Ebola Synthesis Reference Document

August 2017

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Acknowledgement

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Thanks are owed to the individuals within the Red Cross and Red Crescent Movement and partner organization who gave their input into the background documents for this report.

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Abbreviations and Terminology

AU	African Union
CDC	Centre for Disease Control and Prevention
CEBS	Community Event-Based Surveillance
CTS	Case Tracking and Surveillance
CCM	Clinical Case Management
DFID	Department for international Development (United Kingdom)
DREF	Disaster Response Emergency Fund
DRR / DRM	Disaster Risk Reduction / Disaster Risk Management
ETC	Emergency Treatment Centre
EVD	Ebola Virus Disease
IFRC	International Federation of Red Cross and Red Crescent Societies
IM	Information Management
NGO	Non-Governmental Organization
National Society	National (Red Cross / Red Crescent) Society
PNS	Partner (Red Cross / Red Crescent) Society
PPE	Personal Protective Equipment
PRD	Partnerships and Resource Development
SDB	Safe and Dignified Burials
SGBV	Sexual- and Gender-based Violence
USAID	United States Agency for international Development
UNICEF	United Nations Children's Fund

Foreword

The West Africa Ebola Virus Disease (EVD) outbreak that occurred between 2013 and 2016 was unprecedented in the history of the disease. The outbreak not only affected the health and lives of people living in this region, but it also disrupted socio-economic activities and challenged the socio-cultural foundations of the affected population. In total eight countries were affected: Guinea, Liberia, Sierra Leone being the most affected and cases reported in the United States, Nigeria, Senegal, Spain and Mali. The outbreak also tested the response capacities of both local and international actors in a resource-limited setting with very weak health systems. At the end of the EVD response, there was widespread affirmation to the fact that the world was not prepared to effectively tackle public health threats of this magnitude. With growing concerns about the increasing threat of a worldwide pandemic combined with the increasing number of new disease outbreaks, it is important that we reflect on what was done in the recent EVD outbreak in West Africa and learn critical lessons from it and better equip ourselves with requisite knowledge, skills and the know-how that would ensure we do not repeat similar mistakes that were made in the EVD response.

It is in this light, that the IFRC has taken on the initiative to produce this synthesis document. It is a consolidation of various studies, research and evaluation reports conducted during and after the EVD outbreak.

The synthesis documented is expected to serve as a reference document and a guide to all interested parties both within and outside the Red Cross Red Crescent network who wish to draw vital lessons for future responses.

Dr Fatoumata Nafo-Traoré

Regional Director, IFRC Africa Regional office.

Executive Summary

The purpose of this report is to capture, in one synthesis document, knowledge gained during and since the International Federation of Red Cross and Red Crescent Societies (IFRC) Ebola response: **What does the IFRC need to learn to repeat successes or avoid repeating the same mistakes in the face of a threat like Ebola in West Africa?**

The IFRC consists of the National Societies which are its members, together with the Secretariat (in Geneva and the Regions). Throughout this report, **"IFRC" is used in this sense, referring to the National Societies** in West Africa as well as to international support from the IFRC Secretariat and other National Societies.

This report covers the period starting 2014, when the first Ebola Disaster Response Emergency Fund appeals (DREFs) were launched in West Africa, until the end of 2016. The primary audience is the IFRC, including the National Societies that were involved in the Ebola Response operation. The secondary audience is other partners that the IFRC works with to improve the response to global health emergencies.

This report adopts the "Theory of Change" approach: what are our objectives and how do we have to intervene, via what mechanisms, to achieve them? But it goes one step further: it asks *Whose Theory of Change is it? Do we all share the same theory?* This report tries to construct three different but overlapping Theories of Change from the perspectives of three stakeholder groups (IFRC, staff/volunteers and communities) and tries to understand the important similarities and differences.

Using **multi-stakeholder Theories of Change** leads to questions which are intriguing in theory but critical in practice:

- Can "we" understand communities' behaviour through understanding their Theories of Change?
- If so, was the IFRC able to integrate communities' Theories of Change into its own, in order to get a better picture of how to intervene effectively, taking into account how these interventions might be understood by communities?
- Was the IFRC actually able to get close enough to communities to do this?
- How did communities see the IFRC (trust/mistrust) and how did this affect uptake of IFRC messages and response to IFRC interventions?

The report was compiled by identifying the most relevant, useful and plausible findings from relevant documents – Evaluations, Reports, Lessons Learned documents etc. Then a Theory of Change for the epidemic (from the perspective of the IFRC) was pieced together out of these findings.

The first Findings section asks, for each Objective in this initial Theory of Change, what did IFRC do the right thing in time, what should it do again and what mistakes should be avoided in the future? To answer this question, the achievement of indicators (including the size of appeals and donations) is tracked over time and compared with the timeline of the epidemic.

Next, the wellbeing of staff and volunteers is added as an additional Objective and the original Theory of Change for the Ebola response is extended to include **more focus on staff & volunteers**, and relevant Findings are presented at the end of the first Findings section. Finally, the Theory of Change is again extended to include **the perspective of the affected communities** – their own Objectives and ideas about how these can be reached (Findings section 2a)**.** In addition, the question is asked: how much was the IFRC was able to understand and integrate this community perspective into its own Theory of Change (Findings section 2b).

Main conclusions

The IFRC was able to play a key but unsung role in a broad early response

The IFRC stands out in the story as having been one of just a few organisations represented broadly in the field right from the beginning of the epidemic. It is likely that the Red Cross made a significant contribution to providing information about and examples of *how behaviour needs to change*, which the communities needed in order to lead and implement their own responses.

By the time of declaration of the end of the outbreak in 2016, the Red cross had trained and deployed 10,000 volunteers. These volunteers engaged in various interventions along the five pillars of the Red Cross Response:

- Community Engagement and Social mobilization
- Ebola Clinical treatment and care
- Safe and dignified burials
- Provision of psychosocial support
- Disease surveillance and contact tracing

These five pillars of the Red Cross interventions contributed to save lives and avert deaths as recently alluded to in a journal article which referred to the Red Cross safe and dignified burial averting over 10,000 Ebola Cases.

However, it seems that the scaling up of the response followed rather than anticipated the size of the growing threat.

It proved to be possible, with the right approach, to conduct a large intervention in a dangerous epidemic with large numbers of personnel (i.e. staff and volunteers) with very few lives lost

During the epidemic, around 488 health workers died. IFRC staff and volunteers were subject to substantial risk to their lives over long periods – not only from Ebola infection but also, from working with communities whose members were sometimes reluctant and aggressive. Against this background, and given that there were around 10,000 Red Cross volunteers active by the end of 2014, it is remarkable that just four lives were lost amongst IFRC Staff and volunteers.

The psychosocial needs of personnel were too often an afterthought

As with other sectors, it seems that some key lessons from earlier epidemics were forgotten in the rush to provide an effective response, and in particular the importance of having a comprehensive psychosocial plan, especially for personnel, from the outset.

Information management struggled to inform real learning

Planning Monitoring Evaluation and Reporting (PMER) seems to have had the same restricted role as in previous emergencies – trying to provide adequate data for after-the-fact reporting rather than proactively providing data and models to improve the response in real time. Models of epidemic and response which were provided seem to have been inadequately adapted to the specific situation, for example the urban context.

The response was slow to engage communities and understand their perspectives.

In most cases, in spite of exhortations on paper, beneficiary communication was too directive at the beginning and messages were delivered which needed adaptation before

they could be correctly understood and acted upon. Though messaging and community engagement did improve substantially during the epidemic, the improvements were mostly in terms of better two-way information flow and better targeting of messages.

Once again it seems that the IFRC discovered that successful programs rest on deep community engagement, which in turn rests on a (not completely one-sided) *relationship* between agency and community, and that is something which is easy to write and harder to do.

Many "lessons not learned"

The Lessons Learned presented in this document are not so different from other Lessons Learned from other similar emergency response, which would *seem* to suggest that previous "Lessons" were not really "Learned". A variety of possible explanations are given.

Main recommendations

In preparation:

- Ensure psychosocial services have pre-existing capacity and an explicit mandate with respect to Duty of Care.
- Improve the capacity of PMER and Information management (IM) to provide real learning in real time: to be able to provide the information (from caseload to attitudes and myths) necessary to adapt intervention models to current and changing situations during an emergency.
- Investigate the reasons why many key "lessons" from past emergencies are not in fact learned. Is it because "the system is pushing back"?
- Rather than bringing in social scientists to better understand communities during an emergency, ask them *before an emergency ever happens* to look at the potential for understanding, engagement and shared goals (or not) between IFRC personnel and communities on the one hand and IFRC structures on the other. This could involve looking at the perspectives and motivation of staff and volunteers especially vis-à-vis spending time with and building relationships with communities.

Future interventions should:

- Prioritise the duty of care to personnel by learning from this intervention about how early provision of appropriate training and protective equipment can save lives of personnel but also by ensuring that the psychosocial stress personnel are subject to is addressed from the beginning.
- Ensure that IFRC successes and services provided especially in the front line are appropriately understood and recognised by partners

Appendices to this report give more information on the documents surveyed and the methods used, on the indicators and narrative in the whole series of Operation Updates from the start to the end of the operation, and on the Appeals and DREFs.

Purpose, scope, background

Purpose

The purpose of this report is to capture, in one synthesis document, knowledge gained during and since the IFRC[1] Ebola response: what does the IFRC need to learn to repeat successes or avoid repeating the same mistakes in the face of a threat like Ebola in West Africa?

Time frame

This report covers the period starting 2014, when the first Ebola Disaster Response Emergency Fund appeals (DREFs) were launched in West Africa, until the end of 2016.

Geographic scope

The report deals with 16 countries:

- Those covered by the IFRC international emergency appeals to combat Ebola
  - in the three most affected countries: **Guinea, Liberia, Sierra Leone**
  - the two other appeals in **Nigeria and Senegal**
- IFRC preparedness and response operations financed under its Disaster Response Emergency Fund (DREF) **Mali, Cote d'Ivoire, Cameroon, Togo, Benin, Central African Republic, Chad, Gambia, Guinea Bissau, Ethiopia**

Audience

The primary audience is the IFRC and the National Societies that were involved in the Ebola Response operation. The secondary audience is other partners that the IFRC and National Society work with to improve the response to global health emergencies.

Background to the epidemic

The Ebola outbreak in West Africa (first cases in December 2013, first notified in March 2014), was the largest and most complex Ebola outbreak since the Ebola virus was first discovered in 1976. There have been more cases and deaths in this outbreak than all others combined.

The outbreak began in Meliandou, Guinea, with the death of a child in December 2013, thought to have been infected by a bat. The outbreak was recognized in January 2014, in the border area between Guinea, Sierra Leone and Liberia, but poor communications and political and cultural resistance hampered timely recognition and extent of the outbreak.

Although there have been 23 previously documented outbreaks of Ebola in humans since 1976, the cultural socio-economic and geopolitical context of West Africa, coupled with fragile health systems in the post-conflict region created the environment for this explosive outbreak.

[1] Explicitly including National Societies and PNSs as well as the Secretariat

The epidemic spread among West African countries starting in Guinea before spreading across borders to Sierra Leone and Liberia, Nigeria, Senegal and Mali. The most severely affected countries, Guinea, Sierra Leone and Liberia, had very weak under developed health systems, lack human and infrastructural resources, and recently emerged from long periods of conflict and instability.

This West African epidemic was the first to enter urban areas and demonstrated the consequences of failing to keep the epidemic contained in the rural areas, as the nature and difficulties of control are exacerbated when spread to urban areas. Community links and easy access are also important factors in this setting unlike in the very remote and forest areas elsewhere.

The WHO was slow to respond (Petherick 2015) and did not declare a public health emergency of international concern until 9 August 2014. Most international organisations did not begin to respond at any significant scale until after September 2014.

The peak in the incidence rate (new cases per week) occurred in August or September 2014 in Liberia and around November in Sierra Leone. The reproduction number (the number of new cases per existing case) was already dropping in Liberia by around September and October 2014 (Nyenswah et al. 2014). In Sierra Leone and Guinea the epidemic took longer to get under control; the incidence rate started to drop around January 2015 in Guinea.

In January 2016, the effective end of the Ebola outbreak in West Africa was announced. At least 11,310 people had died.

	GUINEA	LIBERIA	SIERRA LEONE	TOTAL
	(MDRGN007)	(MDRLR001)	(MDRSL005)	
Cumulative Cases	3,814	10,682	14,124	28,620
Cumulative Health Care Worker Deaths	115	192	541	848
Cumulative Deaths	2,544	4,810	3,956	11,310
Fatality rate	66.7%	45%	28%	40.6%

Table 1. Total numbers of cases and deaths in the three most affected countries. Data from IFRC Operation Update 36.

Figure 1 below shows key events in the Ebola timeline up to the start of 2016. The four main publications which were published during that period are also marked with a box: ▉. Most of the documents included in this review were published after the end of the above graph, with most being published in 2016; the IFRC Lessons Learned workshop was held in April 2016.

The three coloured lines also show the number of confirmed new cases per week for the three most affected countries.

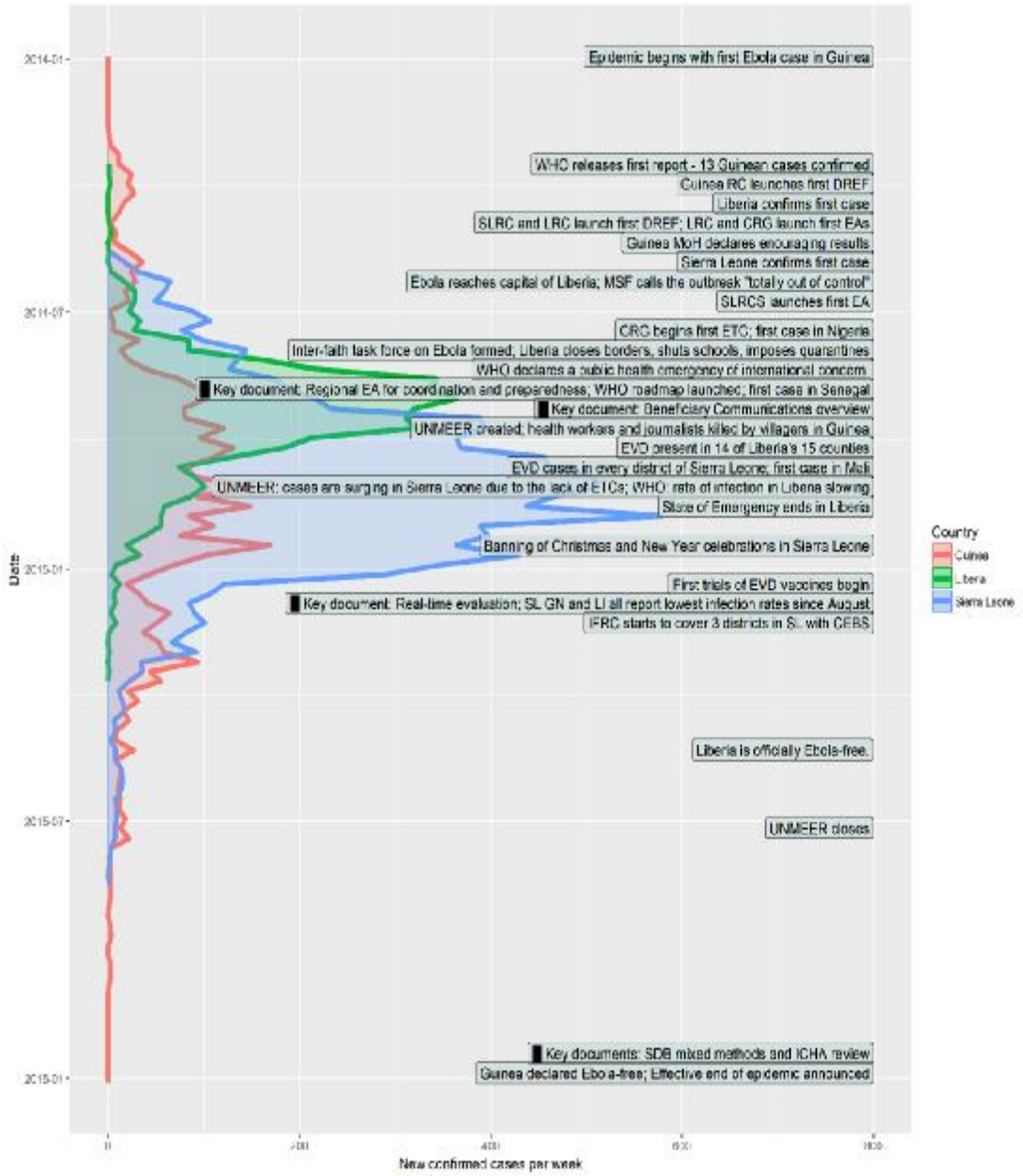

Figure 1 The story of the epidemic. Lines show new, confirmed cases per month – from WHO patient database. Four of the documents covered in this Review are marked with a box: ☐.

IFRC response

IFRC's Ebola Virus Disease (EVD) strategic framework was organised around five objectives: 1. The epidemic is stopped; 2. National Societies have better EVD preparedness and stronger long-term capacities; 3. IFRC operations are well coordinated; 4. Safe and Dignified Burials (SDBs) are effectively carried out by all actors; 5. Recovery of community life and livelihoods.

IFRC's five objectives, slightly adapted for the purposes of this report, see p. 64, are dealt with in more detail further in the document as follows:

- ♥ Objectives 1 and 5: Ebola stopped, well-being, recovery of community life and livelihoods p. 19

- ♥ Objective 2: National Society Preparedness, long-term capacity, reputation, p. 33

- ♥ Objective 3: Operations are well coordinated p. 28

- ♥ Objective 4: Safe and Dignified Burials and the SDB pillar p. 26

The EVD operations also employed a five pillar approach, centred around operational units, to reach these five Objectives comprising: (i) Beneficiary Communication and Social Mobilization; (ii) Contact Tracing and Surveillance; (iii) Psychosocial Support; (iv) Case Management; and (v) Safe and Dignified Burials (SDBs) and Disinfection; and a revision has included additional sectors on recovery, covering food security, livelihoods and Disaster Risk Reduction.

The IFRC's five pillars are dealt with in more detail further in the document as follows:

- Pillar: Psychosocial p. 25 and p. 37

- Pillar; Contact Tracing and Surveillance p. 24

- Pillar; Clinical Case Management p. 25

- ♥ Objective 4: Safe and Dignified Burials and the SDB pillar p. 26

Some more detailed indicator data and timings describing IFRC's achievements are given on p. 20 and p. 56.

Method

Throughout the Ebola response operation, a substantial number of reviews, studies and research documents were commissioned by the IFRC and its member National Societies. Today the knowledge and information on the Ebola response is scattered over many documents and studies in different stages of finalisation.

Overview

Relevant documents – Evaluations, Reports, Lessons Learned documents etc - were identified by key staff. Each document was searched for relevant findings.

Documents included

A full list is given on p. 55.

Selection of material from within selected documents

Only material which represents knowledge gained from or in connection with the IFRC Ebola response was included as a finding (except in a few cases for background information).

Processing

The findings were first used to reconstruct a "Theory of Change" for the epidemic from the perspectives of the IFRC . (A Theory of Change tries to answer the question "how do our **actions** most plausibly lead, via which kind of **mechanisms**, to **objectives** which we value - lives saved, capacity built, etc?").

If the present report was an evaluation, we would then use this integrated Theory of Change to try to answer the question: *what kind of improvements have those inputs contributed to*? But this is a Lessons Learned report so our question is, through the lens of this Theory of Change: *What can we learn about **how** IFRC actions contributed to reaching the Objectives*, *what should be repeated in future and what should be avoided* in the face of a threat like Ebola in West Africa?

Findings Section 1, below is taken up with answers to this question. On p. 35 we also enrich the initial Theory of Change by considering the perspective of staff and volunteers.

However, this is not the end of the story. Most of the documents emphasised that many mistakes were due at least partly to a single factor; the IFRC *not adequately understanding the perspectives of the affected communities*. Community perspectives differ so much from the IFRC :

- They partly disagree about what leads to what (**mechanisms**)
- They have different if overlapping **objectives**,
- They are able to **act** in different if overlapping ways.

So in Findings Section 2a we try to construct another simple Theory of Change, but now *from the perspective of the communities*[2]. Then in Findings Section 2b, we finish by seeing how much the IFRC was able to understand and *integrate* the communities' perspective into its *own* Theory of Change. This involves many questions which are essentially *complex*. We ask *what can we learn about how this integration was done and how it can be done better*.

Passages are highlighted in this report as follows:

- Key findings are in green, mostly these give details about the Theory of Change: what leads to what

- Analyses are in blue with dashed underline: conclusions which follow from the findings

- Lessons are underlined in purple: findings which highlight aspects of the IFRC response which were particularly important in reaching the objectives, and therefore should be repeated, or mistakes which should be avoided

Limitations of this report

This report …

- … is not tasked with compiling lessons learned specifically on organisational development or financial control and does not include auditors reports or related material.
- … is restricted to lessons which can be extracted from the identified documents, each of which brings its own set of biases and limitations. In particular, nearly all of these are English-language documents produced by IFRC or other international organisations. This means that local perspectives are underrepresented. The attempt to construct a Theory of Change "from the perspective of the communities" would certainly have turned out different had the communities themselves been included in this process.

[2] Several other important Theories of Change, for example, from the perspective of the national governments, international agencies, faith organisations or the media, could also have been included but were not, for reasons of space.

Findings 1: What worked and what didn't - from the perspective of the IFRC's Theory of Change

The initial Theory of Change

First, a Theory of Change for the epidemic from the perspective of *the IFRC* is presented.

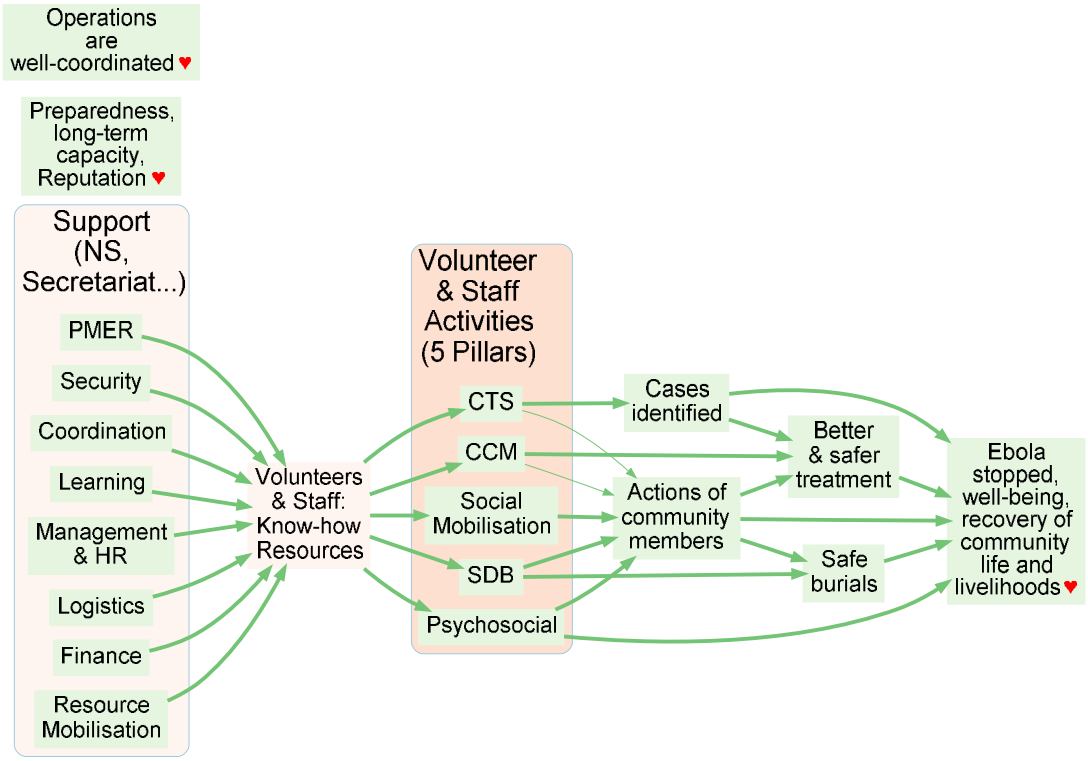

Figure 2. An initial Theory of Change for the Ebola response, seen from the perspective of the IFRC.

This Theory of Change shows how IFRC inputs were designed to contribute, via the efforts of staff and volunteers and with community involvement, to valuable objectives like stopping Ebola.

The arrows only represent *contributions*[3]; in every case other factors, not shown, play a role as well. So for example, the five pillars attempt to make a difference to community know-how, resources etc but they certainly don't *determine* them: many other factors play a role as well.

[3] The various items in the theory can be conceived as *variables* in the sense of things that can have or could have had a *different* quantity and/or quality, for example amount and quality of contact tracing and surveillance. So a difference or change in one variable contributes to a difference or change in any variables "downstream" of it.

The objectives are marked with heart ♥ symbols. These have been slightly modified from the original documents, see p. 64. In particular, one more objective has been added which can be assumed for any IFRC operation: the well-being of volunteers & staff. The final goal of the intervention, marked with a ♥, is expressed here in terms of Objectives 1 and 5 - "Ebola stopped, well-being, recovery of community life and livelihoods".

There are certain tensions between some of these objectives. One was explicitly noted in the Australian Red Cross (IFRC 2013): building National Society capacity in clinical case management was in accordance with the Objective of building National Society capacity but raised the possibility of conflict with duty of care. We will look at the Objectives in more detail starting on p. 19.

At the left of the diagram are the various inputs provided by the IFRC including national societies, PNS's, region and secretariat. They support the staff and volunteers to conduct their activities within the five pillars (pink background). Concretely, support is provided to *know-how* (knowledge, skills and understanding – the individuals' Theories of Change), for example via training, and to *resources and capacity*.

In the middle of the diagram are a few of the most important of many things which have to happen in order for communities (with their various know-how, resources and tradition) together with the IFRC pillars to help secure those the main objectives[4]. We have highlighted better treatment, safe and dignified burials and cases identified as the most important intervening factors. In most cases, the IFRC pillars work through influencing communities but in some cases they also act directly, for example the SDB team is also directly involved in conducting safe and dignified burials.

Many things have been left out of this overall model. And there are plenty of less important arrows which are not shown on this overview diagram, in order to focus on the most important links.

Do we need all the pillars?

IFRC documentation argues (see below) that *all* the pillars have to be contributing *together* in order to reach the final goal – even though IFRC itself was not involved in all pillars in all countries to the same extent, making the decision to focus on factors where IFRC could best add value and rely on other contributions to cover other factors.

> *" " To cease transmission, all the pillars of intervention must work together seamlessly and in unison; if one measure is weak, others will suffer. Therefore, unless transmission is prevented, then no amount of curative services will end the outbreak – aggressive contact tracing will not stop transmission if the powers of rapid case detection and rapid diagnostic confirmation are diminished in the absence of facilities for prompt isolation. High quality*

[4] Behaviour change communication approaches in relief and development usually consider "motivation" as an input variable alongside resources and information, which *leads to* action (Michie, van Stralen, and West 2011) and thus as a factor that can be "given" or "input" to stakeholders. But psychology has long moved on from that kind of theory of motivation. The model used here follows approaches to motivation common in cognitive psychology (Vroom 1964): actors take actions *in order to reach objectives*, on the basis of information about the current state of those objectives and other factors, i.e. on the basis of the actor's Theory of Change.

treatment may encourage more patients to seek medical care, but will not stop community-wide transmission in the absence of rapid case detection and safe burials(IFRC 2014a).

Looking at the Theory of Change, that safer burials *and* better tracing, surveillance *and* isolation contribute to the goal; according to the WHO Roadmap (on which the Response Objectives are based) these are necessary rather than sufficient conditions: even if one fails, the response may fail. But this does not mean that the IFRC Network needs to be providing every one of these things *itself*. However, this argument applies not just across the whole country, but in particular at the level of individual communities. At that level, it might be harder to assume that, where IFRC is not working, others will integrate their work smoothly.

Even if several components are all necessary for the success of a response, it is not essential that IFRC needs to be involved in all of them itself, although it could be involved in ensuring that all necessary components are addressed by somebody even at the level of individual communities.

In the rest of this section we will ask, for each Objective in the Theory of Change, what did IFRC do right and should do again and what mistakes should be avoided in the future?

♥ Objectives 1 and 5: Ebola stopped, well-being, recovery of community life and livelihoods

The tide of Ebola was turned. The number of infections, although very large, came nowhere near the level of catastrophe (between half a million and 1.5 million fatalities[5]) originally predicted by the Centre for Disease Control and Prevention (CDC 2015). What aspects of IFRC interventions made the biggest difference, and what was learned, what should have been done differently? This is a particularly complicated question because we have to consider that the epidemic and the various responses varied a lot over time and in particular there were big *changes* in the way the IFRC response affected communities.

Inclusion, impartiality, coverage

The IFRC is committed to ensuring that the most vulnerable are targeted. People were indeed helped, but who, when and where? How well did the support provided by the IFRC reach out across the country and reach and involve specific subgroups such as women and also the most vulnerable groups? MSF (Healy and Tiller 2014) and others claim that in particular international agencies have a strong tendency to focus on easy-to-reach populations especially in crisis situations. This may have also been the case for the IFRC:

> *In relation to clinical case management, there were challenges of general accessibility, access for the vulnerable, and community engagement. For instance, some communities requested the centres to be located a distance from the village, which created a challenge in terms of logistics for the transportation of materials and equipment as well as for patient's transportation.*(IFRC 2016b)

[5] without interventions or changes in community behaviour

However, overall, the reports reviewed here do not contain much information, positive or negative, on whether the IFRC was able to ensure that interventions were actually focused on the most vulnerable within the affected populations.

The timing and effectiveness of the IFRC response

Did the IFRC respond early enough? Was it faster than other responders? What is to be learned from the Operation Updates about the speed and scale of the response?

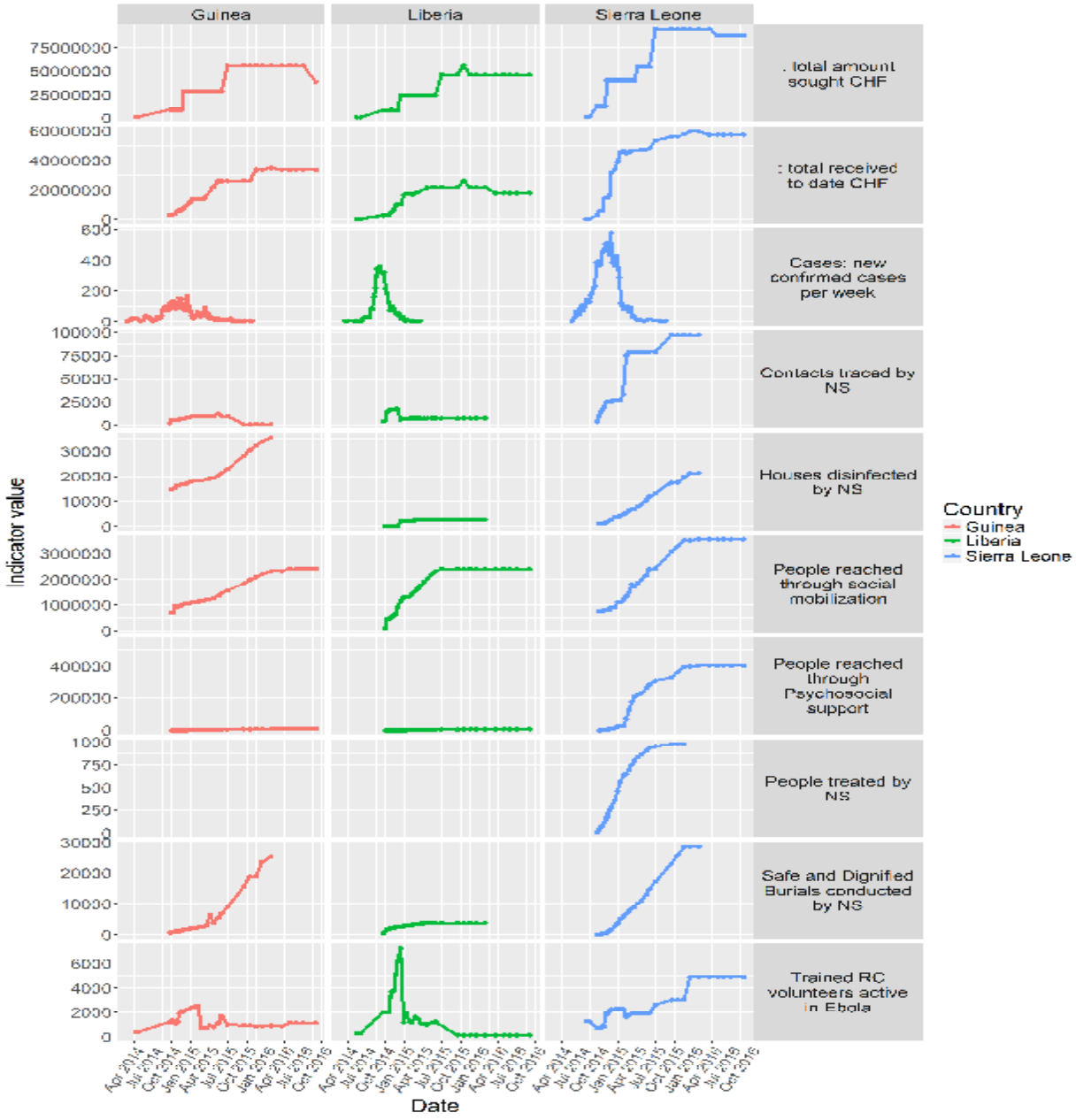

Figure 3. Progress on indicators as reported in the Operation Updates, compared also with new cases per week and funds sought and received. See p. 19. For more details, see p. 65.

IFRC progress was reported in a series of around 50 Operation Updates, for more details see p. 56. Figure 3 position looks at the indicator data in the Operation Updates to analyse how much the scale of the response kept pace with, pre-empted or lagged behind the epidemic. The *maximum* achievements on key indicators reported in the Operation Updates (the highest point on each of the above graphs) are given on p. 67.

The first row shows the amount of the Appeals at each date. The Appeals data is also compiled from Operation Updates. The figures show the CHF amounts reported as the size of the appeal (including DREFs at the start of the response).

The second row shows the amounts in CHF reported in the Updates as having been raised at each date.

The third row shows number of new confirmed cases per week – the same data as in Figure 1.

The other rows show all the indicators reported systematically in all of the Operation Updates. It is important to realise that although cases are reported week by week, most of the other Operation Update indicators are cumulative.

Unfortunately, there is very little detailed information on indicators for the critical period before September 2014. There were several hundred **volunteers** active in Guinea and Liberia from April and May, and in Sierra Leone from July. Liberia reports over 7000 active volunteers in December 2014. There were also quite substantial **social mobilisation** and information activities, although standardised indicators are not reported. Other indicators are not reported until September 2014, though there is some narrative information in the Operation Updates about the number of staff and specialist teams operating.

The response was somewhat different in each of the three affected countries. In particular, the National Societies ran treatment centres in Sierra Leone (2 centres) and Guinea (1 centre).

The IFRC together with the National Societies in West Africa have since embarked on a recovery plan to support and rebuild the health systems of affected countries through integrated community based health programmes.

Was IFRC doing the right things early enough?

Given the difficult circumstances, did the IFRC do the right things to able to pre-empt or at least more or less keep pace with the rapidly growing number of infections?

Guinea Red Cross launched its first emergency plan of action for Ebola in March 2014 and began construction of the first treatment centre in July 2014. 94 global surge personnel had already been deployed by August 2014 (IFRC 2014b), even before the UN system had declared a L3 emergency.

IFRC is one of very few agencies operating in all five pillars (IFRC 2014a) in the field right from the beginning of the epidemic (e.g.(Schofield 2016)), and the only one in such number. IFRC has the potential for a unique overview of the situation at community level, and for comprehensive two-way communication.

The numbers for people reached by IFRC through social mobilisation are already substantial when they are first reported in September 2014, reaching well over half a million people in each of the three most affected countries by the start of October 2014.

But this was not yet a full-scale response. IFRC activities continued to increase in scale until 2015. Of 69 Million CHF raised in total, only 28 had been spent by end of 2014 (KPMG 2015). Only a small percentage of the amounts finally sought and raised by the IFRC had been sought or raised by October 2014, when the epidemic was already beginning to show signs of slowing.

Looking at Figure 3, there is a strong impression that apart from messaging, most of the work carried out by the National Societies began to reach any scale when the epidemic was already in decline. There at least three ways of interpreting this.

The favourable view is that it was only through efforts at scale that the epidemic and further transmission were suppressed sustainably. A good example would be safe and dignified burials: although most of the deceased will not have been Ebola positive, in the absence of clinical certainty, the tireless work to avoid any possibility of any resurgence of the epidemic via unsafe burials may have been critical in reaching zero cases. Similar arguments apply to house disinfection and social mobilisation; and the need for psychosocial support certainly continues even when the epidemic is declining.

An unfavourable view is that it took too long to activate substantial appeals and too long to turn resources into action, or that donors were only willing to donate substantial funds when media coverage reached saturation, so that much of the work was simply too late.

A more nuanced view is that even smaller scale but targeted responses early on may have been crucial in ensuring the epidemic did not get even worse. Perhaps, for example, providing clear and accurate information helped turn the tide of the epidemic, once the communities themselves were convinced enough of the urgency of changing their behaviour. It is likely that the IFRC made a significant contribution to providing this kind of information about how behaviour needs to change. There was certainly plenty of IFRC activity before August 2014 in key areas, see Figure 5. Perhaps the scale is not so important: maybe targeted, localised support and the early ubiquity of appropriate messages was enough?

Also, as argued in (Tiffany et al. 2016), the earlier in the epidemic an infection is avoided, the more lives are saved by avoiding subsequent secondary infection. That makes the early presence of the IFRC particularly valuable even if the interventions were still relatively small.

The IFRC responded to the epidemic from as early as March 2014 in Guinea (IFRC 2016b). The capacities of most actors were overwhelmed by the exponential spread of the epidemic in its second phase beginning in June 2014. However the IFRC was conducting substantial activities especially in the three most affected countries from March April and May 2014 onwards.

In conclusion, it is tempting to look at the epidemiological curve for Ebola in West Africa and with hindsight to imagine that it was inevitable. However nothing was inevitable. It was certainly not inevitable that the epidemic started to get out of control in June-July 2014.

The epidemic was not as destructive as originally feared; it is likely that taken as a whole, the response mitigated it.

The IFRC played a big part in the response. It is likely that at least some aspects of IFRC response were effective and should be repeated in similar emergencies.

Looking at reports from other Ebola epidemics (Kerstiens and Matthys 1999; Muyembe-Tamfum et al. 1999) and even taking into account the added difficulties in this epidemic,

such as cross-border communities, it seems highly likely that a larger intervention earlier on in particular in March, April and May 2014 would have had a good chance of halting the epidemic much earlier and with much less loss of life.

In particular, it was not inevitable that the reproduction number (the number of subsequent cases resulting from one new case) would decrease when it did. It might have remained above 1 for several more months into 2015 and there might really have been half a million cases or even more. Nobody knows for sure how much the drop in the reproduction number was due to a) the natural development of the disease b) the responses communities would have made on their own, even without a coordinated response or c) the efforts of agencies like the IFRC. Most likely, these three factors combined.

Continuing and increasing activities after the end of 2014 may have helped ensure that the epidemic was kept under control.

Nor was it inevitable that the epidemic did not resurge during 2015-6. Though it is hard to be certain, it is likely that the continued support provided even after the epidemic had died down helped prevent new hotspots and a resurgence of the epidemic.

What role did community behaviour play in stopping the epidemic, when, and did IFRC influence this?

Initially, communities offered considerable resistance to Ebola-related messages and recommendations and that their practices, for example funeral practices, were contributing to the rapid spread of the disease.

And yet, as shown in Figure 1, the peak in new cases occurred in August or September 2014 in Liberia and around October or November in Guinea and Sierra Leone.

> *… towards the end of 2014 […] the epidemic turned a corner. The total number of cases began to decline in the hardest hit countries as community leaders and organisations joined control efforts, even before large-scale global assistance arrived.* (Moon et al. 2015, 4)

The reproduction number started dropping in Liberia as early as September and October 2014 (Nyenswah et al. 2014). So if the crucial drop in the reproduction number was happening right across three countries so relatively early, this cannot only have been due to better isolation and treatment. There is some persuasive evidence that it was the engagement of communities themselves which was most important in turning the tide of the epidemic (ibid). When people saw that a big proportion of their neighbours who had visited a funeral died shortly after, they modified their own Theory of Change and acted accordingly.

Communities adapted their behaviours on sufficient scale and sufficient speed to be bringing the reproduction number below 1 before national and international agencies were responding at full scale. The tide was turned when communities started taking control themselves.

Whatever factors were pivotal in turning the tide of the epidemic must already been present in those relatively early months (third and fourth quarters of 2014). What factors were these?

First, pre-existing factors related to community organisation know-how, resources and motivation may help explain how vulnerable a community was to the epidemic. Capps (2015) has some strong, if correlational, evidence that areas in which successful

community led total sanitation projects had *already* been completed at the start of the epidemic were 11 times less likely to have incidence of Ebola.

But what role did IFRC and other outside agencies play in that community behaviour change?

Fast et al. (2015) try to quantify the role of social mobilisation directly by modelling the epidemic and conclude that individuals' increased readiness to attend ETUs for treatment "may have averted hundreds, if not thousands, of EVD cases in Lofa County" (Fast et al. 2015). However, although their results assume that behaviour change suggestions came from outside the communities, they are also compatible with the hypothesis that these suggestions and increased awareness all happened partially or wholly *within* the communities.

At some point between June and December 2014, communities started to say, for example, "we need to care for our sick differently". Most likely they did this because they had *both* mounting real-life experience of the tragic consequences of ill-adapted behaviour *as well as* models, from IFRC and others, pointing out this behaviour, explaining why it is dangerous, and suggesting alternative behaviour.

Transitioning to recovery

The real-time evaluation at the start of 2015 (Murray et al. 2015) was already recommending a recovery focus, helping the states to build back better. Going into 2015 and 2016, the IFRC aimed to turn Ebola response and recovery into a more general health promotion intervention:

> *Redefining success: Instead of defining success as "no additional cases" in the future, success will be defined by the adapting of healthy behaviours by the population* (IFRC 2014a)

The response to the epidemic has helped raise the visibility of psychosocial approaches in Ministries of Health which were already sensitised to some extent through psychosocial work during conflicts (Cheung 2015).

At the same time, there is still much work to be done with and for the people and communities who survived the epidemic.

Operation Updates show an increasing focus on survivors and survivor communities (see p. 56).

The focus of longer-term epidemic interventions can usefully be generalised from quite early on to 1) healthy behaviours 2) recovery 3) assistance for survivors.

Pillar; Contact Tracing and Surveillance

Some RC staff were involved in passive contact tracing. However, active tracing and surveillance (going out looking for cases rather than waiting to receive reports) was only introduced later. The analysis on pp. 56 ff. shows that from around the end of 2014, the Operation Updates slowly start referring to "surveillance" rather than "tracing". Subsequent to the RTE, in the first months of 2015 in Sierra Leone, the Red Cross joined in the *Community Event-Based Surveillance* (CEBS) programme which covers the whole country. The transition to active surveillance makes sense: Petherick (2015) reports that people identified through active case finding have a better survival rate than those who self-present. Active CTS such as CEBS can make a considerable contribution to arresting the epidemic over and above the contribution made by passive CTS. (Ebola Response Consortium 2015). This transition is to some extent explained by the fact that

from that point onwards there were far fewer actual cases which would require contact tracing, so it is an open question whether more active surveillance would have been possible earlier on in the epidemic.

In some communities even trained case finders may prefer to conceal their role for fear of stigma and repercussions, which makes it much harder for them to do their job (Ebola Response Consortium 2015). If volunteer case finders are young, it may be hard for them to get acceptance.

CTS (and also active surveillance) is potentially a good fit for the National Societies with their wide network of relatively well-integrated volunteers. But the success of active case finding may depend on deep adaptation to and involvement with the community – open discussion, clarification of roles etc.

Inter-agency coordination was poor especially around information management, though CTS depends on (and can help contribute to) information sharing, especially in cross-border areas. So inter-agency information management was a weak link in the CTS cycle, also for IFRC (IFRC 2016b). Improving case management means improving IFRC information management.

Pillar; Clinical Case Management

Procedures and principles for clinical management of Ebola were quite well established before the beginning of the epidemic (Kerstiens and Matthys 1999). However there is much discussion in the public health literature about the best way to run an ETC, going back to earlier epidemics (Kerstiens and Matthys 1999), a question which probably needs answering on a case-to-case basis. Case management was mainly organised by MSF and national health ministries. Case management was not a big part of the IFRC response initially. The IFRC Emergency Treatment Centres (ETC) in Kenema, Sierra Leone was requested by the WHO after MSF declared that they were working at full capacity and would not expand treatment facilities further. An ETC was opened by German RC and hardly used (IFRC 2016b) one was opened in Guinea by French RC. Only Sierra Leone is reported in the Operation Updates.

Running ETCs is not an obvious fit for the RC. If the IFRC is to be involved in running ETCs, there should be a realistic assessment of the professional skills required, a clear understanding of the added value of IFRC involvement and a clear way to decide when and where to open one and when to close one.

Pillar; Psychosocial

Psychosocial services had a particularly broad role because they also potentially included caring for staff and volunteers (see p. 37) as well as dealing directly with communities during and after the epidemic.

In most cases, it was intended that the psychosocial pillar would be mainstreamed across the other pillar activities too, as was also the intention with Social Mobilisation. However, reading between the lines it seems that it took too long for the pillar to become effective and that mainstreaming was often not actually implemented in full: Ensure psychosocial pillar has pre-existing capacity by improving training and staffing before an emergency; ensure it is resourced and prioritised from the outset, including engaging an expert PSS delegate, and ensure better PSS services and better functioning of other pillars by ensuring PSS is sufficiently mainstreamed across other components. Help to mitigate effects of Sexual- and Gender-based Violence (SGBV) by using appropriate manuals from the outset (Zanghellini 2016, 5).

(Zanghellini 2016) gives additional, more detailed lessons learned and recommendations for psychosocial programming. For lessons on psychosocial services to staff and volunteers, see p. 37.

Delivering psychosocial services to beneficiaries was noted as particularly stressful, for example trying to provide counselling in an ETC while wearing a protective suit. Main lessons in include:

- to improve uptake and relevance, include community and community leaders in preparedness and response planning as well as delivery.
- To improve integration and sustainability, link psychosocial services with existing provision.

♥ Objective 4: Safe and Dignified Burials and the SDB pillar

This pillar highlights many of the issues which characterise the whole response. On the one hand there was a technical challenge, on the other hand a human and cultural one.

IFRC response

In Sierra Leone and Guinea, the National Societies were responsible for burials in the entire country, while in Liberia the National Society was responsible for burials only in Montserrado County (where the capital is) (Tiffany et al. 2016) but where the proportion of EVD positive persons was much higher. WHO directed that SDBs should be conducted for all deceased persons, whether or not they were suspected of being EVD positive, as it was impossible to get a clinically certain diagnosis quickly enough and it proved impossible to use the EVD symptom protocol to assess whether someone had really died of EVD (Johnson et al. 2015c). So the National Societies continued to conduct SDBs (in Guinea and Sierra Leone) into 2016. The overall proportion of SDBs in which the deceased subsequently proved to be EVD positive was less than 2% in Guinea (Tiffany et al. 2017).

Problems with acceptance

The important tradition of washing the deceased, shared throughout all three countries, was a main driver of the epidemic: funerals often became “super-spreading” events. The importance of traditional burials in transmission was already known from at least 1995 (Muyembe-Tamfum et al. 1999). However, the approach was not appropriately adapted initially and there were many problems with communities not accepting the approach to dealing with deceased persons insisted upon by national and international agencies.

In order to adapt responses better to communities, the existing formal and informal sociological and anthropological information about communities’ traditions and attitudes in particular in relation to burials should be consulted and integrated into the response Theory of Change as early as possible. In-depth information on funeral rites is given in an IFRC study for Guinea (IFRC 2016a).

SDB is subject to contradictory objectives. On the one hand, a fast response is essential – for example, SDBSL says the response time was less than five hours. On the other hand, and from the community perspective, an effective response is based on trust which is very difficult to establish in such a short time.

> *“Barriers to acceptance of SDB go beyond cultural practice and understanding. Factors determined to affect community acceptance of SDB include how the burial itself occurs,*

familial involvement in the process of body preparation and burial, provision of feedback to the family regarding the EVD status of the deceased and documentation of the burial to assist families in legal matters (Tiffany et al. 2016, 27)

Communities had many problems with the use of body bags in funerals. "Their use was: 1) something new to Sierra Leone and frightening because it was unknown; 2) something inappropriate or forbidden ('haram') by religious law; 3) something which interfered with the natural process of decomposition; 4) something which prevented the deceased from entering heaven (Christian), paradise (Muslim) or the village of the dead (animist/traditional); 5) something which prevented proper identification and viewing of the corpse prior to saying a final goodbye; and 6) something demeaning and associated with garbage – the plastic was seen to be similar to that of a garbage bag and, when linked with the ways bodies were handled early in the outbreak, caused relatives to think their loved ones were being thrown away like rubbish." (Johnson et al. 2015b). Other reports mention the use of chlorine, which was seen as harsh and dangerous.

Particularly difficult from the perspective of communities was that thousands of people were buried without the usual full rites who were in fact Ebola-negative (Johnson et al. 2015c, 30).

Acceptance of the short deadline for SDBs was more difficult for Christian than for Muslim communities (delay before the funeral tends to be longer for the former) (Tiffany et al. 2016).

Traditional funeral rites take special account of whether the deceased was a "title holder" (Tiffany et al. 2016). Staff found it particularly difficult to negotiate burials in these cases and also with secret society members, especially older women(Johnson et al. 2015b).

Adaptation

Initially, the burials pillar was referred to as "dead body management". The phrase "Safe and Dignified Burials" begins to appear only in combined Operation Update number 5, dated 21 October 2014, quickly replacing the phrase "dead body management", following the updating of WHO protocols, see p. 69.

Particularly helpful were the following points of compromise: white body bags (Muslim communities); the deceased being buried in their "good clothes" (Christian communities) and allowing the presence of family members (wearing PPE), which helped to restore trust that the deceased was being treated respectfully (ibid).

Resentment of new burial protocols (even after the introduction of the improved "Safe and Dignified" model may have had a counterproductive effect that people were less likely to report a death and more likely to proceed with a traditional burial in secret.

Impact

The National Societies were responsible for at least 2200 burials of EVD positive persons across the three countries (Tiffany et al. 2017). Tiffany et al. (ibid) make a powerful argument that large numbers of secondary infections and deaths were prevented by the SDB programme, although it is difficult to estimate the exact numbers, see Appendix: number of lives saved by SDBs. "In Guinea, the Ministry of Health reported that 60% of cases could be linked to traditional burial and funeral practices (August 2014) and in November 2014, WHO staff in Sierra Leone estimated that 80% of cases were linked to this (WHO 2015a)," One epidemiological model (Merler et al. 2015) calculates that only

about 8% of all transmissions were attributable to unsafe burials[6]; though even this figure would mean that safe burials would avert hundreds of deaths; another model (Pandey et al. 2014) identified unsafe burials as the most important single transmission factor.

Given that a large percentage of new cases were due to unsafe burials, with each unsafe burial leading to several new cases, and assuming that SDBs virtually eliminate transmission, the IFRC SDB teams, as the biggest players in this field with early interventions across the countries, most likely contributed to saving hundreds or thousands of lives.

Safe and Dignified burial programmes are a good fit for IFRC. However, intervention in an area of community life as sacred as burials requires painstaking negotiation adaptation to both the general and context-specific perspectives of the communities.

♥ Objective 3: Operations are well coordinated

One repeated finding is that IFRC decision-making was slow and was not decisive or rapid enough. In particular, a low level of trust towards outsiders was said to sometimes hamper the work of the National Societies and hinder communication with international partners. Several of the documents had suggestions how the speed and efficiency of support services could have been improved (IFRC 2016b).

> *" " Processes and procedures were not in place to deal with emergencies like the Ebola crisis. With the outbreak now over, the Federation must clearly identify the specific tools and mechanisms that must be adjusted based on its experience in responding to the epidemic (IFRC 2016b, 7).*

The same source also suggests that National Societies were sometimes subject to political pressure and they should be prepared and assisted to deal with this.

To improve high-level coordination, consider establishing a global cell (IFRC 2016b) and/or steering committees combing National Societies, PNS and Secretariat (IFRC 2016b).

To increase efficiency and effectiveness of response, include PMER, RM, finance, logistics, HR and security as early as possible in the planning process.

The regional centre (in Guinea) was praised as a useful initiative which provided good logistics and beneficiary communication support overall; but could be improved to provide more technical expertise on the ground in the early stages.

More decentralisation is thought to be needed earlier in the response to better tailor activities to conditions on the ground and improve two-way feedback (IFRC 2016b).

[6] In this model, most transmission takes place in hospitals there is no transmission in ETUs, so the critical factor in reducing transmission is to increase the number of ETU beds as fast as possible

The fact that the first cases were in an area cutting across all three countries made it particularly difficult to coordinate the initial response and underlined the importance of good early cross-national coordination.

There was some good coordination between national and international partners in terms of the 4W's (who does what, where and when) particularly in the case of mental health and psychosocial services, which also benefited from good connections with professional networks and the IFRC reference centre.

Amongst the agencies, IFRC usually took the lead for safe and dignified burials, an unenviable task.

Resource Mobilisation

Four emergency appeals were launched by IFRC to respond to and combat EVD outbreaks in Guinea, Liberia, Sierra Leone and regionally, raising 132.4 million USD (Operation Update 37).

Two more appeals were launched for Nigeria and Senegal as well as East Africa, and smaller preparedness and response operations were financed by the IFRC DREF in 11 countries. In total, 16 countries in Africa launched emergency operations relating to this outbreak.

Ebola Emergency Appeals: Summary Update on Resource Mobilization					
Appeal	**Guinea MDRGN007**	**Liberia MDRLR001**	**Sierra Leone MDRSL005**	**Coordination & Preparedness MDR60002**	**Total Figures (CHF)**
Budget	38.7 million	22.1 million	88.0 million	14.1 million	162.9 million
Income to date	37.7 million	22.1 million	60.7 million	11.9 million	132.4 million
Coverage	97%	100%	69%	85%	61%
Funding gap	1.0 million	0.5 million	27.3 million	2.0 million	30.5 million
Funding priorities: IFRC is urging donors to commit non-earmarked funds with longer timeframes.					

Table 2. From Operation Update 37[7]

However, the size of these appeals were initially much smaller, between 8 and 13 million CHF in September 2014. Although very substantial resources were mobilised, the ramp-up was quite slow in relation to how rapidly the threat was growing (given that evidence was already available as early as June 2014 about the likely future extent of the epidemic (Associated Press 2014)).

[7] This table doesn't include Senegal - EVD (MDRSN010, also MDRSN009), Nigeria - EVD (MDRNG017), Ethiopia: "MDRET014" or East Africa: MDR64007

A list of appeals and DREFs can be found in the appendix on p. 65.

Most of the findings on resource mobilisation were centred on the lack of flexibility and a key lesson was the importance of advocating for less earmarked funding.

> *Emergency response requires flexible, rapidly disbursable and un-earmarked funding to be effective and to respond to changing needs – but the current emergency financing mechanisms fail to provide this.(Healy and Tiller 2014, 17)*

Some other lessons were also noted:

- In order to increase National Society funds and to improve integration with government activities:
  - support National Societies to become sub-grantees for grants from governments and other agencies
  - include PRD (Partnerships and Resource Development) at the time of appeal writing
- To contribute to visibility and potentially increase funds, include PRD in national coordination meetings
- To improve efficiency and funds raised:
  - improve information management for resource mobilisation
  - include PRD profiles in HR surge rosters
- To increase funds raised, provide more motivating feedback to donors

HR and surge capacity

Australian Red Cross played a big role in recruitment of out-of-country staff, mostly in Sierra Leone, and was seen as having done a good job in terms of speed of response, staff profiles and HR support. New placements of specialist staff peaked as early as November 2014 (ARC 2016). ARC's flexible approach was praised, in particular:

- Recruitments were made also from outside rosters, with candidates being given pre-deployment training instead.
- Fear of the epidemic and getting infected in particular along with stigma and isolation were powerful disincentives to working with the IFRC.
- The ARC notes that it was easier to recruit medical staff than other professions (ARC, 2016).

Partially unexpected problems:

- There were substantial demands to ensure staff safety – for example, only one company in the world provided Ebola-ready helicopter evacuation.
- Travel restrictions made it harder for staff to cross borders and to be recruited from abroad.
- High staff turnover and "poaching" by other organisations

Incentives and disincentives for working with the IFRC are covered on p. 35. Other recommendations/lessons affecting HR and recruitment were as follows:

- To ensure timely availability of qualified staff:
  - More effort to prioritise recruitment for Francophone countries and in particular Guinea.
  - Early establishment of
    - a comprehensive volunteer database,
    - a uniform volunteer policy.

        - § a functioning roster of high-level staff and RDRT system with a wider range of specialities including epidemiology and logistics (RTE)
        - § a clear staffing plan
- To ensure protection of staff and volunteers,
    - establish early a duty of care for National Societies (IFRC 2016b)
    - provide psychosocial support more rapidly and systematically.

Security

There was a lot of distrust in the communities which sometimes led to physical violence, especially in Guinea.

These are some key lessons:

To improve staff and volunteer security:

- Use a community involvement approach
- Mandate a “Stay safe” course
- Issue mandatory security reminder every two months
- Establish safe areas within vehicles
- Engage security delegate early in response

Logistics

(IFRC 2016b) highlights some logistics successes:

- Personal protective equipment / safe and dignified burial kits were secured early in the operation
- Good use and support from the World Food Programme logistics cluster system
- 84,898 body bags procured and delivered
- Over 200 vehicles provided by Global Fleet Dubai
- Prepositioned materials and equipment for the management of infectious outbreaks in some selected countries in the region
- Treatment centre equipment stored and available for redeployment

To ensure resources are provided efficiently, on time and to the required scale:

- Lead with a community involvement approach
- Upgrade / support logistics staff capacity in National Society and region as early as possible, including French speakers
- Ensure delegates are familiar with IFRC logistics procedures
- Leverage the WFP cluster system (seen as useful)
- Improve capacity for scaling up and down number of vehicles needed (this was an expensive and complicated process)
- Improve stock management systems
- Ensure that logistics are included in the planning process
- Improve regional streamlining
- Coordinate early with resource mobilisation re earmarking
- Lobby regionally for protocols on cross-border movement
- Dismantle and store ETC facilities for re-deployment

Finance

The reports highlighted inflexibilities in procedures which are largely familiar from other responses.

The main roadblocks to efficient financial administration which were mentioned were:

- Emergency financial policy, for example simplifying and standardising procedures, needs to develop fast enough to keep pace with events.
- Prepare National Societies early on IFRC financial procedures.
- Embed dedicated auditing staff in financial teams to head off problems earlier.

In particular, the Report on West Africa Preparedness Project (IFRC 2017) deals with these issues at some length. So although funding for the Preparedness Project was agreed in October 14, the financial structure was not completed until early 2015. The donor signed off on access to funds in April 2015, half-way through the original implementation period. National Society staff lacked capacity to operate relatively complex financial systems, combined with inflexibility of systems, lead to delays which bring their own set of additional problems and further delays. The Project developed user-friendly forms as part of "Model E", which, once the staff and volunteers had been trained and were able to feel a sense of ownership of them, improved the situation.

PMER & information management

PMER has various roles including accountability and learning and could potentially feed information back into the operation of the pillars, for example CTS. But in the documents studied, PMER appears almost only with reference to its reporting role. As with Finance (above) findings, lessons and recommendations are focused on slowness and lack of flexibility.

- Inclusion of outcome as well as process indicators; divide major projects into more sub-codes ("P codes").
- The more flexible and user-friendly a PMER system, the more readily it can be integrated into the response and so the more useful it can be.
- Systems like Magpie / RAMP had a lot of potential but were not ready at scale early enough (Murray et al. 2015, 28).

Information management (IM) is mentioned particularly in the Real-Time Evaluation (Murray et al. 2015) Better, two-way, more responsive IM is seen as key to improving many different aspects of the response, from HR and volunteer management to resource mobilisation and contact tracing.

Developing the Theory of Change and learning from experience

Did the IFRC – regionally, nationally and in the field - have the right know-how to respond to the epidemic? Did it continuously improve those models and adapt to the changing reality?

This important question has been added because it is not completely covered by, but does overlap with, existing headings like coordination, PMER, management and information management.

How international and national agencies developed initial models and adapted/did not adapt to the changing situation

" " *The typical crisis situation doesn't exist* (Qvarfordt 2016)

While some aspects of the epidemic were new, not all were (ICHA 2016). Ebola has after all been present in W Africa for decades. The Harvard report (Moon et al. 2015) says that existing lessons learned (e.g. the central role of funeral washing rituals, (Muyembe-Tamfum et al. 1999)) were not sufficiently well reviewed by international agencies.

In particular, lessons learned reports after major public health events regularly point out the importance of community engagement (ODI 2015) and yet it seems once again to have taken a back seat for several months.

The Harvard report (Moon et al. 2015) points out the critical inability of national agencies to provide, analyse and act on epidemic data rapidly enough, with or without the help of international agencies. It took four months to get from first infection to first verified diagnosis (Petherick 2015). International agencies were also slow to respond to warnings in particular from MSF and also produce comprehensive, multi-sector response models including community involvement, and even in September 2014 were still focusing too much on the purely public health aspects (ibid).

IFRC: adequacy of initial models; learning from evidence, adaptation of models

In line with this, several IFRC reports say that adequate response models were slow in coming and then were not proactive or rapidly enough updated as the situation changed. An ICRC lessons learned report (2015) talks about the importance of a "nimble" response and points out that the "value for money" of a late intervention can be as low as zero.

Qvarfordt (2016) suggests that it was the size of the challenge and the necessity of doing something different that finally led at IFRC to a genuine re-assessment of community engagement strategy.

Error! Reference source not found. brings together these and similar factors identified in reports as influencing the quality of IFRC implementation models – were well-adapted and pro-active models and guidelines, implicit and explicit, ready early enough, and how were they adapted in time to follow or even anticipate changes in the situation? The main factors were, in summary: models and recommendations from other actors; own expertise; own research / fact-finding including e.g. engaging anthropologists, conducting KAP surveys; own data from implementation and from external sources combined with own capacity to analyse data; all confounded by external reporting requirements.

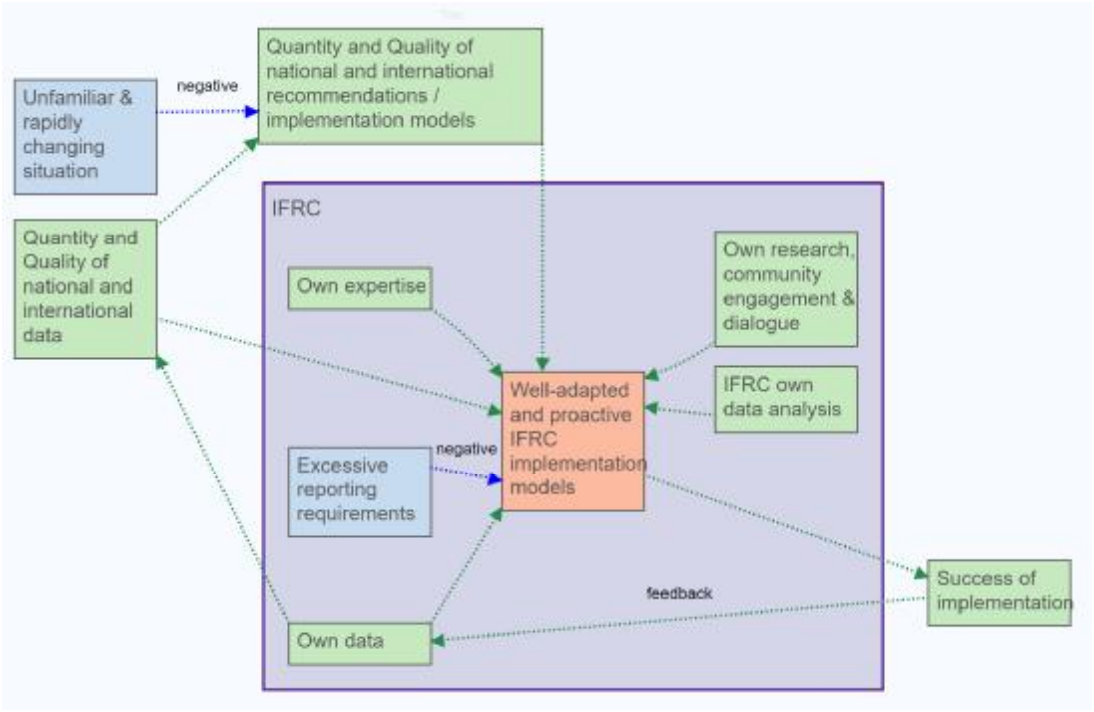

Figure 4. Learning. How are intervention models originated and adapted?

Some reports, especially Murray et al. (2015) explicitly talked about the links between data, analysis and the evidence-based adaptation of field guidance. But it was difficult to provide well adapted instructions and guidance for field operations because the situation was a) unfamiliar b) changing rapidly and c) potentially overwhelming in magnitude. Information management was weak; implementation could have been better adapted in real time if the IFRC had had more internal capacity to gather and analyse data and make recommendations. Real-time data gathering systems like RAMP had a lot of promise but were very underused initially and even later were still not used to their full potential.

♥ Objective 2: National Society Preparedness, long-term capacity, reputation

Long-term capacity building

There is surprisingly little mention of future planning and capacity building even in the Lessons Learned Workshop document, though the final Operation Update does say that "The Ebola emergency appeals have been revised to anticipate a longer-term vision as operations head toward recovery". Operational capacity, in particular in National Society health departments and emergency response, was indeed increased during the response. There were some indications that this did not go far enough and could have included more Organisational Development (ICHA 2016, 5).

A critical issue was balancing support to National Societies during the epidemic for, on the one hand, building capacity, both at national and branch level, in terms of preparedness and "keeping to zero" Ebola cases, and on the other hand in terms of general capacity to contribute to national development and emergency preparedness (Murray et al. 2015).

Looking at Figure 3, resources mobilised increased during the tail end of the epidemic to around three times the size they were at the peak of the epidemic and about 30 times the size they were when the epidemic was spreading most rapidly. Although it took too long to develop capacity, with the bulk being added well after the peak of the epidemic, the substantial capacity that has been developed is still needed to address the still large and probably increasing need, post-epidemic.

Reputation

Before the epidemic, the National Societies were structurally not very strong but had good relationships with national governments (ICHA 2016, 8). While the National Societies enjoyed a good level of trust and respect in populations which are generally suspicious towards outside authorities, the reputation of the RC was damaged by participation in the response on a large scale, for example when National Societies were subject to damaging myths (ICHA 2016) and were seen "dead-body grabbers". Some aspects of RC work during and since the epidemic are helping to repair this damage, in particular through their connection with water and sanitation improvements.

IFRC could have done more to ensure other agencies understood and acknowledged the scale of its contribution in staff, volunteers and services considering the value these had to other agencies and governments.

IFRC communications should insist on promoting IFRC activities and their value(IFRC 2016b, 6).

♥ Additional Objective: Staff and volunteer well-being

Staff and volunteers are of course key to successful implementation of the IFRC's Theory of Change, and their wellbeing must also be valued by the organisation as part of its duty of care. Yet their wellbeing is not really covered in the appeals and other key documents. So the original Theory of Change for the Ebola response is extended to include more focus on staff & volunteers.

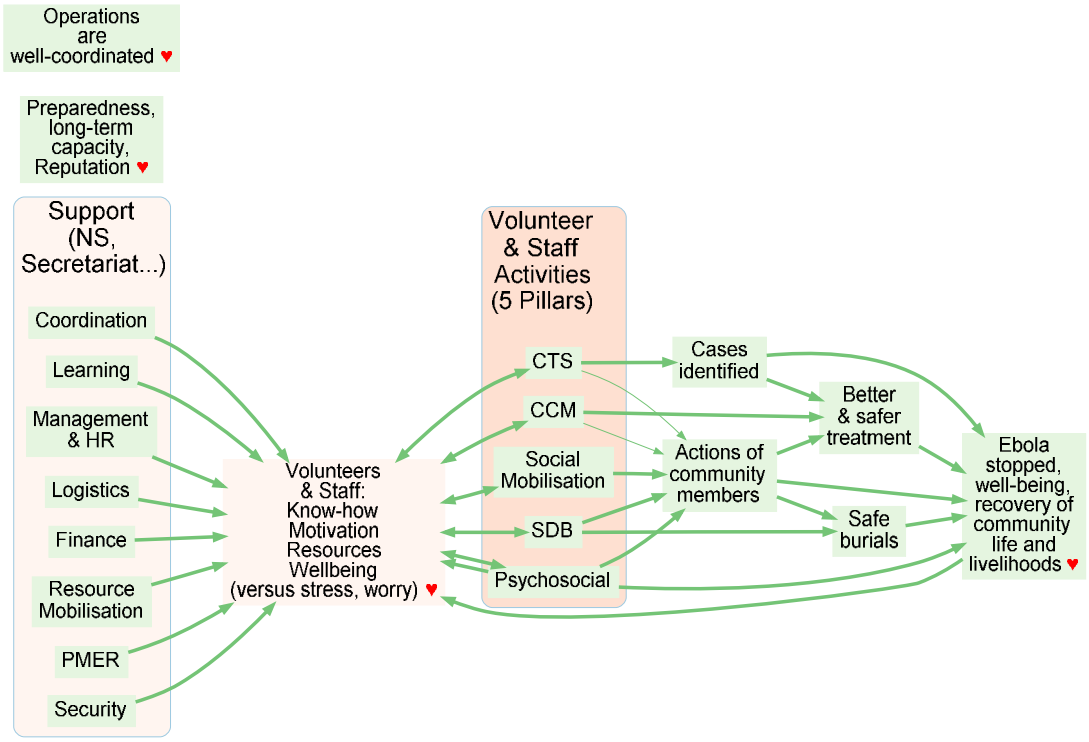

Figure 5. A second Theory of Change for the Ebola response from the perspective of the IFRC, with an additional focus on staff & volunteers.

Staff and volunteers shared the IFRC Objective of ♥Saving lives and stopping Ebola but also of course had other motivations, including maintaining their own wellbeing including personal safety, and also receipt of pay and incentives, and having some future perspectives.

Presumably staff & volunteer ♥Wellbeing is also a priority of the IFRC as a whole, so here we have also included it not only as an important factor affecting staff performance but also as an Objective for the IFRC's response. The arrows which lead to the five pillars are now also directed backwards because carrying out these activities can substantially affect the volunteers and staff positively and negatively. There is an additional arrow backwards from the psychosocial pillar, because psychosocial staff have been involved in fulfilling the duty of care. There is also a backwards arrow from "Ebola stopped" to volunteers and staff because of course they are directly threatened by EVD themselves and indirectly are subject to stress and worry.

Evidence for these additions is given below.

Again, this diagram is a generalisation and glosses over big differences e.g. between international, national and Branch-level staff.

Safety

Responding to Ebola was dangerous. During the epidemic, around 488 health workers died (ICHA 2016, 21 citing WHO).

IFRC staff and volunteers were subject to substantial risk to their lives over long periods – not only from Ebola infection but also, from working with communities whose members were sometimes reluctant and aggressive.

Against this background, and given that there were around 10,000 volunteers active by the end of 2014, it is remarkable that so few IFRC lives were lost[8]. No burial team members were lost[9], but two drivers sadly lost their lives in Guinea (Thormar 2015).

With careful attention to safety it is possible to preserve staff and volunteer lives even during such a dangerous epidemic.

Wellbeing & psychosocial pillar

Motivation issues, stigmatisation, stress and strong emotions affected the wellbeing of existing staff/volunteers and also affected recruitment.

The stresses to which staff and volunteers were subject included:

- struggling with loss, grief, fear, fear of infecting their own families
- denying even to themselves some aspects of the epidemic
- conducting tasks which were particularly difficult emotionally such as working on SDB teams
- stigmatisation from their own communities and even their own families *(Johnson et al. 2015c, 8)*, resulting in exclusion from friendships and support, livelihoods etc. Especially volunteers were:
    - criticised for 'eating' Ebola money
    - shamed for causing and/or continuing the outbreak
- stigmatisation from the communities where they were working

Cheung reports (Cheung 2015) that although psychosocial approaches can help improve staff wellbeing and responses, staff often disobeyed their own wise advice to take a break and look after themselves.

Material security was also key to wellbeing: Payment of the risk allowance and help with housing were factors which improved motivation and also encouraged recruitment. Having positive future perspectives were also very important especially for those who were temporarily recruited during the epidemic.

(Thormar 2015) includes useful suggestions and resources for future psychosocial planning, writing that Staff & volunteers delivering support services (and drivers in particular), as well as international staff, once again seem to be more vulnerable to stress than others more obviously in the front line such as burial teams. They reported stress

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[8] First death of a Red Cross volunteer or staff member in Sierra Leone since response operations were launched in April 2014. **http://www.ifrc.org/en/news-and-media/press-releases/africa/sierra-leone/ifrc-deeply-saddened-by-loss-of-red-cross-staff-member-to-Ebola/** ; RC injured http://www.ifrc.org/en/news-and-media/press-releases/africa/guinea/red-cross-condemns-killing-of-personnel-working-to-stop-the-spread-of-Ebola/. The ICHA document from Jan 2016 (ICHA 2016, 24) reports that no-one from the IFRC network had died at that point.

[9] McClelland, personal communication

levels which although not higher than in other very stressful occupations still mean that about one in four are likely to develop some sort of post-traumatic stress. Psychosocial support could have been more available.

In order to protect staff and volunteer wellbeing as well as ensure they have the emotional strength do a good job, a comprehensive plan for psychosocial support to staff and volunteers including improved training and mainstreaming psychosocial issues needs to be established and implemented early, with space to identify and respond to specific and hard-to-predict stresses as they arise.

Findings 2a: The Communities' Theory of Change[10]

Importance of adapting interventions to communities

Most of the reports say that interventions, from contact tracing to messaging, by IFRC and other agencies were less effective than they should have been because they failed to understand community perspectives early enough.

In a video (IFRC 2015b) from early in the response - May 2014 – the opinion is expressed that "the only problem they [i.e. the communities] have is lack of information", an opinion which is roundly contradicted later in the epidemic.

> *" The simple awareness towards signs and symptoms by the population, improved throughout the first period of the emergency (June-October) was found to not be sufficient to lead towards an actual change in behaviour, or a reduction in the infections* (ACF 2015)*.*

So we will try to construct a further Ebola Theory of Change from the perspective of the *affected communities* and describe how it may have changed during the epidemic. The aim is to understand the epidemic from their point of view.

The perspective of the communities in the three most affected countries is of course paramount to understanding the epidemic. The communities' Theory of Change shows how communities' own efforts (as well as external support and messaging) may contribute to outcomes like stopping Ebola.

[10] The word "community" is used in almost all the documents though some of them also point out problems with this word. Its use seems to assume that the affected countries can be neatly divided up into discrete "communities", defined by a geographical area, in which individuals and households form a single, clearly defined social network. Reality is of course more complicated.

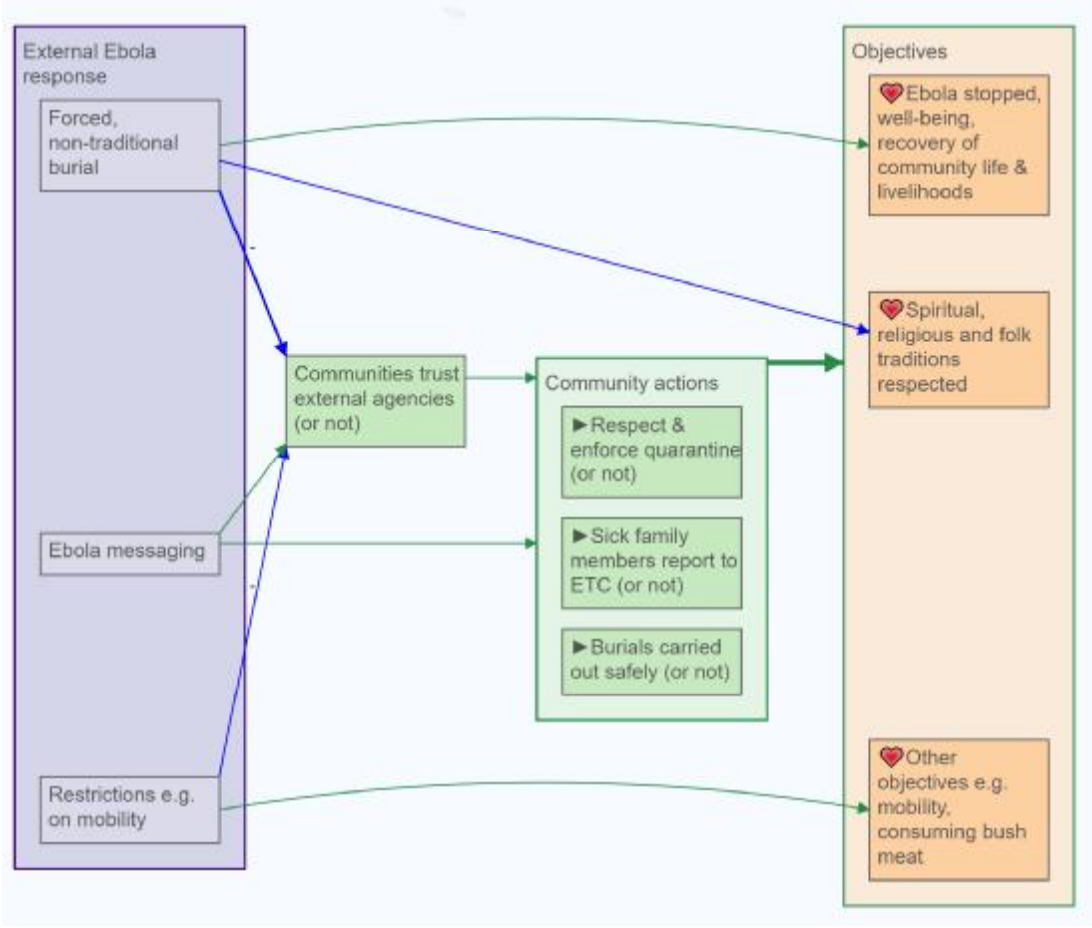

Figure 6. A Theory of Change from community perspective

The arrows only represent *contributions*; in every case other factors, not shown, play a role as well. Blue lines show *negative* influences.

What information, models and narratives did community members have about what leads to what, and in particular how to stop the epidemic?

The Theory presented here firstly is an attempt to construct, remotely and after-the-fact, on the basis of information scattered throughout the reports studied, the sort of ideas people might have had, probably not consciously but perhaps in the back of their minds; it has not been validated with the communities concerned. Secondly it is a vast generalisation, mixing many very different contexts within and between communities, from very remote rural regions to overcrowded cities. Many quite important factors have been left out, from radio messaging to the feared consequences of non-traditional burial on relatives' spirits. In particular, in this diagram we have not included the *specific* mechanisms which communities believe may be relevant, but we will describe some of them below.

Objectives

One important community objective, marked like the other Objectives with a ♥, is expressed here as "♥Ebola stopped, well-being, recovery of community life and livelihoods"; see p. 19– this is compatible with the RC's main objectives. But communities

of course have other objectives too such as mobility and in particular "♥Respecting religious and folk traditions".

How communities updated their Theories of Change

For many communities, Ebola in the first weeks and months, although tragic, did not differ so much from other diseases with which communities had been confronted. Even when the epidemic became more visible, there were many alternative understandings or "Theories of Change" of Ebola: what it was for, how to prevent it.

Initially, the governments and the National Societies were insisting on the communities assenting to several activities, and adopting behaviours, which many communities did not (fully) understand and which were in contradiction of their traditions and contradicted other objectives, particularly mobility. Not surprisingly the communities were resistant. Later, communities became more convinced that Ebola was real and a real threat, and therefore ♥Stopping Ebola became an objective for them. They also needed to be convinced that these activities would contribute to that objective (the arrows marked *??* in the diagram). This was probably the most important change: they became convinced of the terrible consequences of traditional burial methods and not isolating ill people as far as possible. But the new behaviours they started adopting were still in contradiction with other dearly-held objectives and values. This became less of a problem when behaviours could be negotiated which were less in contradiction of those other objectives, for example with the Safe and Dignified Burials protocols.

For how communities felt about various information sources, see p. 46.

Communities were not new to the idea of having to adopt different behaviours which may have been in conflict with some of their traditions; they often remembered that they had done things differently during the recent conflicts, in particular around burials.

Once communities really understood what was happening and had come to terms with what needed to be done, from self-imposed quarantine to safe and dignified burials, which minimised damage to other objectives, it seems that the survival objective trumped the others. It is an open question what led to this change. Abramovitz (2015) argues that this happened in many cases precisely when communities gave up hoping that government or international agencies would solve the problem. Another factor which pushed communities to change their behaviour was the shocking sight of the numbers of dead and dying, when communities had their own evidence of the effects and transmission of Ebola. This could explain why the corner was turned more quickly in cities where there were bigger spikes and a more visible catastrophe with more victims in crowded areas[11].

There are other plausible arguments (Engle and Featherstone 2015) that the perspectives of communities and outside agencies around Objectives 1 and 5 (stopping Ebola, saving lives, recovery) only really converged when faith leaders started to provide scriptural and spiritual interpretations which did actually support safer behaviour for ♥Stopping Ebola while, as far as possible, ♥Respecting Traditions. This was mostly not the case at the start of the epidemic (Engle and Featherstone 2015).

[11] Amanda McClelland, personal communication

Nevertheless, these breaches of tradition were not taken lightly and strong feelings of guilt and regret probably still remain, leading to suggestions for follow-up religious services.

Communities' ability to act

Community resources include very weak health services and in particular a very low availability of doctors and nurses on top of a legacy of conflict which has hindered national development in many areas and has contributed to low levels of trust.

Yet communities were anything but powerless to respond to the epidemic. Once local and religious leaders promoted a strategy, most communities were energetic in carrying it out.

During the first months of the epidemic, many communities were already adjusting their bylaws in appropriate ways (GOAL Sierra Leone 2014). Communities were enabled to pass by-laws under emergency regulations in Sierra Leone, July 2014 (ACF 2015).

Myths, misunderstandings and alternative viewpoints

We look at how community Theories of Change influenced, and were influenced by, community interaction with outside agencies.

Ebola messages faced many hurdles to community acceptance. In the first months, communities suffered and witnessed sporadic deaths, sometimes accompanied by the appearance of officials and foreigners dressed in extremely unusual and frightening PPE costumes, spraying affected areas with chlorine and insisting on taking the bodies of the dead. This was an extraordinary set of events which quite understandably gave rise to a range of powerful myths and suspicions.

Some of the arising myths and suspicions could have been anticipated, for example from lessons learned from previous Ebola epidemics; others only emerged with time.

Some of the myths rested on purely magical or religious explanations of events. For example, many people in Liberia attributed Ebola to Queen Sheba, a mythical figure who was linked with evil forces. The rumour was so widespread that President Sirleaf needed to make a statement to deny its credibility.(Cheung 2015)

Other myths which arose were even from an "international" perspective perfectly plausible, if actually false, alternative explanations of events. For example: people saw foreigners and outsiders coming in strange suits, spraying a chemical, and leaving, after which many people died of Ebola. It was quite plausible to see the chlorine spraying as the cause, of Ebola.

Other unhelpful ideas were not really myths but simply alternative viewpoints. So, after communities were told that sick people should come to the treatment centres, they discovered that the recovery rate was low and asked themselves, logically enough, why go to treatment centres if people died anyway. There was a similar problem (about communicating probabilities) with the message "You can get Ebola from eating bushmeat" which produced the reaction in many "well we eat bushmeat and we aren't getting Ebola". This is one more piece of support for the lesson that it is very difficult to communicate probabilistic messages. Another example reported in (IFRC 2014a) is that many communities who had suffered Ebola saw it as a one-time "wave" which was unlikely to return.

Even simple messages which seem very straight-forward can turn out to be unhelpful or even counterproductive. Communities process messages from their own perspectives and it is very difficult to be sure that they will understand messages in the way they were intended.

Consequences: Recovery, sustainability, future well-being

The epidemic, the response and their consequences continue to severely affect community, district and national development, for example:

- Loss of family members has made life more difficult for the families of the deceased, especially children and orphans. Individuals, families and whole communities continue to be stigmatised (Petherick 2015, 22).
- The tragic loss of care workers in a health system which was already thinly resourced had and continues to have very detrimental effects.
- The thousands of survivors have to live with some very difficult consequences including poor health, stigmatisation and loss of income, and in some cases reduced access to health services.
- Millions of schoolchildren missed many months of school, with for example five million out of school in December 2014 (Sifferlin 2014).
- Economic activity collapsed for many months.
- Restrictions on movement had some severe consequences for those whose livelihoods depend on mobility, even and especially across borders.
- Non-Ebola health services were unavailable or drastically reduced during the epidemic which had really substantial negative impact on general health (Brolin Ribacke et al. 2016), with one model estimating increased maternal and infant mortality due only to loss of health care workers at nearly 25,000, and another estimating increased mortality to HIV/AIDS and malaria at an additional 10,000, not to mention untreated emergencies while hospitals were closed, and so on. There were also serious gaps in family planning services.

Some of the direct and indirect consequences of the response such as the closure of regular health and immunisation services are comparable in severity with the epidemic itself.

Some of the consequences are less obvious and are only now being identified. For example, (Pettersson, James, and Tucker 2017), looking for lessons learned on environmental consequences, point out that the infection risk posed by Ebola cemetery sites, often subject to erosion, with bodies in body bags, may present a serious risk to public health in the longer term.

Where community behaviour was modified away from traditional guidelines, there may be consequences of omission. For example, traditional burials serve many purposes, secular and spiritual, such as settling land rights and ensuring the deceased is properly buried and cannot bother the living. Where these functions were curtailed by new burial formats, communities have to deal with the consequences.

Findings 2b: IFRC's efforts to integrate Communities' Theory of Change

Finally we ask how much the IFRC was able to understand and integrate the communities' perspective into its own Theory of Change. We ask *what can we learn about how this was done and how it can be done better*.

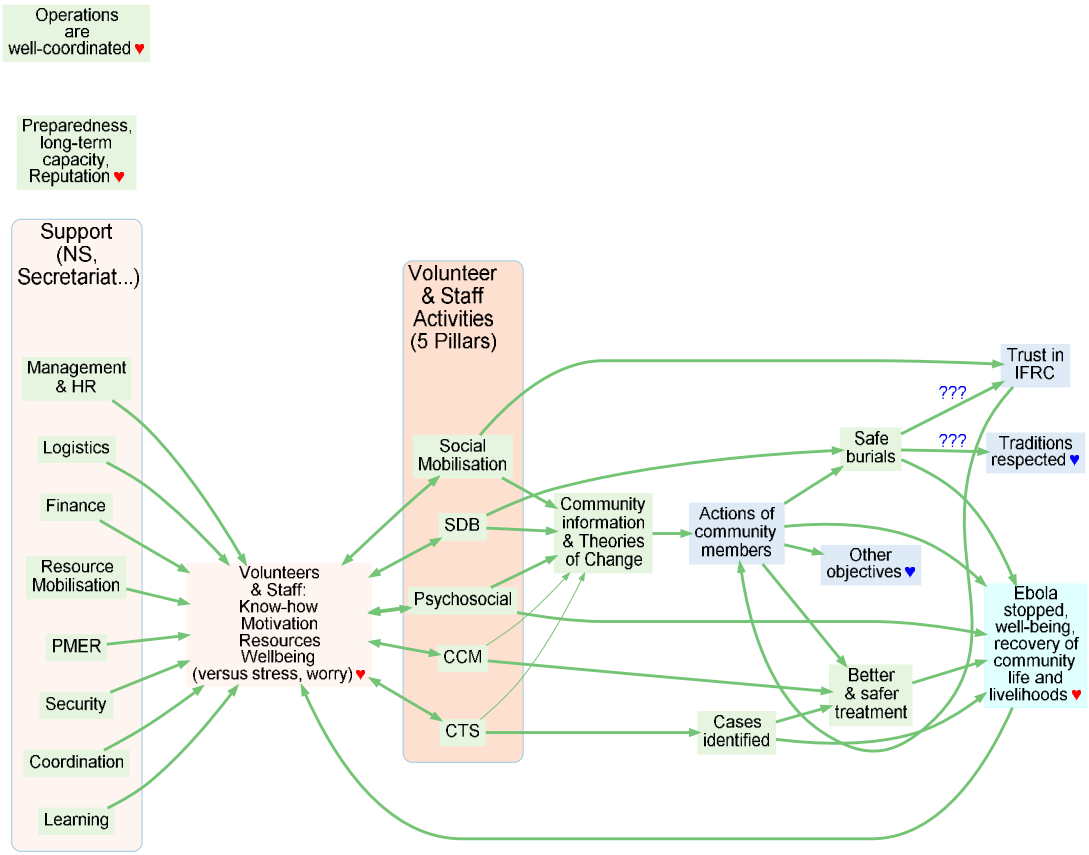

Figure 7. Taking community perspectives into account: Combining the Theories of Change

In this Theory of Change we have highlighted some additional community variables (blue boxes). The main Objective, ♥stopping Ebola, has been coloured blue-green as it can be considered to be shared between IFRC and the communities.

Now we conceive of IFRC's main influence on communities as indirectly influencing the information and Theories of Change available to the communities. Communities will accept this influence if they trust the IFRC. Ideally, the community then adopts a more accurate Theory of Change (about how their actions might lead or not lead to their Objectives, Objectives which are at least partly shared with the IFRC), on the basis of more accurate information. This is alongside additional resources and support supplied by the IFRC to complement the communities' efforts and/or providing services directly, in particular carrying out significant actions which the communities were unlikely to be able to do safely on their own, such as conducting safe and dignified burials. But even this direct support could also only succeed if it took place with the agreement of communities.

To gain communities' trust, the IFRC had to find out how they were perceived by the communities and then either finding a way to fit in which was compatible with communities' existing Theory of Change, and/or trying to influence that Theory of Change so that communities would see IFRC actions as contributing to their Objectives.

Understanding the communities' own Theories of Change and trying to influence their decisions was a seen throughout as a key role of the Beneficiary Communications and Social Mobilisation pillar as discussed below. How well was this actually carried out?

Pillar: Beneficiary Communication, Community Engagement, and Social Mobilisation (Beneficiary Communication, Community Engagement)

Figure 8. Liberian Red Cross Society's Safe and Dignified Burials team. Photo: Victor Lacken

How to understand community perspectives and adapt interventions to communities?

What could be done to learn about community perspectives and adapt the interventions accordingly? Most sources say that something about the *nature of communications or relationships with communities* was key to success in stopping the epidemic. But what exactly? Suggestions include:

- Agencies use information from communities to provide better messages
- Messages are adapted to specific target groups and contexts
- Agencies engage in open, active listening
- Transparency (focus on agency-community communication)
- Accountability
- Response is planned, and/or led and/or implemented by community

- Empowerment: community members are empowered through participation in the response

KAP surveys (Iliyasu et al. 2015) were a useful way to understand communities, especially revealing different levels of trust in different sources of information. But this kind of information, while valuable is relatively limited: it provides answers to pre-conceived questions but is poor at identifying new questions and issues. Cheung (2015) points out that *psychosocial staff and volunteers* are highly suited to engaging and understanding communities because they are trained in goal-free listening, which is perhaps the most important component of community engagement; they tend to be older and are therefore mostly better accepted in communities; they are sometimes also know to the communities from previous post-conflict work. So they could have been more involved in community engagement. Psychosocial approaches can get address mechanisms which help fuel the epidemic, for example: extreme fear can lead to helplessness, which can lead to more infections and more fear (Cheung 2015); denial plays a similar role.

We found no examples in which non-geographical communities (e.g. people working in a particular trade rather than living in a particular place) were directly engaged, even though such communities are likely to be relevant for epidemic control. We were also surprised to find little reference to the relevance of the urban context (the words "urban" and "city" do not appear in the report of the main IFRC Lessons Learned workshop (IFRC 2016b) and the issue is only touched upon in the RTE (Murray et al. 2015)). Surprisingly, the words "gender", "women" and "minority" appear nowhere in the Lessons Learned workshop report and are only barely touched upon in the RTE or the other IFRC documents.

Trust in IFRC and other information sources

IFRC

KAP studies show that the IFRC is amongst the most-trusted information sources after radio (which is trusted by about around 80-90%), but still scores drastically lower at about 20-30% (Cozma 2014a, 2014b; IFRC 2015a).

The Red Cross were quickly tasked in Guinea and Sierra Leone with what was initially called "dead body management", and so the Red Cross, which had previously enjoyed a good reputation and level of trust, was all at once seen in an unfavourable light and was featured in new, unfavourable myths. For example, when the Red Cross was seen carrying out the strange activity of spraying chlorine, the myth arose that the Red Cross was actually spreading Ebola; and when bodies were removed, people thought the Red Cross was profiting from the sale of organs. These myths led to considerable resistance in some cases which led in turn, especially at the beginning, (Johnson et al. 2015d) to staff being accompanied by an armed escort, which made things worse (Cheung 2015).

As the response became better integrated with communities – most importantly with the SDB approach, trust in the RC improved again.

Community trust in the National Societies, while quite high, cannot be taken for granted. Communities can lose trust in them when they are perceived to carry out frightening or threatening actions. It can take time to (re-) establish trust, yet trust is particularly important early in the response.

Radio

Working with local radio seems to be an obvious opportunity for communicating with communities. Yet, radio is such a well-recognised and trusted medium that various agencies "crowd the airwaves" (IFRC 2014a), with each agency keen to have its own show. This points to the need for better coordination between agencies on radio messaging.

Religious, traditional leaders

KAP surveys (Cozma 2014a, 2014b; IFRC 2015a) reveal that religious, local and traditional figures are usually trusted. Approaches and messages to individuals were unlikely to have much effect in most cases if local leaders, and faith leaders in particular, were not involved; and they were unlikely to be accepted if they were not compatible with religious perspectives which are overwhelmingly important especially when it comes to matters of life and death. Yet most international agencies including IFRC have a much more secular perspective than the communities in the three most affected countries. IFRC has to tread carefully when engaging faith leaders – for example, initial messages from some faith leaders served to accelerate the spread of the epidemic (Engle and Featherstone 2015).

It seems that, like most other agencies, IFRC still struggles to find ways to reap the significant potential of engaging with faith groups while avoiding the significant risks. The words "faith" "church" or "mosque" appear just once or twice in about ten of over 50 Operation Updates, see Annex.

How much did the IFRC response actually adapt to communities?

Support from IFRC Secretariat came in early and contributed considerably to improving community engagement. The Beneficiary Communications overview in (IFRC 2014a) gives a useful framework of possible messages, for further adaptation, for a range of target groups. However, some say that this adaptation took too long; others say that it was never thoroughly implemented.

> *The early mistrust from the crisis-affected people towards [RC staff and volunteers] is also described as a big challenge that required them to re-think their communication approach. But before re-thinking their approach they communicated in the way they used to: by sending predesigned messages through different media channels. The context as in the historical, educational, cultural, institutional and geographic dimensions of the situation were not really taken into consideration before communicating. The early complications and rumors made the situation difficult to turn around, and when the situation got really bad the Red Cross was pretty much forced to change their communication strategy to even be able to fulfil their Mission […] Even though empowerment and local ownership is mentioned in case documents, there are few examples given from the interviewees of such an approach. […] Most of the two-way information exchange served to improve the organization's operational and informational activities (Qvarfordt 2016).*

> *…in line with published findings we show that one-way communication dominated the response and there was little uptake of the messages. Things changed once two-way communication began. However, even when community-engagement was established key elements of a successful engagement approach were missed. We further show that one of the driving factors for poor community-engagement and poor messaging was the side-lining of local capacities as a consequence of asymmetries of power* (ICHA 2016)

So it seems that in spite of some awareness of the need to engage communities more in interventions, messaging and interventions did not really improve until after the worst peak of the epidemic, and even then, adaptation to communities was not complete.

The DREFs and EAs were revised several times. Although the revisions do increasingly stress the importance of active listening and community involvement, in most cases phrases like “educate” and “disseminate” are still used more often than “two-way communication” or “community-led”. See analysis on p. 69.

What were the barriers?

We would expect National Society staff and volunteers to be able to form a bridge and inform the rest of the IFRC about issues like misunderstandings, myths and suspicions. What hindered this process? The IFRC final report on on social mobilisation in the other West African countries (IFRC 2017, 5), reporting concludes “Staff capacity to undertake systematic beneficiary communication and social mobilization were identified as the main challenge”; training provided was mostly in radio programming rather than direct community engagement. Also identified as a problem was that communities sometimes expected payment of incentives to participate.

It is likely that while the depth of community engagement did increase substantially during the epidemic, it trailed the acceptance amongst staff and volunteers of the importance of community engagement *as a principle*. While this embrace of the principle is surely a good thing, it does mean that it is more difficult to assess how deep the engagement is in practice, now that respondents are more likely to espouse the principle. No-one wants to admit that their contact with the communities is superficial.

Adaptation using anthropologists

Several agencies engaged anthropologists during the epidemic. A WHO anthropological action research approach employed early in the epidemic was able to both find out some reasons for community resistance and also, through the listening approach, may have been able to improve cooperation (Anoko 2014). So anthropological approaches, used well, can help not only to understand the communities’ own Theories of Change but to adapt the intervention and establish better communication on the spot (Abramowitz 2014). The IFRC also engaged anthropologists, (Johnson et al. 2015a, 2015c); (IFRC 2016a), although relatively late in the epidemic.

Prevention activities in the other West African countries.

Prevention operations in Benin, Burkina Faso, Gambia, Ghana, Guinea-Bissau, Côte d'Ivoire, Mali, Nigeria, Togo, and Senegal (as well as others beyond West Africa) were less in the limelight. Nevertheless, as the epidemic did not take hold in these countries and given the virulence of the epidemic it is highly likely that the response contributed to this extraordinarily important outcome.

> *Ebola had been imported into Nigeria, Mali, and Senegal in the second half of 2014. Nevertheless, rapid information sharing, and mobilisation of health workers for contact tracing and patient care limited the outbreak in Senegal to one confirmed infection. In Nigeria, the Nigerian Center for Disease Control, previous experience with polio eradication eff orts and a lead poisoning emergency were all cited as important factors in successful control of the outbreak in Africa's most populous country* (Moon et al. 2015, 4).

Countries can successfully prevent the spread of the epidemic even if they share land borders with an affected country and even if they have weak health systems.

(IFRC 2014a) gives an overview of good practices in communications in the region.

Sowing hope, not fatalism

- ❒ Positive messages stressing what can be/is being done and highlighting stories of survivors (may have to draw from other countries) who sought care early, that can also motivate citizens to seek medical care if they, or family members, are experiencing illness.

Setting expectations

- ❒ Rather than framing the threat as resolved – with the release of the confirmed Ebola patient – messages will foreshadow possibility that there may be more cases.

Redefining success

- ❒ Instead of defining success as "no additional cases" in the future, success will be defined by the adapting of healthy behaviours by the population.

Build reassurance/confidence in health authorities

- ❒ Regularly describe concrete actions authorities are taking to protect people, why these actions are necessary, and how they work.

Empower citizens

- ❒ Let them know they have a role to play in keeping themselves and their communities safe.
- ❒ Describe what people can do to "protect yourself, your family, your community."

Lower fear/stigma of the disease and patients

- ❒ Highlight experiences of citizens who were subject to contact tracing, how they were monitored, and if confirmed positive, how they were free of disease.
- ❒ Help people understand how disease is NOT spread.
- ❒ Describe how patients are treated and cared for.
- ❒ If possible, provide information about how the patient is able to be in contact with family/community (cell phone or visits with protective gear for family). This lowers the fear of isolation.
- ❒ Explain steps being taken by authorities to protect others from exposure.

Synthesis of Lessons Learned

The IFRC was able to play a key but unsung role in a broad early response

Any Lessons Learned overview from this urgent and dangerous response must start by giving credit to the enormous efforts made and personal risks taken by staff, volunteers and community members: efforts which made a crucial difference to beating the epidemic.

The IFRC stands out in the story as having been one of just a few organisations represented broadly in the field right from the beginning of the epidemic.

IFRC burial and spraying teams, and those supporting them, took on a very thankless task, with personal and reputational risk, and contributed to saving hundreds or thousands of lives.

While, like other agencies, the Red Cross was slow to adapt to the challenges of the epidemic, it was already making many useful contributions by the time (quite early on) that communities themselves took the initiative to start to arrest the epidemic.

It is likely that the RC made a significant contribution to providing information about and examples of *how behaviour needs to change*, which the communities needed in order to lead and implement their own responses.

However it seems that the scaling up of the response followed rather than anticipated the size of the growing threat, perhaps because the size appeals were set at depended on a perception of how much donors were concerned and motivated to help, and this presumably followed the slow media build-up.

Recommendation

Be more aggressive about showcasing the work done by IFRC staff at the front line, while trying to understand and anticipate possible reputational risks.

Try to understand better how behaviour-change suggestions and support provided by IFRC interact with communities' own ideas, resources, decisions and regulations including by-laws.

It proved to be possible, with the right approach, to conduct a large intervention in a dangerous epidemic with large numbers of personnel with very few lives lost

Responding to Ebola was dangerous. During the epidemic, around 488 health workers died. IFRC staff and volunteers were subject to substantial risk to their lives over long periods – not only from Ebola infection but also, from working with communities whose members were sometimes reluctant and aggressive. Against this background, and given that there were around 10,000 volunteers active by the end of 2014, it is remarkable that so few IFRC lives were lost. There is plenty of information in the reports studied about what was done in order to make the intervention as safe as possible, there is very little information about what steps in particular were actually the most effective in maintaining safety.

Recommendation

Future interventions should try to repeat how this intervention was managed, in particular with early provision of protective equipment and thorough training. More attention should be paid to staff & volunteers *apart from* those directly delivering services, for example

drivers. To improve security when facing hostile communities, it is important to thoroughly understand community perspectives.

The psychosocial needs of personnel were too often an afterthought

As with other sectors, it seems that some key lessons from earlier epidemics were forgotten in the rush to provide an effective response, such as the importance of having a comprehensive psychosocial plan from the outset. The psychosocial needs of staff and volunteers too easily take a back seat in spite of, on the one hand, the multiple sources of stress they are exposed to, and IFRC's duty of care on the other. Personnel are subject to levels of stress similar to those in other high-stress occupations, such as firefighters, and those away from the front line may be just as badly affected as those working directly with affected populations.

Recommendation

Ensure psychosocial pillar has pre-existing capacity and an explicit mandate with respect to Duty of Care.

Information management struggled to inform real learning

PMER seems to have had the same restricted role as in previous emergencies – trying to provide adequate data for after-the-fact reporting rather than proactively providing data and models to improve the response in real time. Models of epidemic and response which were provided seem to have been inadequately adapted to the specific situation, for example the urban context. More generally, technical resources such as RAMP/Magpi were not sufficiently ready, and staff capacity to provide rapid and useful information management was weak. This meant that the response suffered, both in terms of the IFRC's response and in terms of information sharing with local and international agencies.

Recommendation

Improve the capacity of PMER and IM to provide *learning:* constantly improving models and data to inform the response in real time, with data relevant to meaningful objectives rather than dealing only with inputs.

The response was slow to engage communities and understand their perspectives. Why is this so hard?

In most cases, in spite of exhortations on paper, beneficiary communication was too directive at the beginning and messages were delivered which needed adaptation before they could be correctly understood and acted upon. Though messaging and community engagement did improve substantially during the epidemic, the improvements were more in terms of better two-way information flow and in terms of better targeting of messages. There seems to be a consensus that active listening, genuine participation and empowering engagement are critical to the success of intervention in an epidemic, yet their introduction seems to have been late, slow and patchy.

In a nutshell: How was it possible to have a response pillar called "Dead Body Management"? If the IFRC was, via its volunteers, deeply embedded in communities and knew how to learn from them, shouldn't it have been obvious earlier that this approach was going to be inappropriate, difficult and dangerous to implement and in some cases counterproductive?

Once again it seems that the IFRC discovered that successful programs rest on deep community engagement, which in turn rests on a (not completely one-sided) *relationship* between agency and community, and that is something which is easy to write and harder to do.

So if deeper community engagement is a key recommendation of lessons learned and evaluation exercises both within IFRC and more broadly across public health, disaster management/response and international development, why are we still not doing it?

What would make IFRC personnel *want* to have a deep and personal relationship with vulnerable communities? Perhaps there are many disincentives, both obvious and hidden.

What would make people go out of their way during a frightening and desperate response to really strike up a relationship with, and understand the point of view of, other communities, if the alternative is to get back quicker to a (somewhat) safer home base?

Understanding communities is not only a challenge because of various cultural differences between communities and staff. There are likely to be misunderstandings at every link, between volunteers and district, national and international staff too. “Sending in the anthropologists” is an attempt to look at misunderstandings in the features of *communities*, especially those which might seem strange or unusual to “international” eyes. And this can certainly be helpful. But misunderstandings can occur simply at many different links in the communication chain when we fail to take the other person’s perspective, even if we are from the same cultural group.

Recommendation

Rather than bringing in anthropologists to better understand *communities*, wouldn’t it make more sense to ask them to look at *the perspectives and motivation of staff and volunteers*, the fit or lack of it with the plans and ideas of Societies and the Secretariat, the potential for misunderstandings and lack of engagement at different points in the communication chain, and at what happens when volunteers (try to) interact with communities?

Alternative recommendation

On the other hand: Does it really matter if IFRC still sometimes struggles to apply active listening and engage deeply with communities? The IFRC was able to provide large-scale, labour-intensive services like Safe and Dignified Burials, and provide clear and appropriate messaging from a respected source, both of which played a key role in turning the tide of the epidemic. Perhaps IFRC’s biggest added value is in focusing most on simple, labour-intensive interventions in which messages and approaches are relatively clear and where the potential for misunderstandings is relatively limited.

Rediscovering the wheel: Why so many “lessons not learned”?

The Lessons Learned presented in this document are not so different from other Lessons Learned from other similar emergency response, which would *seem* to suggest that previous “Lessons” were not really “Learned”. Why?

It is possible that it is difficult to measure progress against any objective baseline and that the bar is in fact continually being raised. That would be good news: the impression that we never learn anything is just an illusion.

It is also possible that these things – for example, improving capacity at scale in National Societies - simply are very difficult and no-one is to blame for the fact that these very Lessons keep coming up again and again.

It might be that some of the reasons for non-implementation of previous Lessons Learned are connected to taboos – things which are embarrassing (such as staff's semi-conscious ideas about community members) or dangerous (such as corruption and self-interest).

It is also possible that each "Lesson not Learned" has its own specific reasons. For example, perhaps the recurrent (relative) lack of attention to the psychosocial needs of IFRC personnel has its own, specific reason (perhaps, for example, a need to appear strong) which needs addressing separately from other "Lessons not Learned".

Finally, it is possible that the recurrence of these "Lessons" is a symptom of what is sometimes called "the system pushing back". This would mean there might be some factors which help to maintain IFRC's current status as a disaster response network in a kind of comfort zone and which push back against attempts to change that system.

Recommendation

Why not study more systematically the reasons why some lessons turn into "eternal lessons" which are never really learned from response to response – those which one can also find looking back at, say, the Haiti Earthquake Response and East-Asian Tsunami response? Such an investigation would have to be enabled to ask uncomfortable, perhaps taboo questions and to ask why the system is perhaps pushing back.

Some other "Lessons not learned"

Equity focus

The response seems to have not focused well on the question of whether the most vulnerable sub-populations were really being reached within affected populations.

Building capacity for prevention

The vast bulk of the resources arrived well after the peak of the epidemic, providing a unique opportunity to transform the response into a more sustainable programme at National Society level. However there seems to have been some considerable delay in planning how to actually do this. Is there perhaps a cognitive bias to think, in the face of an almost overwhelming threat, that "this is the big one", so that future perspectives and plans almost disappear in favour of a focus on the moment?

Involving religious perspectives

Faith played a critical role in the epidemic, both positive and negative. Approaches and messages to individuals were unlikely to have much effect in most cases if local leaders, and faith leaders in particular, were not involved; and they were unlikely to be accepted if they were not compatible with religious perspectives which are overwhelmingly important especially when it comes to matters of life and death . Yet the IFRC overall has a much more secular perspective than the communities in the three most affected countries. It also has some very good reasons to tread very carefully when engaging faith leaders. IFRC still struggles to find ways to reap the significant potential of engaging with faith groups while avoiding the significant risks.

Lessons from service functions (Resource Mobilisation, HR, etc)

There seem to be almost no “new” Lessons to be learned but many old ones. The most important were again the need for advance preparation and pre-positioned or at least pre-identified capacity, right across HR, Logistics, Finance etc. Once again, there were problems with forms and procedures – seen from “the top down”, the problem was lack of training and familiarity with established procedures, from “the bottom up”, the problem was more with lack of flexibility.

References

From all the documents studied, the following provided the most information for the present synthesis report and together provide a good overview of what was learned. The complete list of documents consulted is given below.

Main documents

Document	Contents	Author	Date
Lessons Learned from Ebola Response Successes , challenges and the way forward	Summary of a 3-day internal Lessons Learned workshop held in Dakar in April 2016 with participants from National Societies, PNSs, Africa region and Geneva	IFRC	2016 July
Beneficiary communication Regional overview	This beneficiary communication plan guides the rolling out and scaling up of activities in response to the Ebola outbreak in West Africa	IFRC	2014
Report of the real time evaluation of Ebola control programs in Guinea, Sierra Leone and Liberia	The Real Time Evaluation (RTE) was commissioned by the IFRC Secretariat to assess the Red Cross response to the 2014 Ebola crisis in Guinea, Sierra Leone and Liberia from March 2014 to date. The intent of this RTE is to specifically look at implementation issues.	Murray, Alexandra; Majwa, Philimon; Roberton, Tim & Burnham, Gilbert	2015
Community Engagement and Health promotion in Countries Affected by the Ebola Crisis in West Africa: A Study of Aspects of the Red Cross Response	The IFRC commissioned the International Centre of Humanitarian Affairs (ICHA) to conduct research on the impact of community engagement and communication activities of the Red Cross across the three affected countries.	International Center for Humanitarian Affaris	2016 January
Estimating the number of secondary Ebola cases resulting from an unsafe burial and risk factors for transmission	A mixed methods approach utilising epidemiological and anthropological methods was used to assess the impact of safe and dignified burials in	Tiffany, Amanda Dalziel, Benjamin D Njenge, Hilary Kagume	2017

during the West Africa Ebola epidemic.	the 2013-2015 West African EVD epidemic.	Johnson, Ginger Ballah, Roselyn Nugba James, Daniel Wone, Abdoulaye Bedford, Juliet, McClelland, Amanda.	
Psychosocial support in Ebola. Lessons learned.	Summary of a lessons-learned workshop in Dec 2015, focus on two key aspects of PSS in Ebola: • Care and support for staff and volunteers • Psychosocial support interventions for beneficiaries	Zanghellini, Thomas	2016 July

The first four of these documents are also marked on the Timeline on p. 13.

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Appendix: Method

Selection of documents

An initial list of 24 documents was provided by the synthesis management team. Approximately 45 additional documents were then identified to complement these, especially focusing on:

- The most relevant peer-reviewed articles
- Lessons Learned reports from closely comparable organisations
- IFRC Evaluations
- Reports from outside the IFRC which refer to IFRC activities
- Audiovisual materials

Selection of material

Any piece of information in the reports surveyed, whatever role it plays within the source document, was treated as relevant, whether it appeared in the Findings, Lessons Learned, Conclusions or Recommendations sections in the source documents.

Priority was given to the following kinds of findings:

- Material highlighted by being placed within the executive summary, conclusions, and recommendations, as this already represents an expert selection[12].

- Findings with strong evidence

- Similar findings across different reports

- Findings which show how to do a lot for a little: Easily controllable, low cost factors which could help achieve high-value objectives.

Synthesising the information

These findings were then interpreted as (fragments of) a Theory of Change, based on (an adaptation of) Realist CMO (context-mechanism-outcome) configurations (Tilley and Pawson 2000). These configurations are the basic “unit of knowledge” for capturing the important findings. Following this template, each finding links one or more upstream variables to one downstream variable, and also includes various other pieces of information such as context, as specified in the diagram below.

Some points to note:

- This approach accommodates both “positive” and “negative” information, i.e. covers also “what doesn’t work”, “gaps”, etc. Equally, it covers not only “things to

[12] Nevertheless, we referred also to the body of report to see if any other possible Lessons have been missed and to add context and evidence to the highlighted lessons.

be improved" but also confirming strengths / effectiveness / what needs maintaining.

- There may be just one, or several, influencing variables in each case.
- When using the term "variable", this does not mean that they need to be numerical; most often, they will not be. Often we will just see yes/no variables like "innovation adopted / not adopted".

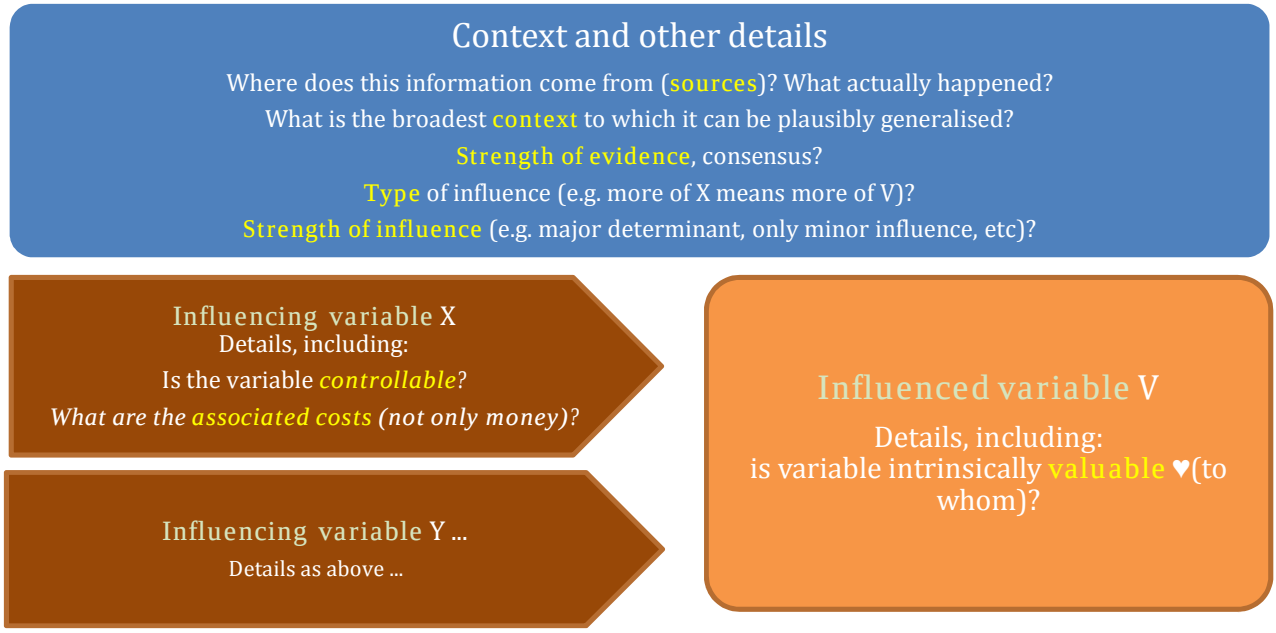

Figure 9. Template used for recording each finding

Processing phase

- Organise or "tag" according to themes / sectors e.g. water & sanitation, volunteer engagement, etc.
- Look for similar variables in either column. If possible without going beyond the evidence, find common names for comparable variables so that it is easier to see links across the various findings.
- In particular, amongst the findings collected and presented in this way, identify some variables which appear both as an *influencing* variable in one finding and as *influenced* Variable in another and thus assemble these finding into a Theory of Change.

IFRC Objectives

Objective in EAs	"Objective" in this report	Comment
2. National Societies (National Society) have better EVD preparedness and stronger long-term capacities	National Society Preparedness, long-term capacity, Reputation	
3. IFRC operations are well coordinated	IFRC operations are well coordinated	Included although it has the process character than being an end in itself.
4. Safe and Dignified Burials (SDBs) are effectively carried out by all actors	Safe, Dignified Burials	Included although it also isn't a final Objective in the sense that it leads on to another aim, namely stopping Ebola
5. Recovery of community life and livelihoods.	Ebola stopped, well-being, recovery of community life and livelihoods	these two objectives have been combined for convenience. Well-being has been added because otherwise there would be no reason for many activities such as psychosocial interventions.
1. The epidemic is stopped;		

One more objective has been added which can be assumed for any IFRC operation: Volunteer & staff well-being

Appendix: List of Appeals, DREFs and revisions

In all, there are nearly 200 Operation Updates at http://www.ifrc.org/en/publications-and-reports/appeals/?ac=&at=247&c=213&co=&dt=1&f=2013&re=&t=&ti=&zo=. This is the list available at the IFRC website.

Location	Appeal code	Name	Document name	Date
Guinea	MDRGN007	Guinea - EVD (MDRGN007)	DREF Operation	28-Mar-14
Guinea	MDRGN007	Guinea - EVD (MDRGN007)	Emergency Appeal	04-Apr-14
Sierra Leone	MDRSL005	Sierra Leone - EVD (MDRSL005)	DREF Operation	07-Apr-14
Liberia	MDRLR001	Liberia - EVD (MDRLR001)	DREF Operation	10-Apr-14
Senegal	MDRSN009	Senegal - EVD (MDRSN009)	DREF Operation	14-Apr-14
Mali	MDRML010	Mali - Ebola Preparedness (MDRML010)	DREF Operation 1	19-Apr-14
Cote d'Ivoire	MDRCI006	Côte d'Ivoire - Ebola Preparedness (MDRCI006)	DREF Operation 1	20-Apr-14
Liberia	MDRLR001	Liberia - EVD (MDRLR001)	Emergency Appeal	30-Apr-14
Sierra Leone	MDRSL005	Sierra Leone - EVD (MDRSL005)	Emergency Appeal	26-Jun-14
Nigeria	MDRNG017	Nigeria - EVD (MDRNG017)	Emergency Appeal	12-Aug-14
Africa regional office	MDR60002	Africa - Ebola Coordination and preparedness (MDR60002)	Emergency Appeal	20-Aug-14
Cameroon	MDRCM019	Cameroon - EVD (MDRCM019)	DREF Operation	25-Aug-14
Benin	MDRBJ014	Benin - EVD (MDRBJ014)	DREF Operation	27-Aug-14
Togo	MDRTG005	Togo - EVD (MDRTG005)	DREF Operation	27-Aug-14
Central African Republic	MDRCF018	Central African Rep - EVD (MDRCF018)	DREF Operation	30-Aug-14
Democratic Republic of Congo	MDRCD015	Democratic Republic of Congo - EVD (MDRCD015)	DREF Operation	30-Aug-14
Senegal	MDRSN010	Senegal - EVD (MDRSN010)	DREF Operation	08-Sep-14
Chad	MDRTD013	Chad - EVD Preparedness (MDRTD013)	DREF Operation	15-Sep-14
Gambia	MDRGM009	Gambia - EVD Preparedness (MDRGM009)	DREF Operation	16-Sep-14
Kenya	MDRKE031	Kenya - EVD Preparedness (MDRKE031)	DREF Operation	23-Sep-14
Senegal	MDRSN010	Senegal - EVD (MDRSN010)	Emergency Appeal	29-Sep-14

Guinea Bisau	MDRGW002	Guinea Bissau - Ebola Virus Preparedness (MDRGW002)	DREF Operation	09-Oct-14
Ethiopia	MDRET014	Ethiopia - Ebola Virus Preparedness (MDRET014)	DREF Operation	30-Oct-14
Nairobi country cluster	MDR64007	East Africa - Ebola Preparedness (MDR64007)	Ebola Preparedness Fund (EPF)	13-Apr-15
Mali	MDRML011	Mali - Ebola Preparedness (MDRML011)	Ebola Preparedness Fund (EPF)	15-Apr-15
Cote d'Ivoire	MDRCI007	Côte d'Ivoire - Ebola Preparedness (MDRCI007)	Ebola Preparedness Fund	24-Apr-15
Cote d'Ivoire	MDRCI008	Cote d'Ivoire - Ebola Preparedness (MDRCI008)	Ebola Preparedness Fund	11-Sep-15

Table 3. List of main Appeals and DREFs.

Here for comparison is the consolidated budget from Op Update 37.

EMERGENCY APPEALS

Appeal Code	Appeal Name	Appeal Timeframe		Budget	Funding	Coverage	Gap	Income	DREF	Expenditure	Balance	Commitments	Expl Bud
MDR60002	Africa - Ebola Coordination and prep	19-Aug-14	31-Dec-16	14,008,887	11,962,240	85%	2,096,647	11,899,573		10,321,004	1,578,569		73%
MDRGN007	Guinea - Ebola Virus Disease	25-Mar-14	31-Dec-16	38,798,890	37,781,463	97%	1,017,427	37,811,573	0	35,713,503	2,098,070	129,387	92%
MDRLR001	Liberia - Ebola Virus Disease	06-Apr-14	31-Dec-16	22,195,410	22,194,824	100%	586	22,109,544	0	20,481,061	1,628,483		92%
MDRNG017	Nigeria - Ebola Virus Disease	06-Aug-14	31-May-15	1,619,444	623,515	39%	995,929	623,515	0	623,515	0		39%
MDRSL005	Sierra Leone - Ebola Virus Disease	08-Apr-14	31-Dec-17	88,093,860	60,779,231	69%	27,314,629	60,708,618	0	52,608,345	8,097,272	298,784	60%
MDRSN010	Senegal - Ebola Virus Disease	08-Sep-14	31-Jul-15	1,380,962	182,266	13%	1,198,696	182,266	253595	430,713	5,058		31%
		TOTAL EMERGENCY APPEALS		166,107,453	133,483,540	80%	32,623,913	133,433,889	253,595	128,178,141	13,507,463	428,171	72%

DREF OPERATIONS

Appeal Code	Appeal Name	Appeal Timeframe		Budget	Funding	Coverage	Gap	Income	DREF	Expenditure	Balance	Commitments	Expl Bud
MDR42002	Americas - Ebola Preparedness	21-Oct-14	21-Jan-15	100,000	0	N/A	0	0	84,481.76	84,482	0		84%
MDR64007	East Africa - Ebola Preparedness	10-Feb-15	15-Oct-15	181,050	132,308	N/A	0	132,308		132,309	0		73%
MDR65001	MENA ZONE - Ebola Preparedness	05-Feb-15	05-May-15	119,324	84,737	N/A	0	84,737		84,737	0		71%
MDRBJ014	Benin - Ebola Virus Disease	27-Aug-14	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRCF013	Central African Rep. - Ebola Virus Di	[illegible]	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRCI006	Côte d'Ivoire - Ebola Preparedness	18-Apr-14	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRCI007	Côte d'Ivoire - Ebola Preparedness	23-Apr-15	[illegible]	[illegible]	[illegible]	N/A	0	[illegible]		[illegible]	0		[illegible]
MDRCI008	Cote d'Ivoire - Ebola Preparedness	14-Jul-15	[illegible]	[illegible]	[illegible]	N/A	0	[illegible]		[illegible]	0		100%
MDRCM018	Cameroon - Ebola Virus Disease	21-Aug-14	05-Jan-15	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		73%
MDRET014	Ethiopia - Ebola Virus Preparedness	29-Oct-14	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRGM00[illegible]	Gambia - Ebola Virus Disease Prepared	15-Sep-14	20-Jan-15	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRGW002	Guinea Bissau - Ebola Virus Prepared	09-Oct-14	09-Jan-15	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRKE03[illegible]	Kenya - Ebola Virus Disease Prepared	22-Sep-14	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRML010	Mali - Ebola Preparedness	18-Apr-14	31-Aug-14	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRML011	Mali - Ebola Preparedness	[illegible]	[illegible]	[illegible]	52,551	N/A	0	52,551		[illegible]	0		[illegible]
MDRSN00[illegible]	Senegal - Ebola Virus Disease	[illegible]	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRTD013	Chad - Ebola Virus Disease Preparedn	[illegible]	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
MDRTG006	Togo - Ebola Virus Disease	27-Aug-14	[illegible]	[illegible]	0	N/A	0	0	[illegible]	[illegible]	0		[illegible]
		TOTAL DREF OPERATIONS		[illegible]	[illegible]	N/A	0	[illegible]	[illegible]	[illegible]	0		[illegible]

Table 4. Summary of Appeals and DREFs. From Op Update 37.

Appendix: analysis of the Operation Updates

The Updates can be found here: http://www.ifrc.org/en/publications-and-reports/appeals/?ac=&at=56&c=213&co=&dt=1&f=2013&re=&t=&ti=&zo=; however, there seem to be 191 different updates at that site. This is because they are listed by country but in most cases, update reports were actually produced in a format which combines the countries, which means there are actually only 49 unique update documents. Tracking these was quite a demanding task. As there is no list of just these documents or any spreadsheet-like summary of their contents.

Sincere thanks are due to Zlatan Zmajevski, intern at proMENTE social research, Sarajevo, for then inputting the text from these 49 Operation Updates into a database, which made the following analyses possible. About the indicators

Some documents refer to "*face-to-face* social mobilisation". The indicator "Safe and Dignified Burials…" is referred to as "Dead bodies managed by …" in earlier updates.

It seems that the indicator for trained volunteers is reported differently for different countries: in particular, it seems that it has been treated as a week by week indicator in Guinea and Liberia but not in Sierra Leone.

Financial data

The Appeals data is also compiled from Operation Updates. The figures show the CHF amounts reported as the size of the appeal (including DREFs at the start of the response). Appeals for Coordination & Preparedness and for other countries are not included. Actual amounts raised are less than initial targets. When appeals are reported by IFRC, the start date is given but in most cases the actual amount sought has been raised in stages since that start date, which made it more of a challenge to track the development of the actual amounts sought at any given date. The results can be seen in Figure 3.

Appeals for Coordination & Preparedness and for other countries are not included in Figure 3.

Maximum values from Operation Updates

Below, the *maximum* values shown in the Operation Updates are shown, which in some cases are different from the numbers given in the final Operation Update. The differences are most striking for "Trained RC volunteers" which (except in Sierra Leone) is not treated as a cumulative indicator and is therefore lower.

	Guinea	*Liberia*	*Sierra Leone*
Safe and Dignified Burials conducted by National Society	25,165	3,825	28,781
Trained RC volunteers active in Ebola	2,497	7,321	4,924
Contacts traced by National Society	12,593	17,781	97,160
Houses disinfected by National Society	35,546	2,818	21,411
People reached through social mobilization	2,428,020	2,411,220	3,561,128

People reached through Psychosocial support	12,655	8,953	556,918
People treated by National Society	NA	NA	978
: total amount sought CHF	56,000,000	56,000,000	94,600,000
: total received to date CHF	34,900,000	26,200,000	59,900,000

Indicator figures from final Operation Updates

These are the indicator performance figures from the *final* Operation Updates. They are slightly different from the table above, as discussed already.

	Operational Countries and Appeals			
	GUINEA	LIBERIA	SIERRA LEONE	TOTAL
	(MDRGN007)	(MDRLR001)	(MDRSL005)	
Trained RC volunteers active in Ebola	1,134	142	4,924	6,200
People reached through face to face Social Mobilization	2,428,020	2,411,220	3,561,128	8,400,368
People reached through Psychosocial Support	12,655	8,953	405,030	426,638

Then from up 29, jan 2016:

Safe and Dignified Burials (SDB) conducted by NS	25,165	3,825	28,781	57,771
Contacts traced by NS	1,295	7,827	97,160	106,282
Houses disinfected by NS	35,546	2,818	21,411	59,775

Figure 10. Cumulative operational data[13]

[13] This table is from Operation Update No. 36, which is the last one with such a table.

Text analysis of the Operation Updates

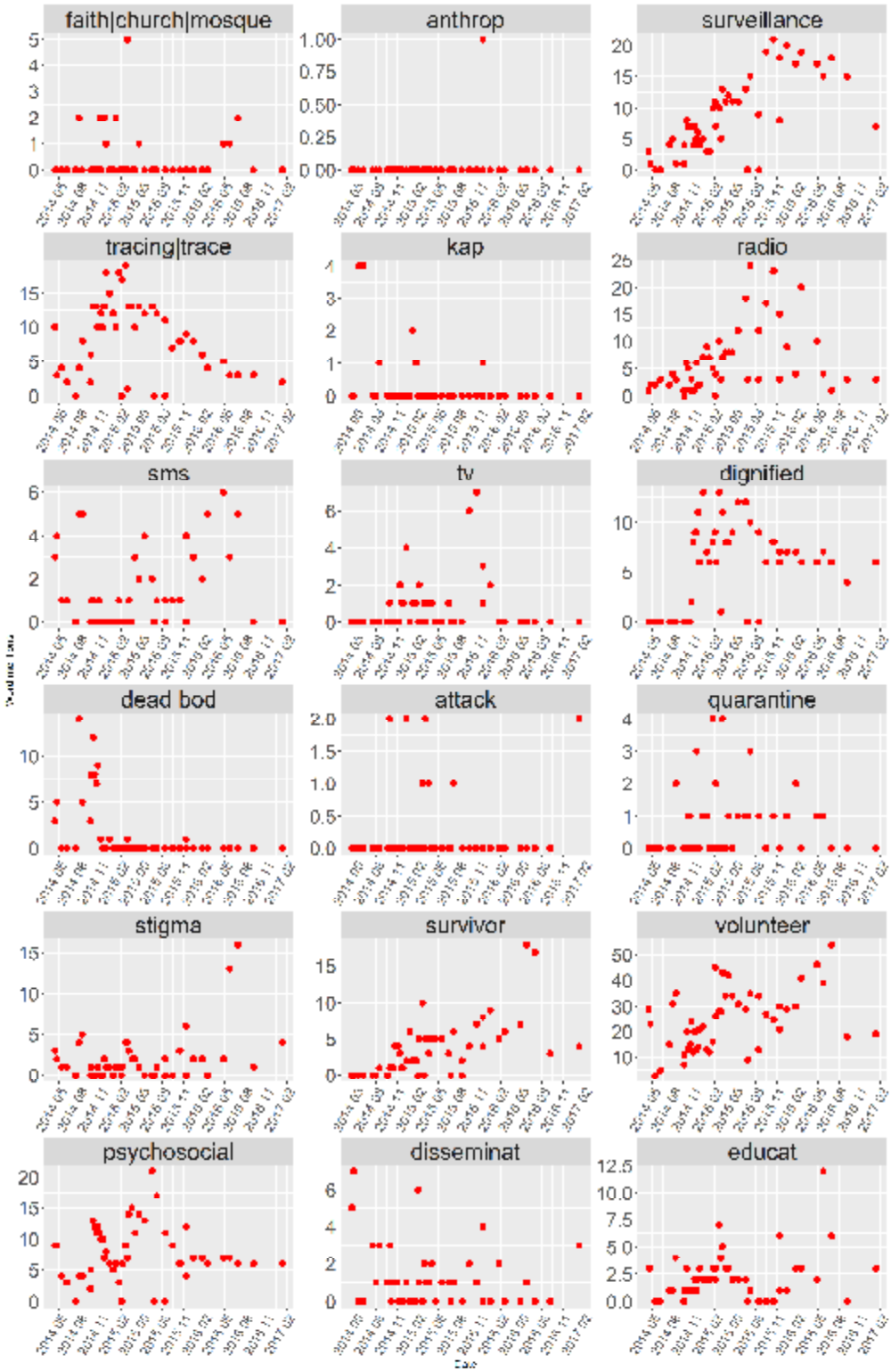

Figure 11. Text analysis of Operation Updates

Notes to text analysis

This graphic shows the results of an automated analysis of the entire text of the Operation Updates for the various appeals. (Most of the documents are combined updates on several appeals.) The titles at the top of each mini-graphic show the text for which the documents were searched. So for example the search “anthrop” matched any occurrence of “Anthropologist”, “anthropological”, etc; “dead bod” matched “Dead bodies”, “dead body”, etc. “faith|church|mosque” matched any occurrence of “faith”,“church”, “mosque”, “Mosques”, etc. The vertical axis shows the number of times each word was found in the documents. **Note that each mini-graph has its own vertical axis.** The horizontal axis shows the date of the documents.

Key findings

The reports speak frequently of “dead bodies” until about November 2014; after that, “dignified (burial)” starts to be used.

Faith, church, and/or mosque is mentioned a few times towards the end of 2014 and again in the middle of 2016.

Use of the word “surveillance” increases whereas use of the word “tracing” decreases.

“Radio” and “TV” are mentioned during 2014 but most frequently in 2015.

“Psychosocial” is mentioned frequently, especially from the last quarter of 2014.

Anthropology is mentioned only once, in Nov 2015.

The words “disseminate”, “dissemination”, which are perhaps associated with a one-way form of communication, are more frequent in the first months of the response.

Appendix: number of lives saved by SDBs

The National Societies were responsible for a truly massive number of burials across the three countries. An recently published study led by IFRC staff (Tiffany et al. 2017) estimates possible numbers of lives saved due to the Red Cross interventions on burial practices, by investigating the number of EVD cases amongst people who attended unsafe funerals. They conclude that there would have been between 9.5% (baseline estimate) and 68% (ceiling estimate) additional cases without the SDB programme, i.e. that the programme saved at least 9.5% additional cases. However, this baseline estimate also does not allow for at least two other factors which would lower it further. The first factor is the general background EVD mortality rate (i.e. the people who died after an unsafe burial might have died anyway due to general EVD transmission in the country concerned). The second, related factor is the amount of geographical "clustering" of EVD transmission. This factor would account for the way in which funeral attendees have an increased risk because of where they live. For example, both they and the deceased are more likely to independently have been in contact with other EVD carriers (e.g. mutual neighbours) than they would if they did not live in the same place. While the baseline estimate, compared to the ceiling estimate, does exclude one particular set of locality-based risks, namely by excluding persons who had not only been to the funeral but also had had other contact with the deceased, e.g. caring for them, it does not exclude others. (This "clustering" is statistically and conceptually closely related to "superspreading". Superspreading is discussed in Althaus (2015) and shown to be a powerful factor in the spread of Ebola epidemics).

In practice, it is difficult to get good estimates of either of these additional factors.

In conclusion, although the study makes a powerful and persuasive argument that large numbers of secondary infections and deaths were surely prevented by the SDB programme, unfortunately it is still difficult to estimate a lower bound, i.e. to say with any certainty "at least this number … was saved".

Appendix: Terms of Reference

Available from IFRC PMER Geneva.