



Mobile for Development

A grayscale photograph of a woman in the upper center, smiling and talking on a mobile phone. She is holding a baby on her hip. Below her, a group of children are looking towards the camera with various expressions. The background is a simple, textured wall.

BLUEPRINT: EBOLA MOBILE RESPONSE

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Background

Since the outbreak of Ebola, there has been an urgent need for a standardized and endorsed mobile response which will effectively address the requirements of governments and populations within all affected countries.

The GSMA, through its Mobile for Development mHealth and Disaster Response programmes, has developed the Ebola Mobile Response, comprised of three phases and which is replicable across countries. This document sets out the response in the form of a blueprint for Phase 1. Guidance on the other phases will follow. Operators are encouraged to use this guidance for immediate activation of a response or to supplement work already started.

Three-phase approach

	Proposed activity
Phase I	Provide a mobile based information product with credible, validated and endorsed local content, approved by WHO, that links to country specific response protocols
Phase II	Provide anonymised data from mobile operator call data records (CDR) for disease tracking and response
Phase III	Provide Health worker mobile based services customised for each country's needs

The GSMA seeks to assist Ministries of Health and other government agencies to activate the required support of mobile network operators in 5 countries, by providing their network platforms for a coordinated and effective response to the current Ebola outbreak. These countries are Guinea, Liberia, Nigeria, Senegal and Sierra Leone. This intervention is also extended to other West African countries along with high risk countries.

This work is being facilitated by the GSMA with international support and public relations from the World Bank and the World Health Organisation.

The work of the Mobile for Development mHealth programme and its Pan African mHealth Initiative (PAMI) has been funded by UK aid from the Department for International Development (DFID), and by the Norwegian Agency for Development Cooperation (Norad).

This document focuses on setting out guidance for Phase 1 of the response. It covers the following:

- Technology and non-technology considerations
- Product features
- Suggested Ebola content
- PR and Marketing guidelines
- Reporting Guidelines
- Commitment required from government and local authorities

Guidelines for providing a mobile-based information product

Mobile technology provides several channels through which mass dissemination of information can flow. The technologies proposed below have the widest possible reach, as they are compatible with any GSM capable mobile handset, including all basic phones.

Mobile technology channels:

1. **SMS** – Short Message Service, restricted to 160 characters (reduced to 140 characters when a non-Latin character set is used). SMS has the ability to reach almost all subscribers and track the number of users that actually receive the message.
2. **USSD** – Unstructured Supplementary Service Data, which allows for on-demand interaction with a mobile service, typically navigated through using on-screen menus. USSD allows a user to select and access information, which the system displays either on screen or via SMS. It can also be used to access a voice service.
3. **IVR** – Interactive Voice Response, which is also a menu driven system like USSD, except that prompts and instructions are provided using recorded audio/voice clips. A user then responds as instructed in order to access further information. The final selection is either to listen to an audio recording or to receive an SMS.

Benefits and limitations of selected channels

Channel	Benefit	Limitation
SMS	<ul style="list-style-type: none"> - Fastest deployment - Low resource requirement - Common or widely used 	<ul style="list-style-type: none"> - Visual impairment and/or literacy levels can be a hindrance - Limited to 140 characters
USSD	<ul style="list-style-type: none"> - Interactive and real time - Allows access to more information than SMS - Menu for choice of options 	<ul style="list-style-type: none"> - Limited to 160 characters - Has a time limit of about 1 minute for response, and 3 minutes per session (depending on network configuration)
IVR	<ul style="list-style-type: none"> - Natural interface (voice), - Highly customizable (accent, language, nuances) - Menu driven 	<ul style="list-style-type: none"> - A user has to listen to the complete introduction to be aware of options available - Requires a human resource to create audio recordings - Hearing impairment is a challenge

Non-technological considerations

Language and context: in addition to the above limitations in technology, a mobile messaging response requires that messages be available in a language that is understandable. When targeting an entire population such as mobile operator subscribers or national population, it is important that messages be available in languages that can reach the widest population possible. As it is not always possible to translate to ALL local languages and contexts, the languages chosen should provide for the widest possible reach.

Response mechanism: creating widespread awareness in a population may also require information on where to seek further guidance/assistance or report suspect cases of Ebola. Ministries of Health should consider setting up a call centre/customer care desk at national, regional, district, or hospital level, in line with available resources.

Enabling quick and free access by all citizens: the government’s mobile industry regulator, in conjunction with the Ministry of Health and mobile operators, can enable the allocation of a national emergency zero-rated short code through which citizens in an affected country can access validated information, report suspected cases or seek treatment referrals.



Proposed Product Features

The proposed emergency response initiative is designed to fulfil three functions:

1. Facilitate countrywide dissemination of correct information on Ebola, by sending a set of relevant key messages to all mobile subscribers. This will help counter rumours and incomplete information, which currently result in irrational behaviour and fear. Each country will identify the relevant key messages to be sent to the population.
2. Provide access to further on-demand information on Ebola. USSD and IVR technologies will allow subscribers access additional information, beyond the standard set of text messages received via SMS blast. This will ensure that subscribers are not inundated with too much information via SMS, and provide a voice option via IVR.
3. Provide a support desk. Where Ministries of Health have set up help desk facilities for Ebola management, mobile operators can provide access to these help desk facilities by patching through calls made to the allocated short code. This will allow users to enquire, report and or seek further assistance on Ebola.

Product illustration and user journey



Initial set of key Ebola messages is broadcast to all subscribers

An individual dials *112# from their mobile phone. The service is marketed via mobile, TV, radio and other channels

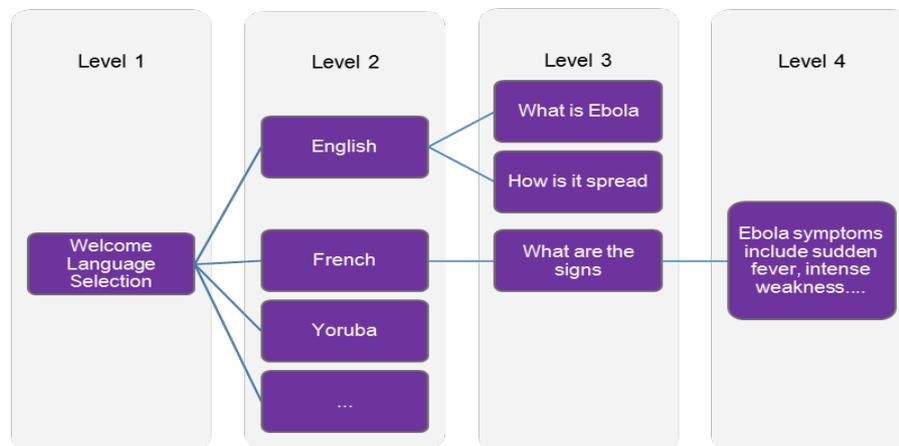
5

A USSD or IVR service is triggered in response to *112#

Two basic options:
 1. Report a case
 2. Request information

Suggested USSD/IVR service flow

USSD and IVR are both menu driven supplementary services available on GSM networks. A unified structure allows for consistent delivery of information via either channel. The following structure provides a template on which to base content for one or both channels.



Ebola content

The prevention and control of Ebola is very sensitive to the information provided about the disease. With the right information, citizens can help contain disease spread by avoiding risky behaviour and identifying Ebola symptoms in time to seek medical support. Additionally citizens can engage in safe practices while handling Ebola suspects, thus further helping to reduce the spread within families and communities.

While a lot of information is available in the public domain, on websites such as www.who.int and www.cdc.gov, much of the information reaching citizens is via newspapers, TV, radio, social media and SMS messages originating from other citizens, and can include rumours, hear-say and outright myths and misinformation, which lead to the spreading of fear, stigmatization and risky practices. An example of a myth is bathing or soaking oneself in a tank of salt water to prevent Ebola infection. There is therefore a need for government approved messaging to counter misinformation and provide correct information on Ebola.

Expected quality of Ebola key messages

Information available to populations must be:

1. **Timely:** in countries already affected, messaging should be provided as soon as possible. In newly affected countries, this product can be launched within 48 hours of the detection of an Ebola case, to prevent further spread and dissemination of incorrect information.
2. **Accurate and credible:** sourced from the WHO, and adapted for mobile messaging, language and context.
3. **Approved by local authorities:** messages need be endorsed by local health authorities, as facilitated by the WHO as part of their effort to support government initiatives.
4. **Reach critical mass of users in a short time:** use of mobile dissemination to reach a significant percentage of the population with consistent, correct information in the shortest time possible.
5. **Be easy to understand and share:** WHO translation into local languages enables comprehension and mobile texts allow for recipients to share immediately.

Sample Ebola messages adapted from WHO content

The following messages, adapted from the WHO's Frequently Asked Questions on Ebola and Ebola Fact Sheet, are formatted to fit within the 140 character limitations of SMS and USSD. Local languages may require more characters to communicate the same message, however as noted in the technology limitations 140 characters is the limit.

Adapted English messages on Ebola

	Type	Topic	Message	Character Count
1	Fact	What is Ebola?	Ebola is a viral disease spread from animals to humans and among humans through direct contact with blood, secretions or other body fluids	139
2	Fact	How is it spread?	Ebola is spread through direct contact with blood, secretions or other body fluids of infected animal or person or contaminated environment	139
3	Fact	How can I avoid it?	Avoid touching body fluids (blood, secretions) of any sickly person or contaminated items. If you suspect Ebola, seek medical help at once	139
4	Fact	What are the signs? *visible	Ebola symptoms include sudden fever, intense weakness, muscle pain, headache, sore throat followed by vomiting, diarrhoea and rashes	133
5	FAQ	Who is at risk?	Health workers and close family members are most at risk of infection. They must avoid contact with body fluids or secretions of sick person	140
6	FAQ	How long does it take?	Symptoms appear 2-21 days after infection. Anyone showing signs is contagious and should seek immediate medical assistance to avoid spread	140
7	FAQ	Is it airborne?	Ebola is not air borne. It only spreads through contact with body fluids or secretions of sick person, or contaminated clothes, bed sheets etc	139
8	FAQ	Can you get it from clothes and utensils used by sick person?	Yes. Ebola viral disease can be spread through contaminated environment such as bed sheets, clothes and utensils	110
9	FAQ	Should I seek medical attention?	If you have been in an area or in contact with a person suspected to have Ebola, you must seek medical attention immediately	125
10	FAQ	Can it be treated?	Ebola currently has no known cure or treatment. With proper timely medical care, some people have recovered from illness	121
11	FAQ	Can it be controlled?	Ebola can be controlled by isolating those suspected or confirmed to have Ebola and using strict infection control precautions	127
12	FAQ	Where can I get help?	For help, please contact you nearest health facility. If you suspect you have been infected, alert health worker immediately	125

PR and marketing guidelines

In many scenarios, Ebola messaging will likely be launched on a humanitarian basis by government and concerned mobile operators. It may also be launched as a disaster response mechanism and thus while the term “marketing” is applied above, the context on the ground may be more of “dissemination” or “communication” guidelines and strategies.

If the messages sent are to have a real and swift impact on the spread of Ebola, it is of the utmost importance that those messages are trusted by subscribers. The promotional activities and channels chosen will depend on the availability of funding within government for crisis communication, as well as private sector budgets that can be availed to support the initiative.

Communication activities

Launch: a press statement or briefing by the Ministry of Health, together with partners (the WHO, mobile operators) should be arranged where possible, in order to give credibility to the information campaign. Alerting the market/consumers/citizens of the upcoming campaign, official short code being used and what to expect will create a trust relationship and an acceptance of the information. Example: “Ministry launched Ebola 112 information campaign” or “Ebola 112! Let us fight Ebola Together! Dial *112# for Free information”.

Ministry of Health partners are also encouraged (funding allowing) to launch communication campaigns in support of the initiative. These could be through sponsored media spots, radio campaigns and even print media where possible. Mobile alerts should be limited to probably one prior to the messaging campaign commencing. This will reduce the sensation that too many messages are being sent to subscribers.

Supplementary messaging: for mobile operators and governments that have already been sending messages, promotion of the USSD/IVR service for users to access information is preferred. This avoids confusion between previous messages and new messages, and allows users to access the same and additional information on Ebola on demand. If any information gaps are identified between messages previously sent and the approved set of messages, operators are encouraged to send text messages with the additional key message. The rest should be made available through on-demand channels.

Help line: where in-country resources allow and a helpline desk exists, a common message should be broadcast at least once a week (resources permitting) detailing the number to call to get in touch with authorities. This will ensure that citizens know what steps to take should they come across a suspicious illness.

Messaging Frequency

		M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
	Message	week 1							week 2							week 3							week 4							week 5						
1	What is Ebola	X																																		
2	What are the signs	X							X							X							X							X						
3	How is it spread		X																																	
4	Ebola Prevention		X							X							X							X							X					
5	For more info / help desk	X	X	X	X	X	X	X	X	X						X	X						X	X						X	X					
6	Who is at risk								X														X													
7	Can I get it from clothes																																			
8	When should I seek medical attention																																			
9	Is it airborne																																			
10	Can it be treated																																			
11	Can it be controlled																																			
12	How long does it take																																			

supplementary
messages

The proposed messaging frequency allows for an intense structured campaign within a limited time frame to avoid message fatigue or the reduction of impact. All messages should be available on a supplementary basis, and accessible through the advertised short code. Total messages per subscriber within 5 weeks is 29. The above is a suggested frequency. Based on impact and how affected a country is, the Ministry of Health and mobile operators can agree to have a more intense campaign or send less mandatory messages to subscribers.

Reporting guidelines

A collaborative effort of this magnitude requires significant levels of reporting to various stakeholders and especially government. Data collection is possible at many levels, and to varying detail. For consistency and to ensure privacy, the following indicators are suggested for overall reporting. Each country implementation may seek to increase the level of reporting and data collection. The indicators are primarily operational statistics within reach of implementing mobile operators and partners. Indicators must be determined in advance and would need to be built into the service design to ensure capture.

Operator indicators

1. Number of messages sent to subscribers by operators (total, and per-subscriber)
2. Number of subscribers that received messages (did not bounce or delivery confirmed)
3. Number of users who accessed additional help (dialled short code, or called emergency toll lines provided) from within the network
4. Ranking of most frequently accessed messages/menu options of the service (indicates popularity or importance to audience)

Where a Ministry of Health provides a help desk or helpline facility, the following indicators can be tracked at Ministry of Health level:

1. Number of reported/suspected cases received through the helpline
2. Types of questions citizens asked or raised
3. Area/zonal/regional ranking of caller locations
4. Retention of knowledge on Ebola, by administering a survey via SMS to a sample group of citizens

The WHO, as a local partner, can then collate statistics from participating countries to provide an overall report on how extensive the Ebola Mobile Response initiative has been in the region of affected countries. At WHO level, there are also opportunities for lessons learnt to be shared across countries, operators and Ministries of Health.

Commitment required from government and local authorities

To experience real traction and increase impact, Governments and local authorities would need to provide significant support to the initiative, as follows:

1. Work with the WHO to localise (language and contextual translation) approved Ebola messages
2. Provide the standardised response protocol that will be included in the mobile messages (helpline, what to report, how reports will be handled)
3. Where possible, government should activate a call centre or support desks to respond to Ebola enquiries from citizens who call in. This can be achieved by collaborating with mobile operators and the communications regulator to ensure that citizens can access the respective National Ebola Response Centres through a mobile short code that cuts across all local networks
4. Endorse and announce the free service nationally together with mobile operators and the WHO country representative, to gain acceptance from citizens
5. Track and receive usage statistics from mobile operators

Commitment required from mobile industry

The ubiquity of mobile access and connectivity, as well as the high levels of subscriber penetration in Africa, provide a unique opportunity for high impact messaging. In situations such as the rampant spread of Ebola, this ability provides an emergency response opportunity that reaches far and wide in a short period of time. However due to the humanitarian nature of this particular outbreak, private sector support is very valuable in supporting governments to communicate about, handle and manage Ebola. Below are ways in which the mobile industry can support local governments.

Public relations

1. Market, together with local authorities, the common short code to all customers for an agreed time and ensure compliance to consumer protection laws and policies in each country
2. Engage in C-level endorsement and public relations announcement together with global and local stakeholders
3. Provide service utilization statistics to the Ministry of Health for national reporting

Product

1. Choose whether to develop the messaging service in-house or request their VAS providers to execute the response
2. Appoint a dedicated point person to work with local stakeholders to ensure success of the initiative
3. Agree to use a common short code across all stakeholders in the country
4. Agree to the standardised set of messages provided by local authorities

Pricing

1. Zero-rated marketing of common short code
2. Zero-rated access to the USSD service and SMS informational messages (limited to a defined number of SMS)
3. Provide negotiated rates on all other services (IVR, surveys, call centre access, data management, other)

The role of the GSMA in the Ebola Mobile Response

- Development of this Ebola Mobile Response for in-country action that is replicable across several West African countries. This blueprint covers services for affected countries and countries that are at risk
- Successful engagement of the WHO for content on Ebola. The WHO has mobilized its country representatives to engage with governments to produce approved localized messaging on Ebola in each country
- Provision of technical support, a content template and samples for the WHO's reference in the generation of localized content that is mobile ready
- Commitment and participation from key mobile operators (Airtel, MTN, Etisalat) for the Ebola Mobile Response
- Support to operators at country level in implementing zero-rated messaging services on Ebola
- Acting as a coordination hub between mobile operators and international agencies seeking to use mobile to help contain and combat the spread of Ebola
- Key contact email: disasterresponse@gsma.com

Ebola Mobile Response online resources

Ebola Response 2014: Key Online Resources

19 September 2014, FIS Geneva



Information hub sites

1. **Global Ebola Response Coalition**
<http://www.ebolacrisisresponse.org>
2. **World Health Organization (WHO)**
<https://extranet.who.int/ebola>
3. **Sub-Regional Ebola Operations and Coordination Centre (SEOCC)**
<http://www.afro.who.int/en/clusters-a-programmes/dpc/epidemic-a-pandemic-alert-and-response/epr-highlights/4262-seocc.html>
4. **Reliefweb**
<http://reliefweb.int/disaster/ep-2014-000041-gin>
5. **Humanitarian Response (HR.info)**
<https://wca.humanitarianresponse.info/fr/emergencies/virus-ebola> (French)
<https://wca.humanitarianresponse.info/en/emergencies/ebola-outbreak> (English)
6. **Centers for Disease Control and Prevention (CDC)**
<http://www.cdc.gov/vhf/ebola/>
7. **Ebola Virus Disease Outbreak - European Commission**
http://ec.europa.eu/health/ebola/index_en.htm
8. **Ebola Outbreak 2014 – US Department of Health & Human Services**
http://disaster.nlm.nih.gov/dimrc/ebola_2014.html

Humanitarian updates

1. **Situation Reports – WHO**
<http://www.who.int/csr/disease/ebola/situation-reports/en>
2. **Situation Assessments – WHO**
<http://www.who.int/mediacentre/news/ebola/en>
3. **Fact Sheets/Situation Updates – USAID**
<http://www.usaid.gov/news-information/fact-sheets>
4. **All Situation Reports Listing – Reliefweb**
[http://reliefweb.int/disaster/ep-2014-000041-gin?f\[0\]=field_content_format%3A10](http://reliefweb.int/disaster/ep-2014-000041-gin?f[0]=field_content_format%3A10)
5. **All Ebola Outbreak Documents Listing – HR.info**
<https://wca.humanitarianresponse.info/en/search/type/document/emergencies/ebola-outbreak>
6. **Ebola Update – UN Country Team Liberia**
http://www.unliberia.org/contentmm.asp?pg_detail=16&main_menu_id=16&pg=main

Standby partners & volunteer community

Some 14 organisations are providing remote support in the area of information management, managing tasks on behalf of operational agencies in the field such as OCHA. A summary of these organisations, the tasks they are working on and the datasets they are creating, cleaning and publishing are available here: <http://goo.gl/zQuW35>

Maps and Infographics

1. **Ebola Portal Maps - WHO**
<https://extranet.who.int/ebola/map/index.html>
2. **All Outbreak Maps - WHO**
<http://www.who.int/csr/disease/ebola/maps/en/>
3. **Ebola Map Catalogue - Map Action**
<http://www.mapaction.org/deployments/depldetail/231.html>
4. **Ebola E-tracking in Sierra, Liberia and Guinea – Open Street Map**
http://umap.openstreetmap.fr/en/map/ebola-e-tracking-in-sierra-leone-liberia-and-guine_12522#11/8.2125/-11.7911
5. **Healthmap Timeline**
<http://healthmap.org/ebola/>
6. **Direct West Africa Ebola Outbreak**
<http://directrelief.maps.arcgis.com/apps/PublicInformation/index.html?appid=28e348f8d312402ab97faaf6dbd057ec>
7. **Ebola Dashboard**
http://simonbjohnson.github.io/Ebola_Dashboard/
8. **Ebola Timeline**
<http://simonbjohnson.github.io/Ebola-Timeline-Map/>
9. **Ebola 3W Dashboard**
<https://wca.humanitarianresponse.info/fr/infographies-interactives>
10. **Logistics Cluster**
<http://www.logcluster.org/ops/ebola14>
11. **Ebola Cases Map**
https://wca.humanitarianresponse.info/fr/search/type/map/clusters/health/emergencies/virus-ebola/organizations/1434?sort=field_publication_date&order=desc&search_api_views_fulltext=West%20Africa:%20Ebola%20Virus%20Disease%20%28EVD%29%20bureau
12. **OCHA 3W Maps**
<https://wca.humanitarianresponse.info/fr/search/type/map/emergencies/virus-ebola/organizations/1434/map-type/1087?order=desc>
13. **Ebola Gap Analysis Maps (OCHA/Map action)**
https://wca.humanitarianresponse.info/fr/search/type/map/clusters/health/emergencies/virus-ebola/organizations/1434/map-type/humanitarian-update?sort=field_publication_date&order=desc&search_api_views_fulltext=quality,
14. **OCHA Ebola Dashboards**
https://wca.humanitarianresponse.info/fr/search/type/map/emergencies/virus-ebola/organizations/1434/map-type/106?search_api_views_fulltext=&order=desc

Statistics and Datasets

1. **Global Health Observatory - WHO**
<http://www.who.int/gho/en>
2. **Common Operational Datasets**
<http://www.humanitarianresponse.info/applications/data>
3. **Humanitarian Data Exchange (HDX)**
<https://data.hdx.rwlab.org>
4. **Health, Nutrition and Population Data and Statistics – World Bank**
<http://datatopics.worldbank.org/hnp/Home.aspx>
5. **Open Humanitarian Data Repository (OHDN)**
<http://ohdr.nethope.opendata.arcgis.com>
6. **Guinea National Institute of Statistics**
<http://www.stat-guinee.org/>
7. **Liberia Institute of Statistics**
<http://www.lisgis.net>
8. **Sierra Leone Bureau of Statistics**
<http://www.statistics.sl/publications.htm>

About the GSMA

The GSMA represents the interests of mobile operators worldwide. Spanning more than 220 countries, the GSMA unites nearly 800 of the world's mobile operators with 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in industry sectors such as financial services, healthcare, media, transport and utilities. The GSMA also produces industry-leading events such as Mobile World Congress and Mobile Asia Expo.

For more information, please visit the GSMA corporate website at www.gsma.com.
Follow the GSMA on Twitter: @GSMA

About GSMA Mobile for Development - serving the underserved through mobile

Mobile for Development brings together our mobile operator members, the wider mobile industry and the development community to drive commercial mobile services for underserved people in emerging markets. We identify opportunities for social, economic impact and stimulate the development of scalable, life-enhancing mobile services.

For regular updates follow GSMA Mobile for Development on Twitter @GSMAm4d

About the GSMA Mobile for Development mHealth Programme

The GSMA Mobile for Development mHealth programme brings together the mobile industry and health stakeholders to improve health outcomes in emerging markets, with initial focus on Millennium Development Goals 4, 5 and 6 across Africa. The programme convenes key stakeholders using many forums including working groups and workshops, as well as providing resources and support to identify partnership opportunities to bring mHealth solutions to scale.

Contact

For more information on the GSMA's Mobile for Development mHealth programme - mhealth@gsma.com
<http://www.gsma.com/mobilefordevelopment/programmes/mhealth>

About the GSMA Disaster Response Programme

Access to communication is critical to coordinating disaster response. Mobile networks are increasingly viewed as a core component of humanitarian assistance. However, MNOs are vulnerable to the disruption these disasters can cause - to networks and organisations. Through knowledge sharing and collaboration, MNOs will be better prepared to mitigate the risks of disasters and respond with improved effectiveness. The Disaster Response Programme uses its unique position to help operators improve network preparedness and restoration, and provide more effective, coordinated support to humanitarian responders and disaster affected populations.

Contact

For more information on the GSMA's Disaster Response programme - disasterresponse@gsma.com
<http://www.gsma.com/mobilefordevelopment/programmes/disaster-response>