INTEGRATED DISEASE SURVEILLANCE AND RESPONSE TECHNICAL GUIDELINES

THIRD EDITION

SECTION 7: RISK COMMUNICATION

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7. RISK COMMUNICATION

Risk communication is an essential element of disaster and emergency preparedness and response and is one of the core capacities in the International Health Regulations 2005 (IHR 2005). Risk communication is a two-way exchange of information, perceptions and advice among risk assessors, risk managers, and various groups of people in the society about the likelihood and consequences of harm from the event (WHO, 2005). Its ultimate purpose is to ensure that everyone at risk is able to take informed decisions to mitigate the effects of the threat (hazard) such as a disease outbreak and take protective and preventive action. Risk communication uses a mix of communication and engagement strategies and tactics, including but not limited to, media communication, social media, mass awareness campaigns, health promotion, stakeholder engagement, social mobilization and community engagement.

The current 21st century has been marked by an exponential growth in travel, trade, migration, as well as a communication technology revolution that has widened access to a variety of means of communication and information. The public and communities have been exposed to a variety of dynamic, fast-changing, formal and informal media, social media and complex social networks that influence how risk is communicated, perceived and acted on. The latest evidence shows that the practice of risk communication is a complex task that is a core public health intervention in any response to disease outbreaks/epidemics, pandemics and other health emergencies *(Communicating Risk in Public Health Emergencies: Geneva. World Health Organization 2017, License CC BY-NC-SA 3' IGO).*

It is therefore important for risk communication to be conducted effectively, so as to promote the primary public health goal of rapid outbreak containment and prevention of avoidable death and disease with the least possible disruption to economies and society. During epidemics and pandemics as well as humanitarian crises and natural disasters, effective risk communication enables people who are most at-risk to understand and adopt protective behaviours. It enables the authorities and experts to heed and address people's concerns and needs, and to offer advice that is relevant, trusted and acceptable.

This section describes how to conduct risk communication before, during and after an outbreak. Effective communication equips those at risk with the knowledge they need to make informed decisions for protective action. It also provides decision-makers with summary information especially regarding outbreak response, so that they review how resources were applied to contain the event.

7.1 Risk communication in the context of IDSR

The Integrated Disease Surveillance and Response (IDSR) strategy is an approach for improving public health surveillance and response for priority diseases, conditions and events at the community, health facility, district and national levels. Since IDSR has the potential to ensure the reliable supply of information at the national level with a view to fulfilling IHR requirements, risk communication should be included in all IDSR core functions and activities, particularly detection, sample collection, reporting, analysis and interpretation, feedback, response and preparedness. IDSR core functions and activities for each level of the health system are well illustrated in the Introduction section of this guideline. Effective risk communication is therefore needed to achieve IDSR objectives.

If risk communication is well planned and integrated into IDSR, it can improve decision-making and the adoption of recommended behaviours by communities and also contribute to the prevention, control and response to priority diseases and other public health events. Such communication needs to be carefully planned, implemented and properly integrated with emergency management activities and operations at the community, district, region or province/county and national levels to support all relevant core IDSR functions and related activities.

7.1.1 Benefits of risk communication

Risk communication improves decision-making, compliance with treatment and the required behaviours for preventive actions. It also promotes transparency and accountability and builds trust with individuals, community leaders, health workers and policymakers. When risk communication is properly conducted, it promotes the primary public health goal of rapid outbreak containment, thereby preventing avoidable death and disease with the least possible disruption to economies and society. During epidemics, pandemics, humanitarian crises and natural disasters, effective risk communication enables people who are most at-risk to understand and adopt protective behaviours. It enables the authorities and experts to heed and address people's concerns and needs, and to offer advice that is relevant, trusted and acceptable. It is critical that risk communication is not only targeted at outbreak response; risk communication plans should include activities conducted before, during and after the outbreak.

When the public is at risk of a real or potential health threat, direct interventions may take time to organize and resources may be limited. Hence, communicating advice and guidance is often the first and most important public health tool in managing a risk. Proactive risk communication encourages the public and service providers to adopt protective behaviours when they are linked to functioning systems and services. It facilitates heightened disease surveillance, reduces

confusion, and minimizes miscommunication and falsehoods (rumours) related to the cause and transmission of a disease as well as proven effective protective actions. It allows for better use of resources, which is crucial to effective response (WHO, 2008).

7.1.2 Target audiences for risk communication

- Community: All people at risk of acquiring a disease or in need of health services within the context of the public health event.
- Health-care providers and first responders
- Private hospitals and clinic staff
- Surveillance officers
- Laboratory staff
- Points of entry and exit
- Airlines staff
- Immigration officers
- Travellers
- Stakeholders (policymakers, ministries of health, maternal and child health organizations, partners, community organizations, et al.)
- Media as a channel to reach these audiences
- Schools and workplaces
- Traditional and religious leaders

7.1.3 Community engagement and its relevance to public health emergency preparedness and response

Community engagement is crucial to risk communication. Community engagement is the process of working collaboratively with and through people affiliated by geographical proximity, special interest, or similar situations to address issues affecting their well-being and is often used as an active method of implementing change. During risk communication, the emphasis is on building relationships and trust. The steps for community engagement involve:

(a) setting the goals of the plan;

(b) determining who to engage;

(c) developing engagement strategies;

(d) prioritizing these activities;

(e) designing an implementation plan; and

(f) monitoring your progress.

Effective community engagement helps you to:

(a) know the community (problems and needs);

(b) understand existing health beliefs, attitudes and practices;

(c) listen to the community carefully;

(d) analyse community dynamics; and

(e) involve the community in all aspects of the response beginning from planning stages.

7.1.4 Risk communication approaches

The components needed for effective emergency risk communication include:

(a) health education;

(b) social mobilization;

(c) community engagement;

(d) media and social media;

(e) outbreak communication;

(f) crisis communication;

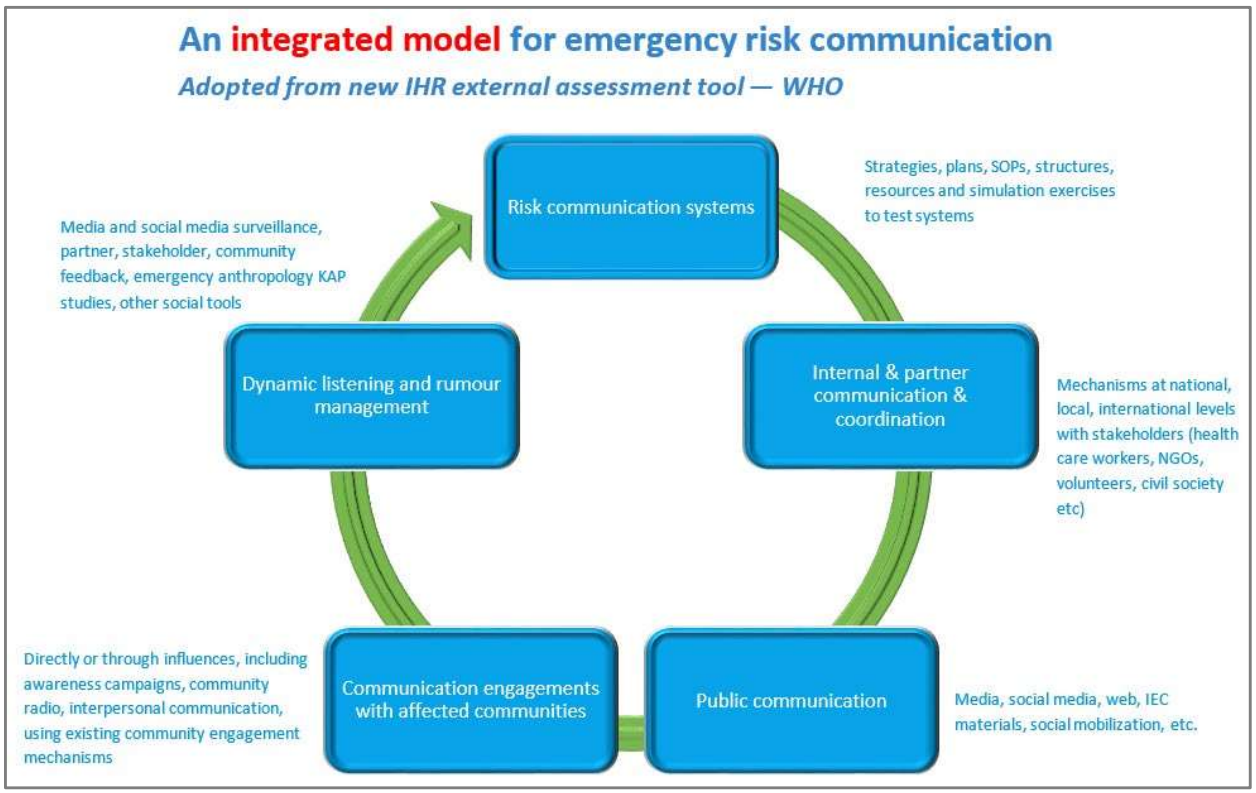
(g) messaging (information, education and communication (IEC) and behaviour change communication (BCC));

(h) Rumour monitoring and management; and

(i) advocacy.

7.1.5 Integrated risk communication model

Since risk communication is a complex activity involving different audiences, it is crucial to adopt and integrated approach. The key components for integrated emergency risk communication are presented in Figure 1. This model allows for the successful design and implementation of an effective communication strategy. It highlights the need for a collaborative approach between different target audiences across the board.



7.2 Key inter-linked principles for effective communication

There are five key principles for effective communication as outlined below:

I. Creating and maintaining trust

Building and maintaining trust is, arguably, the most important function in effective communication during an outbreak or a public health event and should include:

(a) timely, transparent information regarding the nature of the threat;

(b) the response to the event; and

(c) actionable advice on protective actions people can take that, together with functioning services, increase self-efficacy.

This creates trust in the response and the response teams and increases the likelihood that they will follow the advice given. Trust is now considered the most important requirement for effective risk communication.

According to the latest evidence, risk communication in health emergencies should include ensuring genuine participation of the population, taking into account three key elements, namely:

(a) understanding of the specific context, concerns, beliefs, practices and traditions of the population concerned in order to develop scientific and logistical information and explanations that address community concerns (social science intelligence);

(b) provision of understandable and trusted advice that they are likely to follow to save lives and curb the outbreak within the shortest possible time; such advice is provided in their own languages, adapted to their educational levels and preferences (i.e. oral or visual) and disseminated through their preferred channels and interlocutors (translational communication); and

(c) meaningful community engagement and the participation of (their) trusted interlocutors/messengers (means of dissemination).

Risk communication should include timely, transparent, understandable information relayed to the affected and at-risk population on:

1. the nature of health risk they face;
2. the response that is being organized; and
3. what they can do to protect themselves and their loved ones.

Trust is therefore the currency for all public health interventions, and has, in the current era of information overload, emerged as the critical element for effective risk communication (i.e., ensuring that expert advice is acted on by key stakeholders and affected and at-risk populations). Risk communication should therefore be aimed at building, maintaining or restoring public trust in those tasked with risk management. The latest evidence from 21st century epidemics reveals that, in order to build trust, risk communication activities should:

(a) be linked to functioning and accessible services;

(b) be transparent and timely;

(c) be easy to understand for target populations (i.e., in their preferred oral or visual formats; in their own languages or dialects; and tailored to their educational levels and cultural references);

(d) acknowledge and communicate uncertainty (neither over-reassure nor speculate; rather, communicate frequently so that the evolution of the event and public understanding are transparent and not destroy trust);

(e) link to self-efficacy (Can people really do what you ask them? Do they have the ability, equipment, services, education they need to adopt our advice?);

(f) be disseminated using multiple platforms, methods and channels;

(g) identify, involve and collaborate with people that the community trusts when making decisions and not just in information dissemination. This ensures that interventions and any communication on them are contextually appropriate and community-owned.

II. Timely announcements and transparency:

In most cases, public response to a health threat depends on the way the first and subsequent announcements are made. This means that an event or threat should be announced as and when it emerges, even when the information is incomplete or changing fast. This in turn implies that communicating uncertainty is a cornerstone of risk communication. Communication by authorities, response managers or front-line personnel must include:

(a) information about the uncertainties associated with the risk, event and interventions;

(b) information indicating what is known and unknown at each given moment in time;

(c) a commitment and follow-up to keep people frequently informed and updated on the changing, uncertain situation;

(d) multiple platforms, mechanisms and trusted interlocutors to ensure that consistent and coordinated information reaches stakeholders and the population.

III. Listening to, understanding and respecting public concerns

Understanding public perceptions, concerns, fears and expectations is as critical to risk communication as understanding the risky practices and behaviours that affect risk. The understanding of communities must start before and during an emergency. There are many ways to improve awareness of community concerns and understand the contexts that determine whether the advice given to them on corrective or preventive practices will actually be accepted and acted upon. These include knowledge, attitude and practice (KAP) surveys or mini-surveys, community walk-throughs, focus group discussions, key informant interviews, getting feedback from stakeholders, social media and media monitoring, etc. A serious attempt must be made to execute health interventions and offer health advices, based on evidence gathered using these methods and other social science approaches.

IV. Advance planning

Risk communication is most effective when it is integrated with emergency preparedness, risk analysis and response (risk management). This means that a risk communication plan must be prepared during the preparedness stage. Emergency risk communication planning must occur in advance and be a continuous process focused on preparedness, prevention and response. Planning should be sensitive to stakeholders' needs, participatory, responsive to the context of affected groups and should include feedback from such groups.

The International Health Regulations (IHR) require all governments to build national capacity for detection, alert and response to public health emergencies. One of the core capacities is risk communication. Accordingly, risk communication planning should include the systems required (strategies, plans, SOPS and mechanisms at the national, regional and district levels); the coordination of partners, sectors and stakeholders; the capacity for fast, effective public communication in the preferred languages and channels of the population; the ability to track and quickly manage concerns, perceptions, rumours and misinformation; and communication engagement with affected and at-risk communities.

V. Ensuring equity

All citizens have a right to appropriate information about health risks, including what needs to be done in response to threats to their health. Unfortunately, large segments of society are excluded from routine communication about threats to health. Risk communication must therefore ensure equitable sharing of information to the public and avoid exclusion of marginalized members of society from health action. This means paying attention to the reach of communication, using trusted channels and interlocutors; avoiding jargon or technical language; using the people's own languages and dialects; adapting messages to people's levels of understanding and education; and ensuring that the actions promoted are those that people can realistically change. Special attention should be paid to analysing power dynamics in communities and taking special measures to reach those hardest to reach (women, minorities, the very old and young, people with disabilities, the poor, migrants and refugees, etc.).

7.3 Create an enabling environment for effective communication to at-risk populations

(a) Establish risk communication systems and structures at the district, regional/provincial and national levels.

  (i) If unavailable, establish multisectoral communication committees/structures across all levels; i.e., national, regional/province and district levels (See Annex 5E for examples of members of the communication subcommittee and their roles). TORs can be expanded depending on the pre-outbreak, outbreak and post outbreak phase in line with each function. See Annex 7F for an expanded list of possible stakeholders.

  (ii) Review the existing risk communication structures and mechanisms.

(b) Ensure that the communication system has a link to the community leadership structure since they wield great influence within the community. A quick assessment can be made to evaluate the framework for public health emergency risk communication and this can include:

  (i) conducting an assessment to identify risk communication needs based on risk profile;
  (ii) preparing a mapping and developing a database of risk communication stakeholders at all levels; and
  (iii) preparing a resource mapping for risk communication.

(c) Conduct mapping of languages and dialects; religions; preferred and trusted means/channels and interlocutors (sources) for communication; as well as traditional practices relevant to the top priority health risks and use all this information to shape risk communication strategies and plans.

(d) If none is available at the district and regional/provincial levels, identify a government spokesperson and ensure that he/she is trained in public communication procedures.

(e) In addition to risk communication personnel, all frontline personnel should receive basic training in risk communication (surveillance, contact tracing, case management, social mobilization, community engagement, burial teams, health personnel, volunteers).

(f) Develop a risk communication plan for Public Health Emergencies at district, regional/provincial and national levels and ensure that key stakeholders are given some orientation on risk communication procedures.

(g) Develop a coordination platform as well as internal and partner communication mechanisms for engaging key stakeholders, including media outlets and community radio networks and a definition of roles and responsibilities.

(h) Have detailed budgets and advocate strongly for resources mobilization, and multisectoral collaboration to implement public health emergency and risk communication activities at all levels.

(i) Create a system for dynamic listening and rumour management.

Note: See Annex 7E for checklist on risk communication monitoring.

7.4 Communicating before, during and after the outbreak

7.4.1 Pre-outbreak/Routine risk communication

A large proportion of communication activities should be implemented in the pre-emergency phase to ensure better preparedness. Those managing communication activities should take advantage of the absence of an emergency to build the national communication capacity and develop communication plans and tools that will bring the country to a high level of communication preparedness. The pre-emergency phase should also be used to develop the necessary communication messages and materials and promote the practice of risk-prevention behaviours.

Before an outbreak, the following should take place:

- Ensure that the Public Health Emergency Management Subcommittee for Risk Communication meets at least once monthly or quarterly to;
  - review the risk communication plan and required risk communication materials/logistics;
  - develop, pre-test, print and disseminate appropriate IEC materials based on the common public health risk; and
  - organize the training of risk communication resource teams.
- Ensure that the communication coordination mechanism is in place with clear terms and well-defined roles and responsibilities for each entity.
- Organize periodic interactions with stakeholders who will be involved in risk communication for prevention and preparedness or in response should an event or emergency occur. These include district, regional/provincial or national media; community radios; civil society; and stakeholders from other sectors, like the animal health sector, in countries where zoonotic influenzas are a priority threat.
- Review past emergency communication interventions to draw lessons learnt, build on successful practices and avoid negative ones.
- Collect and analyse epidemiological and social data about periodic disasters and outbreaks; outbreak seasons of common diseases; expected at-risk communities/populations; as well as accessible and credible channels of communication.

- Build capacity for outbreak communication and identify/train spokespersons to be ready when an outbreak occurs.
- Alert all relevant entities and notify them on their role(s) in case the expected outbreak occurs.
- Ensure that messages and materials have been developed, pre-tested and are ready for production and dissemination.
- Ensure that all required training modules, guidelines and monitoring checklists are developed and updated.
- Develop and share standard operating procedures (SOPs) for social mobilization and community engagement and ensure the integration of risk communication in the overall emergency response plan.
- Identify and prepare the database of stakeholders and partners, such as groups or organizations that focus on youth or women; schools; religious institutions; CSOs; theatre groups; and other community groups that can disseminate messages at the grassroots level and involve them in preparedness activities.
- Identify all the channels of communication available to spread the message and assess the reach and credibility of these channels.
- Produce a "Response Kit" which includes key frequently asked questions, media briefs, training manual, micro-planning tools, monitoring checklists/tools, communication plan templates and key IEC messages/materials for rapid distribution. This kit is intended for the use of communication practitioners at all levels.
- Establish communication lines with the media, journalists and radio/TV stations; train and regularly update them.
- Pre-arrange activities with theatre groups, musicians and traditional community entertainers.
- Identify and train community health workers, community leaders, religious leaders, influential people, women's groups, youth groups and other social mobilizers in SBCC and risk communication.
- Identify mechanisms for communicating with hard-to-reach and vulnerable populations (the aged, persons with disabilities, children, the nomadic) and with isolated communities to ensure that they have access to health protection information and assistance.
- Define communication channels that can be used to reach vulnerable groups.
- Disseminate messages that describe the actions that the government is taking to protect the public and health care workers, promote awareness of the imminent health threats and preventive behaviours and actions that individuals, families and communities can take to reduce the risk. This can be done through the mass media, such as local community radios, public health addresses, community drama groups, television, print media and social media (Facebook, twitter, etc.).

- Conduct community engagement activities and build trusted relationships between those in authority and communities through training, dialogue, consultations and capacity-building. It is important to note that effective community engagement is based on trusted relationships between those in authority and communities. It is important, therefore, to use every opportunity to strengthen these relationships during non-emergency periods.
- Use ongoing health education, health promotion and other means to create, test and build trust in the systems. Interlocutors can be used for risk communication during emergencies.
- Make arrangements for a hotline facility, which can be started immediately when the emergency occurs.
- Establish a media monitoring team to monitor the news and social media.
- Maintain and update a list of media houses.
- Develop plans for routine monitoring of misinformation and rumours and set up a media monitoring system to keep track of behaviours and practices related to the emergency.

Note that:

- It is important to integrate, to the extent possible, social science data that should be gathered as well. Data on the context and sociocultural information (including education, traditional practices, health-seeking and-health care behaviour, and beliefs) relevant to priority hazards and epidemic-prone disease should also be obtained. This will make it possible to contextualize epidemiological data and create risk-based real intelligence and thus tailor possible health interventions accordingly.
- It is important to organize periodic interactions with stakeholders who will be involved in risk communication for prevention and preparedness or in response should an event or emergency occur. This includes the local, regional/provincial or national media; community radios; civil society; and stakeholders from other sectors such as the animal health sector in countries where zoonotic influenzas are a priority threat.

7.4.2 During outbreak response

During an outbreak response, and when the public is at risk of a real or potential health threat, treatment options may be limited, direct interventions may take time to organize and resources may be few. Communicating advice and guidance, therefore, often stands as the most important public health tool in managing a risk. The focus of outbreak communication is to promote outbreak control and mitigate disruption to society by communicating with the public in ways that build, maintain or restore trust.

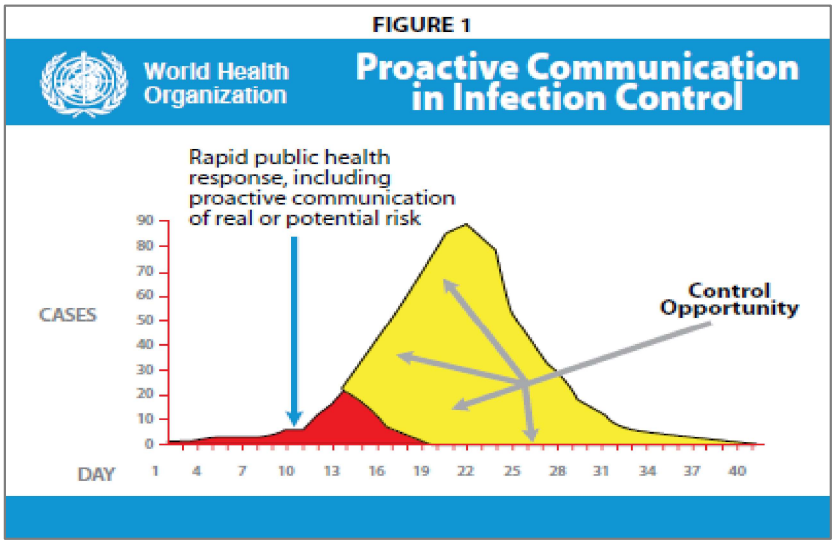
Proactive communication encourages the public to adopt protective behaviours, facilitates heightened disease surveillance, reduces confusion and fear and allows for a better use of resources, all of which are necessary for an effective response. Proactive communication also shows that health authorities are in control of the situation and care about the public. Hence, it builds trust between such authorities and the community at large.

People have a fundamental right to information and to participation. In addition to the public health objectives, remember that people have a right to information on protective actions and they have a right to participate in and shape interventions that are acceptable to them.

Figure 7.1 illustrates a typical epidemic curve which tracks number of cases over time that could occur during an infectious disease outbreak. The yellow area represents the number of cases which could be avoided through the control opportunity of a rapid response to the threat.

The blue arrow indicates the point at which proactive communication plays a crucial role in supporting such a rapid response. By alerting a population and partners to an infectious disease risk, surveillance of potential cases increases, protective behaviours are adopted, confusion is limited and communication resources are more likely to be focused. Effective communication can help limit the spread of a disease and ultimately save lives. It also minimizes damage to societies and economies and can help communities recover faster from a health event or emergency.

Figure 7.1: Epidemic curve showing the importance of proactive communication



Source: adapted from figure 2, page,XII, World Health Report 2007

7.4.2.1 Identify and coordinate partners and other stakeholders during an outbreak

Outbreaks usually create fear in the community. The involvement of several different stakeholders sometimes leads to lack of coordination and the duplication of efforts. Provision of timely and accurate information through a well-coordinated mechanism is important.

Internal coordination of communication among national stakeholders is crucial during an emergency. The Risk Communication and Social Mobilization Subcommittee described in Section 5 is responsible for ensuring that an internal communication system is established among national stakeholders to ensure the timely flow of information to various government sectors.

Partner coordination is another key essential element during outbreak and event response and is aimed at fostering ownership, effective participation of key players and efficient use of resources. See Annex 7F for the potential partners and stakeholders who can be involved. It establishes routine communication structures among health workers, community and partners. It helps ensure that this vital link is available and functional during an emergency. If a district, region/ province or national level has a risk communication plan, these would have been addressed in the Plan.

Coordination helps ensure that messages reaching the population are consistent and not contradictory or confusing, thereby promoting trust and the likelihood that expert advice will be followed.

The PHEMC through the PHEOC or through a similar coordination structure at national level may take responsibility for ensuring that communications are consistent and reflect the data that has been analysed. Ensure that the focus of communication activities is transparent and accurate, and take into account community experiences and expectations regarding the outbreak.

Distinguish between communication with stakeholders who are experts and those who are part of the response and require a more layman's description and explanation. They and other important interlocutors such as the media and civil society (and the general population) will require targeted and adapted products and messages. This means that carefully segmenting and targeting audiences, as well as adapting materials, messages and mechanism to suit each of them is essential.

7.4.2.2 Communicate with the affected community and stakeholders

Communication with affected communities and stakeholders, including the media is essential during outbreak and event response. Thus, establishing routine communication structures and processes between the health and community partners helps to ensure that this vital link is available and functional during an emergency. Options for communicating between the various partners can range from press releases, press conferences, television and radio messages, meetings (health personnel, community, religious, opinion and political leaders), educational and communication materials (posters, fliers), to multimedia presentations (films, video or narrated slide presentations) at the markets, health centres, schools, women's and other community groups and service organizations, religious centres, local community media, Social media (Facebook, Twitter, WhatsApp, etc.), SMS, telephone, hand-carried message, community drama groups/play groups; site visits; fax, email updates and exchanges of communication materials through more formal decision-making committees. Regardless of the mechanism, ensure that the focus is on transparent and trustworthy communication that considers community experiences.

Consider the following points when preparing messages:

- **Make sure messages are clear and understandable to the audience:** What is happening? Why and how is it happening? What threats to health do exist or are likely to occur? What should the public do? Where can people get services or information? What assurances can be given? Are the messages written in an understandable language and tailored to the audience's level of understanding? Research shows that risk should not be explained in technical language.
- **Consider these factors when providing messages:** Who is your audience? What do you want your audience to do after hearing the message? Do they have an enabling environment to do as advised? Are there functioning and accessible services that enable them to follow the advice?
- **Promote dialogue:** Ensure that there is two-way communication/exchange; listen to the audience's concerns and respond appropriately rather than just informing.
- **Demonstrate empathy and be caring:** Are you showing empathy for their suffering? Are you being too cold and clinical? Are you respectful**?**
- **Provide harmonized and consistent messages:** Ensure that consistent messages reach the public, notwithstanding the variety of partners involved in the dissemination of information. Use message maps and other tools to keep the same frame and logic for the messaging as this would enable partners to adapt to the context of more segmented audiences. Are messages consistent regardless of who is issuing them? Inconsistent or conflicting messages create confusion and destroy trust in the response and authorities.

- **Establish a mechanism for continuous collation of facts and figures about the public health event.**
- **Update public information messages and share** them with stakeholders involved in information dissemination.
- **Ensure relevance:** Communicate data/information that best illustrate your point, factoring in community concerns. Use examples that relate to the audience.

NB: Consider pre-testing messages from similar settings before dissemination.

In case of rumours, quickly address them and any inaccuracies in general and especially within the specific community where they occur. Consider setting up a rumour monitoring system.
Widespread damaging rumours should be counteracted through public statements or press conferences. Provide comprehensive information to prevent rumours being generated from your response.

Build, maintain and restore trust as you communicate and be as courteous as possible in your communication. Give health education messages to trusted and respected community leaders and ask them to transmit to the community. Only authorized and credible persons should communicate during crisis periods.
On a regular basis, district and regional medical officers should meet with the local leaders to provide:

- frequent, up-to-date information on the outbreak and response;
- clear and simple health messages for the media;
- clear instructions to communicate to the media only the information and health education messages provided by the PHEMC.

7.4.2.3 Distribute IEC material and develop fact sheets

Fact sheets are brief summaries of 1 to 2 pages. They are usually prepared by health staff for consumption by the general public and deal with a single topic or message. For example, a fact sheet on a *Shigella* outbreak in a district may contain the following information for the community: the cause of *Shigella,* how it is transmitted, steps for prevention and updates on the number of cases and deaths. The fact sheets could be posted on a bulletin board or distributed to community groups that are planning health education campaigns. Where possible, transform the fact sheets into audio products (audio files, short audio recordings on a phone), scripts or visual products (like posters or infographics). These can be used depending on the preference of the audience (oral or visual/written/illustrated communication). See attached example in the Annex 7A.

Also distribute other prepared IEC materials. Ensure that they have been pre-tested with the target audience to ensure comprehension and meaning.

7.4.2.4 Develop and distribute public health situation reports during outbreaks

In many countries, the national level or the region/province publishes a national public health bulletin. Rather than being published only during outbreaks, these bulletins should be produced more regularly and describe the outbreak, including trends; i.e., situation reports (Sitrep). These situation reports or bulletins have a wider audience than just the health staff in a particular district or health facility. They are usually brief (2 to 8 pages) and are also read by policymakers, legislators and other decision-makers. They are valuable channels for reaching technical and donor partners.

The bulletins contain at least:

(a) a summary table showing the number of reported cases and deaths to date for each priority disease;

(b) a commentary or message on a given disease or topic;

(c) any relevant social science data on risky practices, behaviours and other factors.

If a national public health situation report is sent to the district office, display it where everyone can see it. Make copies and distribute to health facility staff. Take a copy of the report with you on your next supervisory visit to show health workers how data produced during outbreak contributes to public health. A sample template for preparing a situation report is presented in Annex 7C.

7.4.2.5 Communicating to the media

The media is a major influence and should be seen as a partner in risk communication. However, the media is often associated with political parties or private interests and can therefore have biases of their own. They are also able to find and report on people's concerns, sensationalize stories and may not always rely on facts and evidence. Therefore, it is essential to meet regularly with the media, brief and educate them on priority hazards and response systems, and also provide them with appropriate information so as to cultivate a respectful and trusted relationship with them. The media will ensure wider dissemination of messages on radio or other appropriate channels.

As part of your risk communication plan, determine how you will announce news of the outbreak and then keep the media regularly informed. Often, regular press releases and media briefings are appropriate tools for communicating with the media. If the emergency is complex,

convening a workshop with targeted media is helpful to ensure correct information is disseminated, as most journalists have not been trained in medicine or public health.

In addition, it is good to develop media kits which could include fact sheets and community messages about the priority diseases and events.

Prior to the outbreak, ensure that you have reached out to the media and identified the key outlets you will need to work with during an outbreak. It is also good to identify, prior to an emergency, the clearance process for media products and appreciate the following:

- Ensure prompt and frequent access to experts, officials and spokespersons who will speak authoritatively and credibly on the issue at hand.
- Provide media training to spokespersons.
- Spokespersons should be able to speak in layman's language; clearly explain scientific ideas and terms; avoid speaking in jargon; and illustrate the information provided with easy-to-understand stories or examples. Talking points having the latest information could be used, with the messages kept as simple as possible. Ensure that the identified spokespersons are able to clearly communicate the uncertainty in an evolving event and to admit it when they do not know something. Community case definitions and job aids will help the spokesperson to deliver correct messages.
- Promptly answer journalists` calls to show your respect for them.
- Provide them with accurate and well-explained information.
- Give exclusive stories and interviews to provide a different perspective.
- Provide human interest stories.
- Give them clear easy-to-use handouts (written, audio, visual or audiovisual).

NB: Release information to the media only through the spokesperson to make sure that the community receives clear and consistent information.

Monitor the media daily to see how the outbreak is being reported. Include social media in your monitoring strategy. If you feel that the wrong messages are being disseminated, devise a strategy for correcting this misinformation.

7.4.2.6 Communicating to health workers

Communicate regularly with health workers by providing correct information pertaining to the outbreak. It is important to communicate with health staff at the various levels about the data sent (including any gaps), analysis results for such data and the measures being taken to respond

to the potential public health event which they have reported. Communication can also include providing participating health care workers with any outbreak or event response reports for future reference.

Make sure that health workers provide correct information on number of cases and any deaths that have occurred. Also make sure you provide any changing information on case management or any other response intervention.

Encourage health workers to keep updated information and to update it in real-time during an event or emergency using reliable sources such WHO's knowledge transfer platform (www.OpenWHO.org) on common, re-emerging and emerging epidemic-prone diseases and on risk communication.

Increasingly during emergency response to disease outbreaks, WHO will provide real-time online, off-line or face-to-face training to update health care workers and response teams. These provide an opportunity to update or acquire knowledge and skills.

7.4.3 Post-outbreak response

7.4.3.1 Prepare an outbreak or event response report

After an outbreak or event response has taken place, district staff who led the investigation should prepare a report. The purpose of the report is to document how the problem was identified, investigated, responded to; what the outcome was; which decisions were taken and what recommendations were made. Make sure that the health unit that reported the initial cases receives a copy of the report. See Annexes 7B and 7D at the end of this section for examples of recommended formats and samples.

7.4.3.2 Evaluate lessons learnt in order to strengthen appropriate public responses to similar emergencies in the future.

(a) Assess the effectiveness of the communications team in each phase and area of work.
(b) Assess the effectiveness of meetings.
(c) Assess the effectiveness of the internal flow of communications.
(d) Assess the monitoring of communications and of the media.
(e) Assess the response of the communications media.
(f) Assess the outputs and outcomes of risk communication and community engagement

7.4.3.3 Periodic testing of the risk communication plan

Carry out simulations to test the risk communication plan in order to detect possible weaknesses or gaps that need to be corrected before an emergency. Revise the plan based on lessons learnt from the simulation exercise, AAR or other assessment done.

WHO provides ready-made desktop and other simulation exercises on the www-OpenWHO.org

7.5 Annexes to Section 7

Annex 7A Sample fact sheet
Annex 7B Sample district outbreak report
Annex 7C Template for preparing public health event situation report
Annex 7D Outbreak investigation report sample
Annex 7E IHR core capacity monitoring questionnaire for risk communication
Annex 7F List of stakeholders and partners for risk communication

Annex 7A: Fact sheet

Influenza A virus

General information about avian influenza A virus infections in humans

(Reference http://www.who.int/influenza/human_animal_interface/faq_H7N9/en/)

Influenza A H7 viruses are a group of influenza viruses that normally circulate among birds. The influenza A (H7N9) virus is one subgroup among the larger group of H7 viruses. Although some H7 viruses (H7N2, H7N3 and H7N7) have occasionally been found to infect humans, no human infections with H7N9 viruses have been reported until recent reports from China.

What are the main symptoms of human infection with influenza A (H7N9) virus?

Thus far, most patients with this infection have had severe pneumonia. Symptoms include fever, cough and shortness of breath. However, information is still limited about the full spectrum of diseases that infection with influenza A (H7N9) virus might cause.

Why is this virus infecting humans now?

We do not know the answer to this question yet, because we do not know the source of exposure for these human infections. However, analysis of the genes of these viruses suggests that although they have evolved from avian (bird) viruses, they show signs of adaptation to growth in mammalian species. These adaptations include an ability to bind to mammalian cells, and to grow at temperatures close to the normal body temperature of mammals (which is lower than that of birds).

What is known about previous human infections with H7 influenza viruses globally?

From 1996 to 2012, human infections with H7 influenza viruses (H7N2, H7N3, and H7N7) were reported in the Netherlands, Italy, Canada, United States of America, Mexico and the United Kingdom. Most of these infections occurred in association with poultry outbreaks. The infections mainly resulted in conjunctivitis and mild upper respiratory symptoms, with the exception of one death, which occurred in the Netherlands. Until now, no human infections with H7 influenza viruses have been reported in China.

Is the influenza A (H7N9) virus different from influenza A (H1N1) and A (H5N1) viruses?

Yes. All three viruses are influenza A virus but they are distinct from each other. H7N9 and H5N1 are considered animal influenza viruses that sometimes infect people. H1N1 viruses can be divided into those that normally infect people and those that normally infect animals.

How did people become infected with the influenza A (H7N9) virus?

Some of the confirmed cases had contact with animals or with an animal environment. The virus has been found in a pigeon in a market in Shanghai. It is not yet known how persons became infected. The possibility of animal-to-human transmission is being investigated, as is the possibility of person-to-person transmission.

How can infection with influenza A (H7N9) virus be prevented?

Although both the source of infection and the mode of transmission are uncertain, it is prudent to follow basic hygienic practices to prevent infection. They include hand and respiratory hygiene and food safety measures. **Hand hygiene:** Wash your hands before, during and after you prepare food; before you eat; after you use the toilet; after handling animals or animal waste; when your hands are dirty; and when providing care when someone in your home is sick. Hand hygiene will also prevent the transmission of infections to yourself (from touching contaminated surfaces) and in hospitals to patients, health care workers and others. Wash your hands with soap and running water when visibly dirty; if not visibly dirty, wash your hands with soap and water or use an alcohol-based hand cleanser. **Respiratory hygiene:** Cover your mouth and nose with a medical mask, tissue or a sleeve or flexed elbow when coughing or sneezing; throw the used tissue into a closed bin immediately after use; perform hand hygiene after contact with respiratory secretions.

Is it safe to eat meat; i.e., poultry and pork products?

Influenza viruses are not transmitted through consuming well-cooked food. Because influenza viruses are inactivated by normal temperatures used for cooking (so that food reaches 70°C in all parts – “piping” hot, no “pink” parts), it is safe to eat properly prepared and cooked meat, including from poultry and game birds. Diseased animals and those that have died of diseases should not be eaten. In areas experiencing outbreaks, meat products can be safely consumed provided that these items are properly cooked and properly handled during food preparation. The consumption of raw meat and uncooked blood-based dishes is a high-risk practice and should be discouraged.

Is it safe to visit live markets and farms in areas where human cases have been recorded?

When visiting live markets, avoid direct contact with live animals and surfaces in contact with animals. If you live on a farm and raise animals for food, such as pigs and poultry, be sure to keep children away from sick and dead animals; keep animal species separated as much as possible; and report immediately to local authorities any cases of sick and dead animals. Sick or dead **animals** should not be butchered and prepared for food.

Is there a vaccine for the influenza A (H7N9) virus?

No vaccine for the prevention of influenza A (H7N9) infections is currently available. However, viruses have already been isolated and characterized from the initial cases. The first step in development of a vaccine is the selection of candidate viruses that could go into a vaccine. WHO, in collaboration with partners, will continue to characterize available influenza A(H7N9) viruses to identify the best candidate viruses. These candidate vaccine viruses can then be used for the manufacture of vaccines if this step becomes necessary.

Does treatment exist for influenza A (H7N9) infection?

Laboratory testing conducted in China has shown that the influenza A (H7N9) viruses are sensitive to the anti-influenza drugs known as neuraminidase inhibitors (oseltamivir and zanamivir). When these drugs are given early in the course of illness, they have been found to be effective against seasonal influenza virus and influenza A(H5N1) virus infection. However, at this time, there is no experience with the use of these drugs for the treatment of H7N9 infection.

Is the general population at risk from the influenza A (H7N9) virus?

We do not yet know enough about these infections to determine whether there is a significant risk of community spread. This possibility is the subject of epidemiological investigations that are now taking place.

Are health care workers at risk from the influenza A (H7N9) influenza virus?

Health care workers often come into contact with patients with infectious diseases. Therefore, WHO recommends that appropriate infection prevention and control measures be consistently applied in health care settings, and that the health status of health care workers be closely monitored. Together with standard precautions, health care workers caring for those suspected or confirmed to have influenza A(H7N9) infection should use additional precautions

Does this influenza virus pose a pandemic threat?

Any animal influenza virus that develops the ability to infect people is a theoretical risk to cause a pandemic. However, whether the influenza A(H7N9) virus could actually cause a pandemic is unknown. Other animal influenza viruses that have been found to occasionally infect people have not gone on to cause a pandemic.

Preventing human infection with avian influenza A viruses

The best way to prevent infection with avian influenza A virus is to avoid sources of exposure. Most human infections with avian influenza A viruses have occurred following direct or close contact with infected poultry.

Seasonal influenza vaccination will not prevent infection with avian influenza A virus, but can reduce the risk of coinfection with human and avian influenza A viruses.

Because rare episodes of limited, non-sustained human-to-human transmission of HPAI H5N1 virus have been reported, persons should avoid sick patients who have suspected or confirmed HPAI H5N1 virus infections. Health care personnel caring for patients with suspected or confirmed HPAI H5N1 virus infection should wear recommended personal protective equipment and follow recommended infection control measures (standard, droplet, contact and airborne precautions).

Annex 7B: Sample district outbreak report

Title/Description (include disease/condition investigated)_____

Period_____ Place (village, neighbourhood, district, province)_____

Executive summary:_____

_____

_____

I. Introduction:

- Background
- Reasons for investigation (public health significance, threshold met, etc.)
- Investigation and outbreak preparedness

II. Methods:

- Dates of investigation
- Site(s) of investigation (health care facilities, villages, other)
- Case finding (indicate what was done regarding case finding, e.g., register review, contact investigation, alerting other health facilities, other)
- Lab specimen collection
- Description of response and intervention (include dates)
- Data management

III. Results:

- Date and location of first known (index) case
- Date and health facility where first case was seen by the health care system
- Results of additional case finding
- Lab analysis and results
- With text, describe key features of results of time, place and person analysis
- Detailed results by time (epi curve), place (map), and person characteristics (tables) and line lists
- Results of response and evidence of impact

IV: Self-evaluation of the timeliness and quality of preparedness, outbreak detection, investigation and response

Epidemic preparedness

Indicator	Yes	No
Were adequate drugs and medical supplies available at the onset of the outbreak?		
Were treatment protocols available to health workers?		
Does the district public health emergency preparedness and response committee regularly meet as part of the epidemic response?		

Outbreak detection

Indicator	Date 1	Date 2	Interval
Interval between onset of index case (or occurrence of an unusual cluster at the community level) [date 1] and arrival of first outbreak case at the health facility [date 2] (Target: <3 days)			
Interval between initial outbreak case seen at the health facility (or date of outbreak threshold crossing at the health facility) [date 1] and reporting to the district health team [date 2] (Target: within 24 hours)			
Cumulative interval between onset of index case (or occurrence of an unusual cluster at the community or health facility) [date 1] and notification to the district [date 2] (Target: <7 days)			

Outbreak investigation

Indicator	Yes	No
Were case forms and line lists completed?		
Were laboratory specimens taken (if required)?		

Indicator	Date	Date	Interv
Interval between notification of district [date 1] and district field investigation conducted [date 2] (Target: within 48 hours)			
Interval between sending specimens to the lab [date 1] and receipt of results by the district [date 2] (Target: 3-7 days, depending on type of test)			

Outbreak response:

Indicator	Date 1	Date 2	Interval
Interval between notification of outbreak to district [date 1] and concrete response by the district [date 2] (Target: within 48 hours of notification)			

Evaluation and Feedback:

Indicator	Date 1	Date 2	Interval
Interval between end of the outbreak [date 1] and finalization of outbreak report with case forms/line list sent to national level [date 2] (Target: 2 weeks)			

Indicator	Yes	No
Did the outbreak management committee meet to review investigation results?		
Was feedback given to health facilities and community?		

V. Evaluation of other aspects of the response:

VI. Interpretations, discussion, and conclusions:

VII. Recommended public health actions:

Comment on following levels: community, health facility, district, partners, provincial and national

District Public Health Emergency Management Committee Chairperson:

Name: _____ Signature _____

District Medical Officer:

_____ _____

Name: _____ Signature _____

Date report completed: _____

Annex 7C: Template for preparing public health event situation report

District epidemiological week _____Week ending (date)_____

I. Epidemiological situation: Week (insert week number and date here) _____

Table 1: Epidemiological situation: Week_____

Disease	Cases	Deaths	Fatality (%)	Districts in alert	Districts in epidemic	Reported week	Timeliness (%)	Completeness (%)
D1								
D2								
Dn...								
Total								

Comments:

Contact us:

II. Synthesis of the epidemiological situation (insert the weeks being reported on here)

Table 2: Epidemiological situation: Weeks____

Districts	Cases	Deaths	Fatality (%)	Districts in alert	Districts in epidemic	Reported week	Timeliness (%)	Completeness (%)
D1								
D2								
Dn								
Total								

Comments:

Contact us:

III. Graphs (This section provides a graphical representation of data)

IV. Epidemic trends

Annex 7D: Outbreak investigation report sample

INVESTIGATION OF ANTHRAX OUTBREAK IN KILIMANJARO REGION, DECEMBER 2015–JANUARY 2016

1. INTRODUCTION

Anthrax is an acute illness caused by *Bacillus anthracis*, a Gram-positive, encapsulated, spore forming and none motile bacteria. The disease commonly affects wild and domestic herbivores, human and carnivores are incidental hosts. Three occurrence forms of the disease in human include cutaneous, inhalation and gastrointestinal anthrax. The disease can be transmitted through the intestine (ingestion), respiratory tract (inhalation) and skin (cutaneous) from infected animal tissues and from infected persons.

The worldwide estimate of the disease burden is not well known; however, occasional epidemics do occur (WHO 2005).

An outbreak of anthrax in Marangu, Moshi DC in Kilimanjaro Region was reported to the Ministry of Health and Social Welfare (MOHSW) by the Kilimanjaro Regional Medical Officer. Hence, there was a need to carry out an investigation to ascertain what was happening in the affected district.

Objectives of the outbreak investigation

The objectives of the investigation were to:

(a) confirm and determine the magnitude of the outbreak by actively searching for cases;

(b) characterize the outbreak in terms of time, place and persons;

(c) identify the source of infection through collection of both animal and clinical samples;

(d) generate and test the hypotheses of the outbreaks; and

(e) come up with recommendations and assist the district teams in the response and control of the outbreak.

Hypothesis for the anthrax outbreak at Moshi Rural District

- The slaughtering of a dead cow killed by anthrax is associated with contracting of the disease in humans.
- The handling/eating of meat from a dead cow killed by anthrax is associated with contracting of the disease in humans.

2. METHODOLOGY

This was a cross sectional study that involved the patients presenting with signs and symptoms for anthrax who were either admitted or at home. Active case search in the community was done to identify the cases. Clinical samples were collected and transported to the laboratory for confirmation.

Study area: The suspected anthrax outbreak occurred in Rauya Village in Marangu Mashariki Ward and Mae Juu Village in Siha District; both districts are located in Kilimanjaro Region in Tanzania.

Places visited

We identified the homes of the cases that sought treatment from the Marangu and Siha health facilities, with the assistance of the Kilimanjaro Regional Health Officer, District Health Officers (Moshi DC and Siha), District Veterinary Officers (Siha and Moshi DC) and Community leaders. We visited two most affected villages i.e. Mae Juu and Rauya.

Study period: The outbreak investigation was carried out from 8-14 January 2015

Case definition used:

Case definition: The standard case definitions used to identify the cases were:

Suspected anthrax case	**IF THERE IS AN ANTHRAX EPIDEMIC:** Any resident of Marangu presenting with a clinical illness and who is epidemiologically linked to a confirmed or suspected animal case or contaminated animal product from 12 December 2015
Probable anthrax case definition	Any resident of Marangu presenting with cutaneous ulcers developing within two weeks of contact with a sick or dead animal, confirmed to have anthrax or dying of unknown diseases since 12 December 2015
Confirmed anthrax case definition	A suspected case or a probable case in whom laboratory testing confirms Bacillus anthracis by Gram Staining or culture or PCR

Data collection methods

Semi structured questionnaires were used to collect information from patients and their families. Where the patient was not available or could not speak, a knowledgeable proxy was used.

3. FINDINGS

Rauya Village, Moshi DC, Kilimanjaro Region

The index case reported at the Rauya RC Dispensary on 6/12/2015. The index case (Erasto Kingstone) was a male aged 39 years living in Rauya Village in Marangu Mashariki Ward. The index case is the son of the owner of the dead cow. (This family had one cow and one goat). The outbreak is said to have occurred after the slaughter of the dead cow. It was noted that the cow died on 3/12/2015. The family did not

notify the veterinary officer for inspection. The cow was slaughtered at home by Erasto with the help of a neighbour called Elibariki who also distributed the meat to relatives and neighbours. The cow skin was given to the dogs. The next day (4/12/2015) the index case was cutting open the head of the dead cow when he accidentally pricked one of his fingers with a cow bone. On 6/12/2015, the index case had a swollen finger (the pricked finger). On 7/12/2015, the goat died and was slaughtered by the index case. The goat meat was eaten by only the family members. On 8/12/2015 the index case realized that the pricked hand was swollen and he was rushed to Marangu RC Hospital. Suspecting the patient to have anthrax, the doctor administered amoxilin to the patient for five days as well as pain killers. After a few days without recovery, the patient returned to the hospital on 12/12/2015 and presented with swelling on the right upper limb and chest, massive of the RUL and chest with eschar on the wound. The hospital in charge referred him to Marangu Lutheran Hospital where he was also refereed to KCMC Hospital.

Photo 1: A photo showing a lesion on the hand of the index case identified in Rauya Village, Moshi, Kilimanjaro Region

Mae Juu Village, Siha District, Kilimanjaro Region

The first case in Siha District was reported on 17/12/2015. This was a male, 25 years of age, living in Mae Juu Village in Siha District. This case was brought unconscious to the Siha health facility, with blisters and lesions on his arms. This case was involved in selling the meat of a dead cow that was slaughtered.

The community was notified of the presence of an anthrax outbreak on 22/12/2015. They were also informed that those who might have had contact with or eaten the infected meat should go to the hospital. From 23/12/2015 to 28/12/2015, a total of 760 people presented at the hospital and were all treated with doxycycline (7days) or amoxilin (5 days).

In Siha District there were four deaths of cows that were identified. The team was able to trace three cows that had died, were slaughtered and the meat sold at one of the butcheries. It also found that the meat was not inspected by the veterinary officer. One household had had its cow inspected, but we found that the person who inspected the cow was an artificial inseminator who had no knowledge on how to inspect cows, and not a veterinary officer.

A total of 904 contacts linked to the infected meat were obtained (68 were linked to the dead cow in Rauya Village, Moshi DC and a total of 836 contacts were obtained in Siha District). Of the total 904 contacts, 23 subjects met the standard case definition and there were no deaths reported. The median

age for the cases was 36 years with the youngest being I year old and the oldest being 98 years old. The 10-19 years age group constituted 29.1% of the cases. Other social demographic characteristics of the contacts and cases are as shown in Tables 1 and 2 below.

Table 1: General characteristics of the study subjects of the anthrax outbreak in Kilimanjaro Region

Variable		Number	Percentage	95% CI
Gender				
	Male	427	47.2	44.0, 50.6
	Female	477	52.8	49.4, 56.0
Occupation				
	Peasant	128	14.1	11.9, 16.5
	Formal employment	138	15.3	13.0, 17.8
	Unemployed	85	9.4	7.6, 11.6
	Student	314	34.8	31.7, 38.0
	Cattle keeper	113	12.5	10.5, 14.9
	Others	126	14.0	11.8, 16.4
Educational level				
	Uneducated	91	10	8.1, 12.2
	Primary education	480	53.2	49.8, 56.4
	Secondary education	237	26.2	23.4, 29.3
	Tertiary education	96	10.6	8.7, 12.9
Age group				
	0 to 9 Years	157	17.5	15.1, 20.2
	10 to 19 Years	233	26.1	23.2, 29.1
	20 to 29 Years	108	12.1	10.1, 14.4
	30 to 39 Years	80	9.0	7.2, 11.1
	40 to 49 Years	111	12.4	10.4, 14.8
	50 to 59 Years	83	9.3	7.5, 11.4
	60 and above	122	13.6	11.5, 16.1
Place of residence				
	Mae Juu Village, Siha District	836	92.5	90.5, 94.1
	Rauya Village, Moshi DC	68	7.5	5.9, 9.5

Others includes those who were not available physically for the interview under five children.

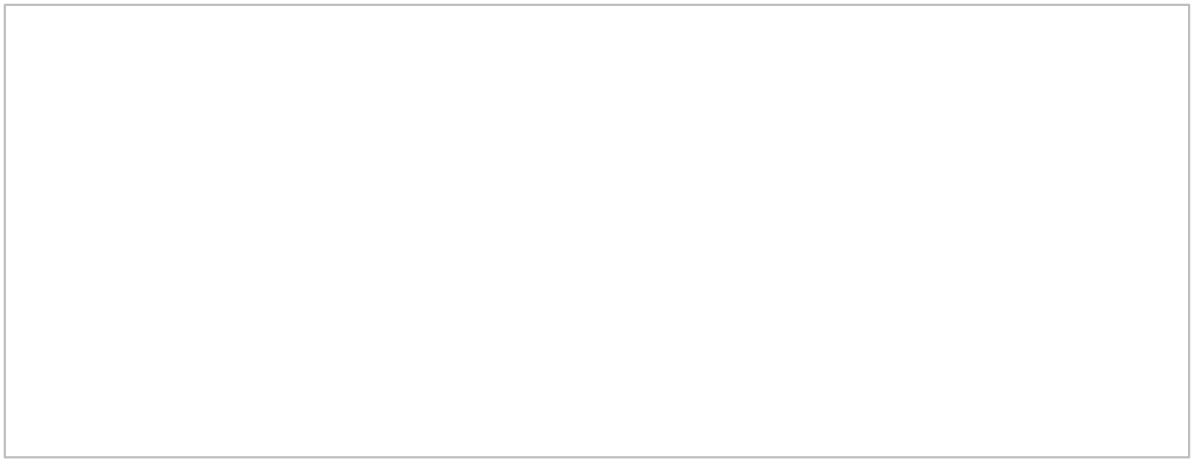
Table 2: Social demographic distribution of anthrax cases in the Kilimanjaro Region, January 2016

Variable		Number	Percentage	95% CI
Gender				
	Male	13	60.9	34.0, 90.6
	Female	8	39.1	9.9, 65.1
Occupation				
	Peasant	4	17.4	1.9, 36.5
	Un employed	6	26	7.6, 41.6
	Student	5	21.7	6.7, 48.0
	Cattle keeper	8	34.9	10.5, 54.9
Educational level				
	Uneducated	2	8.7	1.1, 22.2
	Primary education	11	47.9	29.8, 66.4
	Secondary education	4	17.4	3.4, 39.3
	Tertiary education	6	26.1	8.7, 42.9
Age group				
	0 to 9 Years	2	8.7	2.1, 20.2
	10 to 19 Years	5	21.7	6.2, 49.1
	20 to 29 Years	6	26.1	10.1, 44.4
	50 to 59 Years	4	26.1	7.5, 41.4
	60 and above	6	17.4	3.5, 36.1
Place of residence				
	Mae Juu Village, Siha District	19	82.6	65.5, 99.1
	Rauya Village, Moshi DC	4	17.4	1.9, 39.5

Table 3: Case classification, anthrax outbreak, Kilimanjaro Region, January 2016

	Cases classification	Number	Percentage
1	Suspected	10	43.5
2	Probable	11	47.8
3	Confirmed	2	8.7

Figure 1: Epidemic curve, anthrax outbreak, Kilimanjaro Region, January 2016



The epidemic curve shows that the first cow died in Rauya Village on 3/12/2015 and the first human case that was involved in slaughtering the dead cow developed symptoms on 6/12/2015. The peak of the outbreak was on 22/12/2015. The last case was reported on 28/12/2015. Of all the potential exposures indicated in Table 4 below, slaughtering and meat handling were significantly associated with an increased risk of acquiring the disease.

Table 4: Potential risk exposure for acquiring anthrax disease in Kilimanjaro Region, January 2016

		Prevalence Odds Ratio	95% CI	P value
1	Involved in slaughtering the cow	5	1.2, 23.5	0.01
2	Involved in handling the meat	3.2	0.9, 11.3	0.02
3	Contact with a dead cow, goat (burial)	2	0.7, 10.5	0.2
4	Eating the meat	7.6	2.2, 18.9	0.07
5	Contact with other animal products (skin, milk)	1.7	0.3,15.6	0.6

Disease characterization

The period from the exposure of the dead cow to the onset of symptoms ranged from 2 to 15 days with the mean of 7.6 days. Among the 23 patients of anthrax, 3 (13%) were hospitalized. Infectivity rate was 23/904 (2.5%). The most presenting symptoms was fever as shown in Figure 2 below.

Other findings

(a) The national team worked hand in hand with veterinary officers who claimed that there were a lot of unvaccinated cattle. Hence, the vaccination coverage is quite low; few cows within the village were presented for vaccination. The community indicated that it could not afford the vaccination fee of 2000 Kenyan shillings per cow and 1000 shillings per goat.

(b) The community was not well informed on anthrax and how to handle sick and dying animals.

Measures taken

- Quarantine of meat and meat products imposed in the affected areas.
- Vaccination of cows against anthrax and focused on the affected wards.
- Provision of education to the community through village meetings, churches, mosques and schools. Community leaders were present to address the crowd.
- All cases presented to the hospital with cutaneous lesions were treated and prophylaxis was given to all identified contacts (prophylaxis of Doxycycline (7 days) or Amoxilin (5 days)).
- Officers from the DVO, DHO and the Ministry of Health and Social Welfare held a joint meeting as more discussions arose on different interventions.
- Disinfection of cow sheds and slaughter sites using limestone powder.

4. CHALLENGES

- Vaccination coverage was quite low, few cows within the villages were presented for vaccination. This stemmed from the shortage of vaccines.
- The community was not well informed on anthrax and how to handle dying animals.
- There are no close links between the RMO/DMO and the DVO except when zoonotic outbreaks emerge.

5. RECOMMENDATION

- The veterinary sector should intensify vaccination programs by increasing coverage and providing regular and timely vaccines to livestock especially against epidemic-prone zoonotic diseases.
- The community should be well informed on anthrax and other zoonotic diseases and how to handle dying animals.
- There should be a close link between the RMO/DMO and the DVO in dealing with zoonotic diseases. This will promote the one-health approach.
- Preliminary diagnostic tests for animals should be the starting-point before anything else. Such tests will provide the clue for identifying the event.

6. CONCLUSION

The outbreak of Anthrax in the Kilimanjaro Region was established through the laboratory confirmation of human and animal cases. All the cases were linked to the dead cows, making them the cause for the outbreak. Slaughtering of the dead cows and handling of their meat were the major risk factors for transmission of the disease to humans. The outbreak was declared over on 14 January 2016.

Annex 7E: IHR Core capacity for monitoring risk communication

IHR Core Capacity Monitoring Questionnaire: Risk Communication
1. Have risk communication partners and stakeholders been identified?
2. Has a risk communication plan[A] been developed?
3. Has the risk communication plan been implemented or tested through actual emergency or simulation exercise and updated in the last 12 months?
4. Are policies, SOPs or guidelines developed on the clearance[B] and release of information during a public health emergency?
5. Are regularly updated information sources accessible to media and the public for information dissemination? [C]
6. Are there accessible and relevant IEC (Information, Education and Communications) materials tailored to the needs of the population? [D]
7. In the last three national or international PH emergencies, have populations and partners been informed of a real or potential risk within 24 hours following confirmation?
8. Has an evaluation of the public health communication been conducted after emergencies, for timeliness, transparency[E] and appropriateness of communications, been carried out?
9. Have results of evaluations of risk communications efforts during a public health emergency been shared with the global community?
Notes: A. Plan includes inventory of communication partners, focal points, stakeholders and their capacities in the country B. Procedures in place for clearance by scientific, technical and communications staff before information is released during public health events C. This may include website/webpage (national level), community meetings, radio broadcasts nationally as appropriate etc. D. The views and perceptions of individuals, partners and communities affected by public health emergencies should be systematically taken into account; this includes vulnerable, minority, disadvantaged or other at-risk populations. E. Transparency here implies openness, communication and accountability, i.e. all information about public health risk is open and freely available.

Annex 7 F: List of Stakeholders and Partners for risk communication

Ministry responsible for Health
Ministry responsible for Education
Ministry responsible for Agriculture
Ministry responsible for Local Government
Ministry responsible for water supply and sanitation
Ministry responsible for Communications & Information
Ministry responsible for Transport
Ministry responsible for Environment and Forests
Ministry responsible for Tourism
Ministry responsible for Information and Broadcasting
Ministry responsible for Information and Broadcasting
Department of Civil Aviation
National Disaster Management Authority
Agricultural Research Institutes)
Department responsible for Atomic Energy and Nuclear Power
Institutions responsible for chemical events
Department or Institution responsible for Occupational health
Universities and colleges
National Public Health Institutes
Agriculture Research Institutions
Hospitals
Laboratories
Fire department
Police Department
Drug manufacturers
Drug suppliers
United Nations: WHO/ International Children's Emergency Fund (UNICEF), UNAIDS
Africa Centres for Disease Prevention and control (Africa CDC)
US Centres for Diseases Prevention and Control (CDC)
Médecins Sans Frontières (MSF)
RED CROSS
Nongovernmental Organizations (NGOs)
Faith based organizations
Medical Associations

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6. Communication for behavioural impact (COMBI)
7. http://www.who.int/ihr/publications/combi_toolkit_outbreaks/en/
8. Effective Media Communication during Public Health Emergencies
9. http://www.who.int/csr/resources/publications/WHO_CDS_2005_31/en/
10. Outbreak Communication. Best practices for communicating with the public during an outbreak
11. http://www.who.int/csr/resources/publications/WHO_CDS_2005_32/en/
12. WHO outbreak communication planning guide
13. http://www.who.int/ihr/publications/outbreak-communication-guide/en/