Doctors with Africa (DWA) CUAMM, helped the government to strengthen reproductive health services in Pujehun district during the Ebola outbreak. An observational study found that changes to referral services, the continued presence of NGOs and health workers, contributed to the maintenance of reproductive health services. Changes to referral services included a free ambulance service, a call centre, and community awareness work to increase uptake. However, the study noted that levels of Ebola, and therefore disruption and distrust, were lower in the district (Quaglio *et al.*, 2019). There is some evidence from a study of two districts in Liberia that performance-based financing (PBF) can help health services (maternity and childhood immunisation) recover more quickly from disease outbreaks, although more research is needed to understand the reasons for this and how far PBF was responsible (Mussah *et al.*, 2017).

Some healthcare interventions, particularly those involving bodily fluids or injections, were found to decline following Ebola due to fear and mistrust. **One study has shown how the community engagement component of a Ministry of Health- and UNICEF-run immunisation programme in Liberia was successful in increasing uptake.** It lists a number of drivers to immunisation uptake, including 'receiving vaccine from known and trusted source, prolonged and repeated community engagement (particularly interpersonal, face-to-face dialogue), positive social mobilization activities (gCHVs, radio, town crier, community meeting, dramas), a "Wait-and-see" method/"seeing is believing"/"bearing witness", and the influence of trusted community leadership and other community members (particularly mothers)'. Qualitative research into perceptions of the programme showed these to be effective in overcoming fears and distrust engendered by the Ebola response. It gives a number of recommendations for community engagement in these communities (Bedford *et al.*, 2017, p. 86).

An analysis of community care centres (CCCs) set up for Ebola in Sierra Leone notes that the setting up of parallel health structures raises problems, such as resentment and taking resources away from existing health services. It used surveys and interviews to understand the perceptions

of members of the community, and officials and policymakers around the CCCs and their decommissioning after Ebola. Although the report found distrust in the government and resentment that the CCCs took resources from existing provision, it **emphasised the importance of effective community engagement**, arguing that 'it is not hard to win [citizens] over if good and affordable services are provided. Even with unhappiness over staff and site selection, the benefits of the CCCs were recognised' (Oosterhoff, Mokuwa and Wilkinson, 2015). While this does not provide direct lessons on the most effective ways to reconfigure health systems to be more resilient, it does suggest ways to overcome distrust brought on by short-term health infrastructure for disease outbreaks.

5. References

- Abramowitz SA, McLean KE, McKune SL, Bardosh KL, Fallah M, et al. (2015) 'Community-Centered Responses to Ebola in Urban Liberia: The View from Below'. *PLoS Neglected Tropical Diseases* 9(5): e0003767. <https://doi.org/10.1371/journal.pntd.0003767>
- ACAPS (2015a) *Ebola Outbreak, Liberia: Communication Challenges and good practices*, pp. 1–15. https://www.acaps.org/sites/acaps/files/products/files/u_liberia_communication_challenges_and_good_practices_dec_2015-ilovepdf-compressed_ul.pdf.
- ACAPS (2015b) *Lessons Learned from Quarantine-Ebola Outbreak in West Africa Lessons Learned from Quarantine-Sierra Leone and Liberia*. https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/t-acaps_thematic_note_ebola_west_africa_quarantine_sierra_leone_liberia_19_march_2015.pdf
- Adams, J., Lloyd, A. and Miller, C. (2015) *The Oxfam Ebola response in Liberia AND Sierra Leone: An evaluation report for the DEC*, <https://www.alnap.org/help-library/the-oxfam-ebola-response-in-liberia-and-sierra-leone-an-evaluation-report-for-the>
- Alcayna-Stevens, L. (2018) *Planning for Post-Ebola - Lessons learned from DR Congo's 9th Epidemic*. <https://www.alnap.org/help-library/planning-for-post-ebola-lessons-learned-from-dr-congo's-9th-epidemic>.
- Anoko, J. N. (2014) *Communication with rebellious communities during an outbreak of Ebola Virus Disease in Guinea: an anthropological approach*. https://www.acaps.org/sites/acaps/files/key-documents/files/anoko_communication_with_rebellious_communities_during_an_outbreak.pdf
- Arwady, M. A. et al. (2014) 'Reintegration of Ebola Survivors into Their Communities — Firestone District, Liberia, 2014', *Morbidity and Mortality Weekly Report*, 63(50). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5779529/pdf/1207-1209.pdf>
- Bandiera, O. et al. (2018) *The Economic Lives of Young Women in the Time of Ebola: Lessons from an Empowerment Program*. https://www.povertyactionlab.org/sites/default/files/publications/The-Economic-Lives-of-Young-Women_ELA_SL_Bandiera-et-al_Dec2018.pdf
- Bedford, J. et al. (2017) 'Community Engagement in Liberia: Routine Immunization Post-Ebola', *Journal of Health Communication*, 22, pp. 81–90. doi: 10.1080/10810730.2016.1253122.
- Bedford, J., Jones, T. and Streeb, E. (2018) 'Key considerations : mental health and psychosocial support , North Kivu , DRC', *Social Science in Humanitarian Action Platform*. <https://www.anthrologica.com/project/response-outbreak-ebola-drc/response-outbreak-ebola-drc>.
- Brahmbhatt, M. and Dutta, A. (2008) *On SARS Type Economic Effects during Infectious Disease Outbreaks*. <http://documents.worldbank.org/curated/en/101511468028867410/On-SARS-type-economic-effects-during-infectious-disease-outbreaks>
- Cancedda, C. et al. (2016) 'Strengthening Health Systems While Responding to a Health Crisis: Lessons Learned by a Nongovernmental Organization During the Ebola Virus Disease Epidemic

in Sierra Leone', *The Journal of Infectious Diseases*, 214(S3), pp. 153–63. doi: [10.1093/infdis/jiw345](https://doi.org/10.1093/infdis/jiw345).

Carter, S. E., Dietrich, M. L. and Minor, O. M. (2017) *Mainstreaming gender in WASH: lessons learned from Oxfam's experience of Ebola*. doi: [10.1080/13552074.2017.1339473](https://doi.org/10.1080/13552074.2017.1339473).

Chandler, C. et al. (2015) 'Ebola: limitations of correcting misinformation', *The Lancet*, 385, pp. 1275–1277. doi: [10.1016/S0140-6736\(14\)62382-5](https://doi.org/10.1016/S0140-6736(14)62382-5).

Decroo, T., Fitzpatrick, G. and Amone, J. (2017) 'What was the effect of the West African Ebola outbreak on health programme performance, and did programmes recover?', *Public Health Action. International Union Against Tuberculosis and Lung Disease*, 7(1), pp. 1–2. doi: [10.5588/pha.17.0029](https://doi.org/10.5588/pha.17.0029).

Delamou, A., Camara, B. S., et al. (2017) 'Profile and reintegration experience of Ebola survivors in Guinea: a cross-sectional study', *Tropical Medicine and International Health*, 22(3), pp. 254–260. doi: [10.1111/tmi.12825](https://doi.org/10.1111/tmi.12825).

Delamou, A., Delvaux, T., et al. (2017) 'Public health impact of the 2014-2015 Ebola outbreak in West Africa: seizing opportunities for the future', *BMJ Global Health*, 2, doi: [10.1136/bmjgh-2016-000202](https://doi.org/10.1136/bmjgh-2016-000202).

Denny, L., Mallett, R. and Jalloh, R. (2015) *After Ebola: why and how capacity support to Sierra Leone's health sector needs to change*. <https://securelivelihoods.org/wp-content/uploads/After-Ebola-why-and-how-capacity-support-to-Sierra-Leone's-health-sector-needs-to-change.pdf>

Duda, R., Alcayne, L. and Bedford, J. (2018) 'Key considerations: Engaging Twa communities in Équateur Province', *Social Science in Humanitarian Action*, September, pp. 1–4. <https://f1000research.com/documents/7-982>.

Dumas, T. (2016) *Mitigating the Impact of the Ebola Virus Disease on the Most Vulnerable Households through an Integrated Food and Nutrition Security Intervention in the District of Moyamba, Sierra Leone*. <https://www.alnap.org/help-library/mitigating-the-impact-of-the-ebola-virus-disease-on-the-most-vulnerable-households>.

Eba, P. M. (2014) 'Ebola and human rights in west Africa', *The Lancet*, doi: [10.1016/S0140-6736\(14\)60841-2](https://doi.org/10.1016/S0140-6736(14)60841-2).

Ebola Response Anthropology Platform (2014) *Stigma and Ebola: an anthropological approach to understanding and addressing stigma operationally in the Ebola response*. <http://www.ebola-anthropology.net/wp-content/uploads/2014/12/Stigma-and-Ebola-policy-brief-Ebola-Anthropology-Response-Platform.pdf>

Elmahdawy, M. et al. (2017) 'Ebola Virus Epidemic in West Africa: Global Health Economic Challenges, Lessons Learned, and Policy Recommendations', *Value in Health Regional Issues*, 13, pp. 67–70. doi: [10.1016/j.vhri.2017.08.003](https://doi.org/10.1016/j.vhri.2017.08.003).

FEWS NET (2017) *Ebola and Livelihoods: the effect of the Ebola virus on household livelihoods in Guinea, Liberia, and Sierra Leone*. [https://fewsn.net/sites/default/files/documents/reports/Ebola and Livelihoods_20170630.pdf](https://fewsn.net/sites/default/files/documents/reports/Ebola%20and%20Livelihoods_20170630.pdf).

Garcia, E. et al. (2016) 'Zika virus infection: global update on epidemiology and potentially associated clinical manifestations', *Relevé épidémiologique hebdomadaire / Section d'hygiène du Secrétariat de la Société des Nations = Weekly epidemiological record / Health Section of the Secretariat of the League of Nations*, 91(7), pp. 73–81.

<https://www.who.int/wer/2016/wer9107.pdf>

Guluma, Y. (2018) *Outcome analysis: cash transfer programming response to the ebola crisis in Sierra Leone and Liberia*. <https://reliefweb.int/report/sierra-leone/outcome-analysis-cash-transfer-programming-response-ebola-crisis-sierra-leone>

Hempel, H. (2016) *Disaster preparedness and reactivation of agricultural production and trade in Ebola-affected Districts of Southern and Eastern Sierra Leone (DiPAT)*. doi:

10.1017/s1326011100600297.

Hung, Y. W. et al. (2019) 'Impact of a Free Health Care Policy in the Democratic Republic of the Congo during an Ebola outbreak: an interrupted time-series analysis', *The Lancet*.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3420410

Kapur, N. (2020) 'Gender Analysis: Prevention and Response to Ebola Virus Disease in the Democratic Republic of Congo', (January).

Kodish, S. R. et al. (2019) 'Consensus building around nutrition lessons from the 2014 –16 Ebola virus disease outbreak in Guinea and Sierra Leone', *Health Policy and Planning*, 34, pp. 83–91.

doi: 10.1093/heapol/czy108.

Kolie, D. et al. (2019) "Never let a crisis go to waste": post-Ebola agenda-setting for health system strengthening in Guinea', *BMJ Global Health*, 4, doi: 10.1136/bmjgh-2019-001925.

Kruk, M. E. et al. (2015) 'What is a resilient health system? Lessons from Ebola', *The Lancet*. Elsevier Ltd, 385(9980), pp. 1910–1912. doi: 10.1016/S0140-6736(15)60755-3.

Lamoure, G. and Juillard, H. (2020) *Ebola and Cholera Epidemics*. <https://www.alnap.org/help-library/ebola-and-cholera-epidemics-an-alnap-lessons-paper>.

Martineau, T. et al. (2017) 'Leaving no one behind: lessons on rebuilding health systems in conflict- and crisis-affected states', *BMJ Global Health*, 2(2), pp. 1–6. doi: 10.1136/bmjgh-2017-000327.

Minor, O. M. (2017) 'Ebola and accusation: Gender and stigma in Sierra Leone's ebola response', *Anthropology in Action*, 24(2), pp. 25–35. doi: 10.3167/aia.2017.240204.

Mussah, V. G. et al. (2017) 'Performance-based financing contributes to the resilience of health services affected by the Liberian Ebola outbreak', *Public Health Action*, 7(1).

<http://dx.doi.org/10.5588/pha.16.0096>.

Oosterhoff, P., Mokuwa, E. Y. and Wilkinson, A. (2015) *Community-Based Ebola Care Centres A formative evaluation*. www.elrha.org/work/r2hc

Oxfam (2014) *Ebola and the Private Sector Bolstering the response and West African economies*. <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/336916/ib-ebola-private-sector-response-091214-en.pdf?sequence=1&isAllowed=y>

- Quaglio, G. et al. (2019) 'Impact of Ebola outbreak on reproductive health services in a rural district of Sierra Leone: A prospective observational study', *BMJ Open*, 9(9), pp. 1–9. doi: [10.1136/bmjopen-2019-029093](https://doi.org/10.1136/bmjopen-2019-029093).
- Richardson, E. T. et al. (2017) 'The Symbolic Violence of "Outbreak": A Mixed Methods, Quasi-Experimental Impact Evaluation of Social Protection on Ebola Survivor Wellbeing HHS Public Access', *Soc Sci Med*, 195, pp. 77–82. doi: [10.1016/j.socscimed.2017.11.018](https://doi.org/10.1016/j.socscimed.2017.11.018).
- Siekman, K. et al. (2017) 'Community-based health care is an essential component of a resilient health system: evidence from Ebola outbreak in Liberia', *BMC Public Health*, 17(84). doi: [10.1186/s12889-016-4012-y](https://doi.org/10.1186/s12889-016-4012-y).
- Smith, Kristine M. et al. (2019) 'Infectious disease and economics: The case for considering multi-sectoral impacts', *One Health*. doi: [10.1016/j.onehlt.2018.100080](https://doi.org/10.1016/j.onehlt.2018.100080).
- Sustersic, L. (2015) *Quarantine in Sierra Leone. Lessons learned: On the use of quarantine in Sierra Leone as a support measure during the Ebola Epidemic 2014-2015*, Welthungerhilfe. <https://www.humanitarianresponse.info/en/operations/sierra-leone/document/quarantine-sierra-leone-lessons-learned-use-quarantine-sierra-leone>
- UNDG (2015) *Socio-Economic Impact of Ebola Virus Disease in West African Countries A call for national and regional containment*, United Nations Development Group - Western and Central Africa. <https://www.alnap.org/help-library/socio-economic-impact-of-ebola-virus-disease-in-west-african-countries>.
- UNDP (2015) *Getting beyond zero*. <https://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/getting-beyond-zero---early-recovery-and-resilience-support-fram.html>.
- UNDP et al. (2015) *Recovering from the Ebola Crisis*. <http://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/recovering-from-the-ebola-crisis---full-report.html>.
- UNICEF (2017) *Evaluation of UNICEF's response to the Ebola outbreak in Evaluation Office*. https://reliefweb.int/sites/reliefweb.int/files/resources/2232-UNICEF-Ebola_Eval_report_web.pdf.
- WHO (2008) *Reducing excess mortality from common illnesses during an influenza pandemic WHO guidelines for emergency health interventions in community settings*. https://apps.who.int/iris/bitstream/handle/10665/69856/WHO_HSE_EPR_DCE_2008.6_eng.pdf?sequence=1
- WHO (2016) *Zika strategic response plan revised for July 2016-December 2017*. <https://apps.who.int/iris/bitstream/handle/10665/246091/WHO-ZIKV-SRF-16.3-eng.pdf;jsessionid=E1E0EB19E29E3A71733665670DC700F6?sequence=1>
- WHO (2020) *Guidelines for the management of pregnant and breastfeeding women in the context of Ebola virus disease*. <https://apps.who.int/iris/bitstream/handle/10665/330851/9789240001381-eng.pdf>
- Wilkinson, A. et al. (2017) 'Engaging "communities": Anthropological insights from the west African ebola epidemic', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 372(1721). doi: [10.1098/rstb.2016.0305](https://doi.org/10.1098/rstb.2016.0305).

Witter, S. and Hunter, B. (2017) 'Resilience of health systems during and after crises – what does it mean and how can it be enhanced?', <http://bit.ly/2rUPRH9><http://bit.ly/2rUPRH9>.

Wurie, H., Witter, S. and Raven, J. (2016) 'Fighting a battle': Ebola, health workers and the health system in Sierra Leone. www.rebuildconsortium.com

Acknowledgements

We thank the following experts who voluntarily provided suggestions for relevant literature or other advice to the author to support the preparation of this report. The content of the report does not necessarily reflect the opinions of any of the experts consulted.

- Alison Prather, CARE
- Holly Radice, CARE

Key websites

- <https://rebuildconsortium.com/>
- <http://www.ebola-anthropology.net/>
- <https://www.socialscienceinaction.org/>

Suggested citation

Kelly, L. (2020). *Evidence and lessons on efforts to mitigate the secondary impact of past disease outbreaks and associated response and control measures*. K4D Helpdesk Report 757. Brighton, UK: Institute of Development Studies.

About this report

This report is based on six days of desk-based research. The K4D research helpdesk provides rapid syntheses of a selection of recent relevant literature and international expert thinking in response to specific questions relating to international development. For any enquiries, contact helpdesk@k4d.info.

K4D services are provided by a consortium of leading organisations working in international development, led by the Institute of Development Studies (IDS), with Education Development Trust, Itad, University of Leeds Nuffield Centre for International Health and Development, Liverpool School of Tropical Medicine (LSTM), University of Birmingham International Development Department (IDD) and the University of Manchester Humanitarian and Conflict Response Institute (HCRI).

This report was prepared for the UK Government's Department for International Development (DFID) and its partners in support of pro-poor programmes. It is licensed for non-commercial purposes only. K4D cannot be held responsible for errors or any consequences arising from the use of information contained in this report. Any views and opinions expressed do not necessarily reflect those of DFID, K4D or any other contributing organisation. © DFID - Crown copyright 2020.

