6.5 Doing Health EDRM research in the field

Authors

Lucy Fagan, Public Health England, London, United Kingdom.

Katie Carmichael, United Kingdom Public Health Rapid Support Team, Public Health England and London School of Hygiene & Tropical Medicine, London, United Kingdom.

Virginia Murray, Public Health England, London, United Kingdom.

6.5.1 Learning objectives

To understand the following in the context of doing health emergency and disaster risk management (Health EDRM) research in the field:

1. Key preparations necessary before conducting research in the field.
2. Logistics involved in undertaking field research and data collection.
3. Key elements needed for a successful deployment to the field.

6.5.2 Introduction

Fieldwork is a critical component of Health EDRM research. As discussed elsewhere in this book, it may be necessary to conduct real-time research during health emergencies and other disasters, to inform the response, build the evidence base and identify lessons for strengthening existing strategies and processes for Health EDRM.

In order to maintain the integrity of the research being conducted, careful planning and risk assessments should be made for all stages of the process. When planning to undertake research in the field, it is important to ensure adequate preparation and make provisions to maintain operational independence so that the research process does not burden your hosts. This needs to recognize that sometimes, a sustained period in the field is needed – for weeks or even months. Personal safety must be considered, including personal protective training, vaccinations, security in the field and cultural competence. Researchers must also be prepared for rapidly changing situations and have resilience to deal with change and uncertainty. This chapter sets out key practical considerations for those planning to undertake research in Health EDRM.

6.5.3 Preparation

The preparation phase is critical to ensuring that fieldwork undertaken for Health EDRM research is effective, safe and contextually appropriate. There are several areas of importance that need to be planned carefully (Table 6.6.1). Deficits in any aspect of preparation can delay research, extending the length of studies and time required in the field, as well as potentially posing a risk to data quality.

Table 6.5.1 Key points to consider in preparing for research in the field

Ethical and governmental approvals for research and fieldwork
Travel considerations, including letters of invitation and visas
Context analysis
– Locally available resources
– Cultural competence
– Socio-political environment
– Scale of emergency
– Risk assessments
Identification of and communication with local command and control structure
Plans for site visits and pilot scoping studies
Equipment and protocols
– Preparation of physical equipment
– Training on use and handling of equipment, as required
– Well-defined protocols for data gathering
– Protocols for safety of data and equipment
Data and specimen collection (if required)
– Human and physical resources
– Specimen handling and transport

6.5.4 Relationship and team building

Leaders should be identified for key aspects of the research. Describing the specific roles and responsibilities of team members early can minimize the potential for confusion as the research progresses. The person leading the research is typically called the principal investigator (PI). The descriptions of the roles and responsibilities for members of the research team should be delegated by the principal investigator. Local relationships and networks are essential to all aspects of fieldwork, including safety and security, data quality and collection, and the ultimate dissemination of results (see Chapter 6.7). Such relationships can often be brokered by partners – for example, in-country agencies, such as UN country offices, government agencies such as the Ministry of Health, or local NGOs. Significant expertise among local experts and stakeholders should be identified early on and these individuals brought into the research team.

Researchers should work together to identify and agree team structure, especially between international and local team members where relevant. In Health EDRM research, the balance of personnel within a research team may vary *(1)*. For example, a field research group may be attached to an emergency medical team, which would require its own permission to assist the research team, or the research team may work independently, which would mean that they require specific permission to work in the field. Research-related fieldwork often comprises multiple trips, and each trip must be planned carefully before departure. It is important to understand the context of the environment that you are visiting, including potential political and social tensions, and assess how the presence of the research team will be perceived within this context.

6.5.5 Before you start

A formal mandate for research must be received before initiating fieldwork, usually by way of an invitation from the government and emergency control centre. Given the often sensitive nature of data that are collected in the field, many studies are classified as research by involving governing bodies or universities. This usually makes additional local ethical approval through these institutions a necessity (see Chapter 6.4). Considerations necessary for obtaining ethical or governmental approvals, including the development of proposals, should be prioritized, ideally prior to arrival *(2)*. In emergencies, waivers or expedited reviews are often granted; however, even these processes can take days to weeks. If the need for approvals is not considered in a timely manner, fieldwork can be delayed. Fieldwork benefits from reaching out to networks on the ground and engaging communities at the earliest opportunity to communicate research intentions prior to arrival. Furthermore, it is important to establish protocols for all aspects of the fieldwork (including data gathering and analysis, equipment use and handling, communication and feedback loops and so on) before deployment, and ideally before an emergency even occurs. Although specifics often change upon arrival in the field, having plans in place at the outset that can be adapted as necessary is preferable to minimal pre-arrival planning. Many established response organizations have standard operating procedures; it is imperative that researchers review any such guidelines available from affiliated organizations before they consider establishing new procedures.

Specialized protocols are vital in research for consistent data quality and collection, especially when in a volatile environment. For example, sample collection and testing processes in laboratories are usually well documented with standard operating procedures in place. It is important to know which laboratories can and will carry out the tests, where they are, what their requirements are for submitting samples, and who has the responsibility for keeping the standard operating procedures up to date. All other aspects of the research study should use standard operating procedures reviewed and approved by the principal investigators. All members of the research team should be trained on the standard operating procedures, with written acknowledgement showing training completion. It is essential to have a systematic approach.

6.5.6 Logistics and risk assessments

It is important to establish early on the local logistic arrangements, and whether these include collection of staff on arrival, transportation and lodging. You should seek out information describing local availability of resources (internet, power, water, health care). You should research the culture and socio-political environment, along with the scale of the emergency itself, to allow you to consider how best to prepare for these factors, as well as undertaking a robust risk assessment. Risk assessments are an important part of your preparation activities and should include a detailed account of all possible threats and vulnerabilities associated with fieldwork. These should be informed by reliable information such as ministry recommendations, UN situation reports, consultation with local partners and key contacts. When you have identified potential risks, decide on risk mitigation and reduction measures that will be employed before, during and after the fieldwork. This information will help in formulating initial fieldwork proposals and pilot studies, and in planning the logistics of initial site visits.

6.5.7 Equipment and supplies

Equipment, including computers with the required software already loaded and data backed up to local drives, should be ready for deployment. Ensure that all electronics are compatible with, or adaptable to, local electrical voltage levels, to prevent short circuiting and potentially irreparable damage. Training in use of equipment and technical facilities is essential to ensure familiarity, confidence, and reliability in the field, and should be conducted routinely so personnel are prepared before emergencies.

Planning and protocols for specimen collection are also important. This may include kits and packaging for specimen (blood, urine, faeces for example) collection and storage (that is, necessary containers and transport media). In nutritional surveys or environmental epidemiology studies, measurement tools may be also needed, such as callipers, scales, or peak flow meters. Where cold chains or other transport mechanisms are required, logistics should be investigated and planned for ahead of arrival. Obtaining proper paperwork for security clearance may also be required when transporting medical equipment or laboratory supplies.

Data security must be an integral part of research designs and proposals. Increasingly, research permission, from the home or host organization is made conditional on the development of a robust risk assessment and risk reduction measures. Data security is essential in all settings where research is performed. Often regulations and guidelines are in place to ensure the same standards of data protection are in place in developing country settings as in high-income settings. Usual data security measures should not be relaxed in emergency contexts, as the release of sensitive information may be more harmful to the community involved (for example, harsher stigma for sexually transmitted diseases such as HIV/AIDS). For electronic data, it is important to prepare physical security of databases and the devices on which they are stored (such as laptops), safe servers and data access protocols, including personnel rights. Where paper-based data are used, it is important to retain procedures similar to electronic data, as well increased physical security, such as the use of a safe.

6.5.8 Special considerations for researchers coming from abroad

International research-related fieldwork often comprises multiple deployments, and each must be planned carefully before departure. It is important to understand the context of the environment that you are working in, including cultural norms and potential political and social pressures, and assess how the presence of the research team's international staff will be perceived within this context. It is also essential that each team member is declared medically fit for deployment and safe to travel before planning to undertake research in the field.

Before deployment, researchers must be familiar with security considerations, including any organizational guidance. In addition to relevant security trainings (for example, UN online courses such as BSAFE and SSAFE), basic first aid training can be beneficial, remembering that some settings may be far from medical assistance. Other types of training which may be helpful include deployment training, psychological first aid, managing data, and safeguarding *(3)*. Some organizations also conduct residential simulation exercises where new staff can engage in a deployment.

Finally, you should identify those personal items (Table 6.6.2) and equipment (Table 6.6.3) that you might wish to bring into the field.

Table 6.5.2 Personal items to consider taking to the field

Personal items to consider will be dependent on the need for domestic or international travel, the environment, climate and destination. Considerations include:
Travel documents (passport, letters of invitation, visas, insurance card/coverage information, vaccination records), and photocopies/electronic copies (essential if international travel is required).
Mobile phone, charger, and local SIM (subscriber identify module) card, external battery packs.
Personal computer and charger.
Power adapters/converters and extension cords.
Headtorch.
Money (local currency and US dollars) and secure holder (such as a money belt).
Medications (required routine medication and prescriptions as well as additional prescription medications, antimalarials if in malaria endemic setting, back up medications).
Well-stocked first aid kit (including, at minimum, plasters, bandages, gloves, tape, cleansing wipes, creams, scissors/tweezers, over-the-counter medications, and distilled water).
Toiletries, mosquito nets and repellent, and sunscreen.
Clothing and footwear that is appropriate for both local climate and culture.
List of emergency contacts (personal and local), with at least one memorized.

Table 6.5.3 Equipment and resources likely to be needed for undertaking field research

Computers, tablets and relevant software.
Internet connectivity devices (routers, mobile hotspots, and so on).
Mobile phones, chargers, and local SIM cards.
Camera (including charger and spare storage media).
Power adapters/converters and extension cords.
Printer/copier.
Corded telephones/telefax.
Data storage options: USB (universal serial bus) storage device, compact discs, cloud storage, locked safe/filing cabinet.
Calculator.
Stationary: notebooks, paper, pens/pencils, stapler, hole punch, binders, clip boards and so on.
Telephone address list to include reference centres and contacts of authorities and experts.
File templates.
Standard questionnaires.
Consent forms for individual-level data collection, photography and so on.
Standard operating procedures, handbooks, relevant articles, and other reference materials.
Maps, geographic positioning system (GPS).
Laboratory equipment.
Sample containers and sample taking equipment.
Sample storage equipment (such as coolers and so on).

6.5.9 Safety and security in the field

Safety and security are of paramount importance. These factors should be considered before departure, upon arrival and continually thereafter. Given the complexity of safety efforts, it can be useful to appoint a safety officer. This person can hold responsibility for ensuring the safety of the entire team, conducting frequent assessments and alerting team members of concerns.

When arriving at lodgings, evaluate the safety of the building and premises. While travelling, it is generally recommended to identify protective measures, such as gates, security guards, and doors that lock and close. Keep valuable personal items safe – ideally in a locked cabinet or safe – and have multiple duplicates stored in different locations (bag, under bed, and so on) in case of theft. Consider a room that is on the second floor or above, as higher levels may pose a lower risk of break-ins, and consider bringing with you a door jam or security bar to ensure safety whilst asleep. It is also useful to evaluate resources available on the premises, such as power sources (including a generator) and water.

Travelling and working in pairs is good practice, and should be done whenever possible. Transportation also poses a risk, particularly in areas where road traffic crashes happen frequently. If a vehicle does not appear to be roadworthy or does not have seatbelts, find another option. Although this may cause a delay in getting to or from the field, personal safety is essential. It is best to travel with drivers that are reputable and reliable. If not already established, these individuals or companies can likely be identified through trusted local networks. When travelling by car, it can be safer to keep valuables in the boot (trunk), if it is locked. Always leave an itinerary with someone, so it is known where in the field you are going and when you are expected to return.

A secure field office with complete and robust information technology and communications (satellite telephone, radio communications, and, if possible, field video-conferencing capacity) can be invaluable. You may also need specialized protective equipment and medical supplies. For those travelling from another country, incidents tend to happen towards the beginning or end of trips, when researchers are either completely unfamiliar with the environment or have become familiar enough to let their guard down. Remember that risk assessments to evaluate safety and security should be reviewed frequently and anytime there is significant change in the context or you are involved in an incident/near-miss event. Ensure that you follow your organizational policy for reporting incidents and near-miss events so appropriate actions can be taken. Local organizations can be asked to provide security briefings and insight into day-to-day risks that may not be widely known.

6.5.10 Relationship management

Research is a two-way process: researchers and the community involved in research both benefit from the process, but trust is required to manage this relationship *(4)*. This is generally achieved by demonstrating reliability and communicating the value of the research to the community, a process that can take some time. However, if research efforts are rushed before connections are established, people may develop mistrust or false beliefs regarding both the researchers and their work. Importantly, a range of contacts should be established, including community members, academics, medical professionals, and governmental and nongovernmental parties. These groups can help to understand local dynamics: social, cultural, economic and political. They are also key to the data gathering process itself, as input and/or data will likely be required from a range of partners and a variety of groups can help to cross-check information.

6.5.11 Implementing research

When implementing research, review ethical approvals and in-country protocols for research, and follow any policies requested in these documents (see Chapters 3.4 and 6.4). Violations of local codes of conduct are not only detrimental to research, but can be illegal, disrespectful of local sensitivities or harmful to participants. If any policies surrounding consent, data collection, or sharing of results are unclear, be sure to check in with a representative of the institutions granting ethical approval.

Consent is typically necessary to collect individual level data. Although language and literacy barriers can sometimes make it challenging, obtaining informed consent is essential; this is discussed in Chapters 3.4 and 6.4.

Coordination and logistics support should be agreed through prior development of operational protocols and agreed standards. This might apply for specialist equipment and software as well as the basic approach to data collection, research and evaluation. Prior training, including formal exercises, in use of equipment and technical facilities is essential to ensure familiarity, confidence, and reliability in the field. It is important to note that, when using technology for data collection in the field such as tablet computers or cameras, consideration should be given to whether it is likely to be acceptable to the community (discrete or obtrusive). When using such technologies, there are also more practical considerations such as internet accessibility, power and charging limitations, and the security of any electronic equipment.

6.5.12 Processes and mechanisms for research in the field investigations

The research field investigation team should share responsibility using agreements and protocols, clarifying who will lead before any investigation is undertaken. This will also make it easier to transfer responsibility back to the local team when the research field investigation team leave. Within this approach, it may be helpful to compartmentalize aspects of the investigation, for example, by clarifying issues related to data collection and communication of findings.

The timelines for reporting should be discussed and agreed at the outset. Minutes should be taken and disseminated at all research update meetings, listing the agreed actions and the person responsible for each action. It is important to document all decisions and the rationale used to make them, including what information was available at the time. Developing a clear schedule for the reports and updates that are required makes it possible to arrange key field work and meet all the internal and external demands for reports and summaries in good time. For example, it is often useful to release statements to the media at about midday to fit with their publication schedules in print or visual media. Communication with local media should be carefully coordinated and approved with the local incident controller. The release of incomplete research information, or information presented in a manner that is not contextually appropriate, could cause problems.

6.5.13 End of research studies or handover

Research teams are often made up of diverse partners and stakeholders that may take part at varying stages of the research. The pre-implementation and implementation phases are usually seen as an “all hands on deck” collaboration of researchers, while data collection in the field can continue for many months to years under the direct, daily guidance of local team members. Whether data collection is ongoing or the project is in a close out phase, certain procedures can be followed to ensure a smooth transition. Generally, project close out and researchers’

departure from the field should be planned well in advance, and discussed and agreed between the research team supervisor and colleagues.

Factors to consider at the conclusion of fieldwork, include data and equipment transport, sharing of results, and personal wellbeing, including psychological debriefs.

6.5.14 Data storage and reporting

Data must be archived in a secure and organized manner, accessible only to those parties that may need to continue reviewing them(see also Chapter 4.4). If some results (laboratory or clinical) are outstanding, there must be a plan in place to ensure that these are communicated to partners in a secure fashion (typically using electronic safeguards).

6.5.15 Dissemination

A preliminary report must be prepared prior to departure, so that critical results can be shared in a timely manner, and a researcher should be appointed as lead writer to complete the final report. Local institutions and ethics committees that have supported or approved the fieldwork may require internal review of results prior to wider dissemination. While this may take time, it is often expedited for urgent matters. When appropriate, results should be shared with all stakeholders. This may include non-scientists, such as government parties and the general public. In such cases, it is essential to employ strategic scientific communication strategies using layperson language.

6.5.16 Health and wellbeing

Those involved in the data collection and research should be offered a debrief to discuss the challenges and opportunities encountered during their time in the field. This should be used to inform existing policies and processes. Organizations may also wish to consider offering a period of rest and recuperation to support staff health and wellbeing. This is especially relevant where researchers have been working in fragile or high-risk environments for an extended period of time.

Individuals should be offered the opportunity to discuss any health requirements confidentially. This can include any onward referral to mental health and wellbeing services, counselling and/or ongoing medical support as required. It is important to refer to any health monitoring processes that may be in place nationally if researchers have been working on or in proximity to infectious diseases.

6.5.17 Conclusions

Undertaking fieldwork is important, but can be challenging, especially in emergency or disaster contexts. It is essential that all research has a local mandate to be carried out. Preparation and good organizational skills are essential. It is important to use pre-prepared plans in a flexible way while working with local stakeholders. Help from local agencies should be sought, especially when working in unfamiliar contexts. Where findings are shared in the scientific literature the work of all team members should be

acknowledged and ethical approvals may need to be set up at the start to allow this to happen. Such reports are vital to improve practice in the future. Other forms of research dissemination to communities involved, such a local talks and press briefings, are important to acknowledge those involved and strengthen relationships with key prior, and possibly future, contributors.

6.5.18 Key messages

- **Preparation is critical to ensuring that research in the field is effective, safe and contextually appropriate. This includes obtaining the necessary administrative and ethical approvals, preparing protocols and standard operating procedures, as well as careful planning in regard to equipment, data security and logistical questions.**
- **Security and safety in the field is paramount and should be considered before and during field work. Training courses are available in this.**
- **It is important to develop a good relationship between researchers and the community; this can be achieved by demonstrating reliability and communicating the value of the research to the community.**
- **Review ethical approvals and in-country protocols for research and follow any policies requested in these. Using agreements and protocols can ensure clarity as to roles and responsibilities. Adhere to standard operating procedures. Document all decisions and the rationale used to make them.**

6.5.19 Further reading

Hilhorst DJM, Hodgson L, Jansen BJ, Mena Fluhmann RA. Security guidelines for field research in complex, remote and hazardous places. 2016.

Liamputtong P. Researching the vulnerable: a guide to sensitive research methods. London, United Kingdom: SAGE Publications. 2007.

Ulin PR, Robinson ET, Tolley EE. Qualitative methods in public health: A field guide for applied research. San Francisco, CA: Jossey-Bass. 2005.

6.5.20 References

1. Rodríguez H, Quarantelli EL, Dynes RR, editors. Handbook of disaster research. New York: Springer. 2007.
2. Phillips BD. Qualitative disaster research. New York, NY: Oxford University Press. 2014.
3. UK Public Health Rapid Support Team (UK-PHRST) personal communication and website: https://www.gov.uk/government/collections/uk-public-health-rapid-support-team-uk-phrst (accessed 4 March 2020).
4. Black R. Ethical Codes in Humanitarian Emergencies: From Practice to Research? Disasters. 2003: 27 (2): 95-108.2. Gregg MB. Field Epidemiology (2nd edition). Oxford, UK: Oxford University Press. 2002.