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### Towards People-Centered Epidemic Preparedness and Response

*From Knowledge to Action*

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#### Publication date

2019

#### Document Version

Final published version

[Link to publication](#)

#### Citation for published version (APA):

Bardosh, K., de Vries, D., Stellmach, D., Abramowitz, S., Thorlie, A., Cremers, L., & Kinsman, J. (2019). *Towards People-Centered Epidemic Preparedness and Response: From Knowledge to Action*. (Social Science Research). Global Research Collaboration for Infectious Disease Preparedness. <http://www.glopid-r.org/wp-content/uploads/2019/07/towards-people-centered-epidemic-preparedness-and-response-report.pdf>

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**TOWARDS  
PEOPLE-CENTRED EPIDEMIC  
PREPAREDNESS & RESPONSE:**

**From Knowledge to Action**

**A strategic roadmap  
to address knowledge,  
infrastructure and funding  
gaps and accelerate capacity  
development and innovation.**

This report was commissioned by the Wellcome Trust & UK DFID Joint Initiative on Epidemic Preparedness, and the Canadian Institutes of Health Research on behalf of the Funders' Forum on Social Science Research for Infectious Disease, which is part of the GloPID-R network.

The Funders' Forum was created in 2016 in response to the Ebola and Zika epidemics and includes the Canadian Institutes of Health Research, the European Commission, the Department for International Development (DFID UK), the South Africa Medical Research Council and Wellcome Trust.

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## Acronyms

### **ALERRT**

African Coalition for Epidemic Research, Response and Training

### **CDC**

Centre for Disease Control and Prevention

### **CEPI**

Coalition for Epidemic Preparedness Innovations

### **CIHR**

Canadian Institutes of Health Research

### **DHS**

United States Department of Homeland Security

### **ERAP**

Epidemic Response Anthropology Platform

### **FETP**

Field Epidemiology Training Programme

### **GOARN**

Global Outbreak Alert and Response Network

### **GOARN-SS**

GOARN Social Science Research network

### **IFRC**

International Federation of Red Cross and Red Crescent Societies

### **IHR**

International Health Regulations

### **IMS**

Incident Management Structure

### **IPC**

Infection prevention and control

### **IRB**

Institutional Review Board

### **JEE**

Joint External Evaluation

### **KAP**

Knowledge, Attitudes and Practices

### **MEALS**

Monitoring, Evaluating and Learning Systems

### **MOH**

Ministry of Health

### **MRC**

Medical Research Centre

### **MSF**

Médecins Sans Frontières

### **NTDs**

Neglected tropical diseases

### **OFDA**

Office of U.S. Foreign Disaster Assistance

### **Pandora-ID-Net**

Pan-African network for rapid research, response, relief and preparedness for infectious diseases epidemics

### **PREPARE**

Platform for European Preparedness Against (Re-)emerging Epidemics

### **R2HC**

Research for Health in Humanitarian Crises

### **RCCE**

Risk Communication and Community Engagement

### **SOPs**

Standard Operating Procedures

### **SSHAP**

The Social Science and Humanitarian Action Platform

### **TDR**

Special Programme for Research and Training in Tropical Diseases

### **TEPHINET**

Training Programmes in Epidemiology and Public Health Interventions Network

### **UK-PHRST**

UK-Public Health Rapid Support Team

### **UNICEF**

United Nations Children's Fund

### **WASH**

Water, Sanitation and Hygiene

### **WHO**

World Health Organisation

# Executive summary

## Introduction

A key aspect of saving lives during a disruptive infectious disease epidemic is the effective generation and use of contextual information and knowledge that can guide adaptive planning, decision-making and intervention. This report articulates how global health funders, as well as multilateral agencies, governments, public health institutes and universities, can improve global, regional and national level epidemic preparedness and response systems through a concerted strategy of investment in social science capacity, infrastructure, tools and durable systems.

Social science capacity has made some advance from where it was just a few years ago, when efforts were more ad hoc and fragmented;

however, new projects are either short-term investments with limited reach or small initial investments, and they are not sufficiently integrated with existing epidemic preparedness and response systems. These need to be urgently leveraged and expanded upon, and supported with a similar level of investment to allied disciplines such as epidemiology, disease modelling and virology.

Through a broad consultation, analysis and reflection process, this report analyses the contemporary knowledge, infrastructure and funding gaps that hinder the full potential of social sciences in epidemic response and presents a roadmap for addressing them.

## Major findings

From our analysis, we developed a strategic roadmap to simultaneously build core response capacities (domain 1), applied and basic science (domain 2), and a supportive ecosystem (domain 3), all of which are essential for fully integrating social science into epidemic preparedness and response. Based on an analysis of gaps for each domain, we developed 38 key recommendations, and corresponding sub-recommendations across the three domains. Of these 38, we highlight a list of 17 priority recommendations to assist funders, donors and governments with their strategic investment decisions. We see these

17 priority recommendations as the most urgent and foundational components, where a concerted programme of investment could simultaneously address many of the other gaps and recommendations. They include:

- Priority recommendations for **Domain 1 – Core Social Science Response Capacities** – include urgent investments in: human resources within response agencies; the creation of social science data analysis capacities at field and global level; and mechanisms for operationalizing knowledge (guidance, SOPs).

- Priority recommendations for **Domain 2 – Strengthening Applied and Basic Science**
  - include the need to: define better the social science agenda and core competencies; support innovative interdisciplinary science (across the epidemiology-anthropology tandem and better integration into One Health); make concerted investments in building the evidence-base; and develop a code of conduct.
- Priority recommendations for **Domain 3 – Supportive Social Science Ecosystem**
  - include essential foundational investments

for: institutional development (support for a global social science coordination body; a global network of regional units and centres; and growth within response agencies); training and capacity building (an early career development scheme; a small grants initiative; and institutionalization of social science in Field Epidemiological Training Programmes); awareness-raising activities with allied disciplines (short online courses); and lastly support for a community of practice (professional association, annual conference).

## Conclusion

Making social science a permanent, core part of the preparedness and response architecture demands bold, focused and multi-stage strategic investment planning that builds core capacities and competencies at multiple levels, but is grounded in nationally-led capacity building. Social science should not become a parallel system, nor should it be “siloeed” into risk communication and community engagement. Rather, it should be integrated within existing capacities and systems, develop interdisciplinary knowledge by working with allied scientific disciplines, and add value across all sectors and pillars of the preparedness and response architecture.

The development of a social science in epidemics discipline will improve the effective generation and use of essential information and knowledge that guides adaptive planning, decision-making and intervention at field and global levels. It will address contemporary insufficiencies in the way epidemic response partners conceptualize and account for social, cultural, economic and political variables, which will improve operational knowledge and learning systems. This will also improve competencies and capabilities across response pillar and management systems, and will assist in highlighting, and engaging with, the strengths, needs, wants and abilities of locally affected populations and communities.

If we look to the development of allied scientific disciplines that are now essential parts of the global epidemic response architecture, we find historical antecedents for the professionalization process that is now needed for social science: virology in the early 1900s and field epidemiology in the 1970s/1980s. These disciplines underwent substantial periods of sustained core capacity building, growth in the applied and basic science continuum, and broad global and national investments in institutionalization. While early advances have been made in the field of epidemic social science, these need to be urgently leveraged and expanded upon, supported by a similar level of investment today that these allied disciplines received in the past. Will we look back and see the 2020s as the core period of growth in the field of epidemic social science?

Social science has demonstrated its potential to help save lives, humanize epidemic response, and mitigate the disruptive socio-economic and psychosocial burdens associated with outbreaks, epidemics and pandemics. Now is the time when social scientists, funders, global agencies, allied disciplines and national governments should strategically build core capacities and competencies, and move social science from the margins to the mainstream.

# 17 Essential Strategic Investment Priorities

In this first section of the report, we outline a set of 17 priority recommendations, shown in Figure 1 below. These are the most urgent and foundational components, where a concerted program of investment could simultaneously address many of the other gaps and recommendations. This list is part of a total, comprehensive list of 38 key recommendations organized across three domains: 1) core

response capacities; 2) applied and basic science investments; and 3) the supportive ecosystem. These recommendations and domains are described in more detail in the remainder of this report after an introduction that describes the contribution, value, current status quo and key considerations in better integrating the field of epidemic social science into the preparedness and response architecture.

## Priority Recommendation 1

### **Integrate Social Scientists into Response Organizations**

1.1 Support a secondment mechanism between academia and response agencies including the Ministry of Health, using GOARN and other avenues, to enable social scientists to assist during epidemics, embedded within existing structures.

1.2 Support the appointment of social scientists to key roles within preparedness and response organizations, placed in coordination at headquarters.

1.3 Develop mechanisms, including 2-5 year start-up grants, to assist response agencies (WHO, UNICEF, IFRC and other organizations) in establishing social science capacities through support for core staff and a package of activities to be implemented across the organization.

## Priority Recommendation 2

### **Develop Social Science Data Centres at Field and Global Levels**

2.1 Support the development of data coordination and analysis centres at field and global level that can coordinate and integrate social science data across the pillar system. These should have the capacity to integrate, synthesize, analyse and archive large and diverse sets of data

(qualitative and quantitative, epidemiological and geospatial/GIS information) and provide remote data analysis support during epidemics.

2.2 Continue and expand support for rapid contextual social science brief data, and ensure its institutionalization.

2.3 Ensure the inclusion of social science data in Situation Reports.



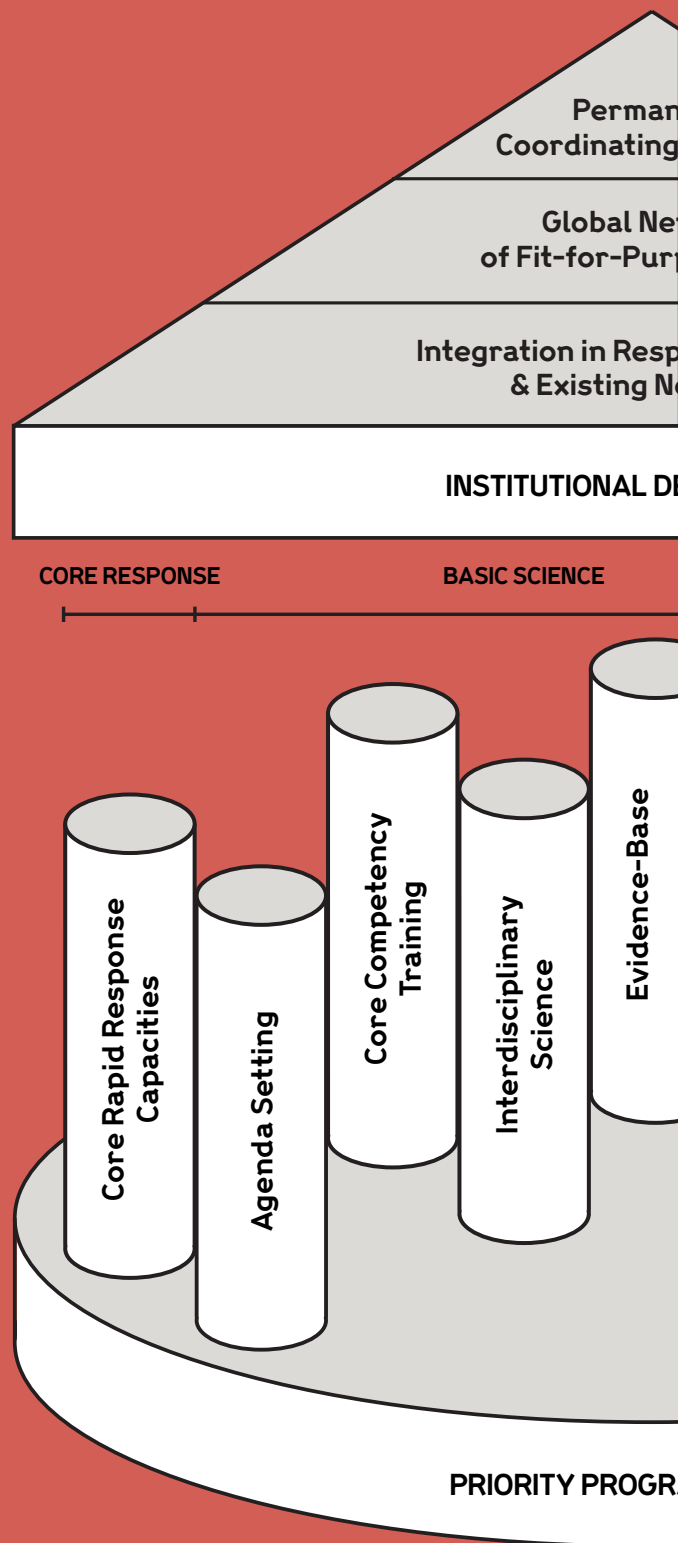


Fig. 1: Priority Programme of Work

Permanent  
Operating Capacity

Network  
Purpose Units

Response Agencies  
and Networks

LEVEL DEVELOPMENT

ECOSYSTEM

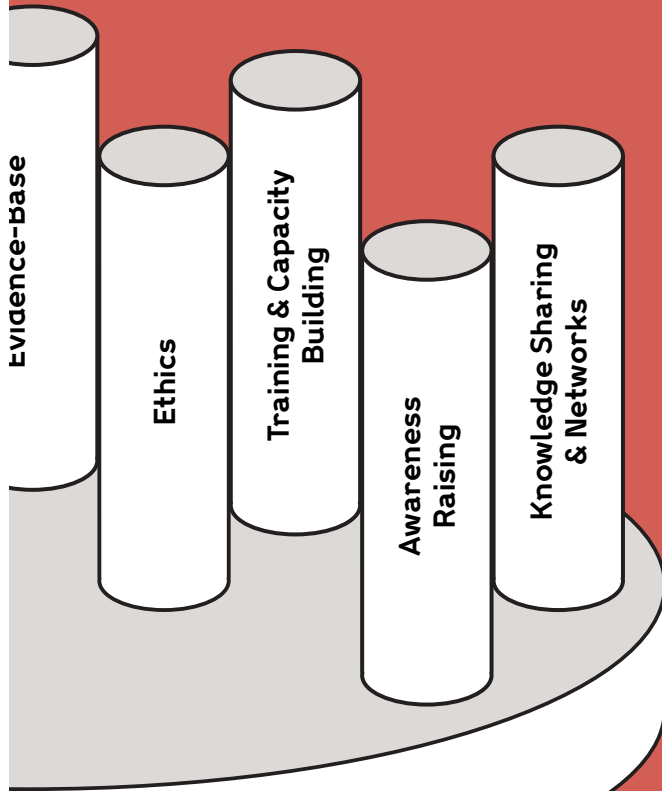


DIAGRAM OF WORK

DIAGRAM OF WORK = LIVES SAVED

## Priority Recommendation 3

### **Strengthen Mechanisms to Operationalize and Coordinate Social Science Knowledge to Influence Decision-Making**

3.1 Develop guidelines and Standard Operating Procedures (SOPs) for the way social science should be operationalized during epidemics to support adaptation mechanisms (e.g. adaptive management and programming) and real-time learning.

3.2 Provide guidance to standard components of the pillar structure on the way

they can integrate elements of social science data collection and analysis.

3.3 Formalize collaborative operational research with response agencies in order to streamline access and legitimacy.

3.4 Support GOARN and GOARN Research to mainstream and integrate social science into all epidemics at a level that is proportional to need and contribution relative to other response specializations.

## Priority Recommendation 4

### **Establish a Permanent Non-Profit Coordinating Body for Advocacy, Administration, and Capacity Building**

4.1 Establish a non-profit coordinating body for advocacy, administration and capacity building, like a common service platform or secretariat, with permanent staff and a multi-country presence. This body should liaise continuously with epidemic preparedness and response actors at international and national levels, and would be tasked with advocacy, coordination, technical expertise development,

standards and guidance development, tool development, information and knowledge synthesis, professional development, data sharing support, internal and external ethics review, an archival capacity (i.e. Ebola 100 project) and administrative responsibilities. This entity should have sufficient legal and accounting capabilities to support long-term contracts with private vendors, academic institutions and governments, and sufficient funding to support the overhead and technical support required for long-term knowledge management.

## Priority Recommendation 5

### **Invest in a Global Network of Fit-for-Purpose Epidemic Social Science Units and Centres, especially in Crisis-Prone Countries in the Global South**

5.1 Establish a network of regional fit-for-purpose social science units and centres to function as innovation accelerators and WHO collaborative centres. In most countries, investments should be made in public health institutes that have strong existing ties to epidemic response mechanisms and partners. A package of infrastructure investments

(administrative, human resources, internet and journal access, networking resources, fellowship support and mentorship) should be defined and supported, as well as a set of field activities for an initial five-year start-up phase. These centres should have a permanent operational budget to engage in deployment, secondment, real-time data analysis, knowledge translation, training, advocacy, strategic planning, publications, methods development, long-term learning and interdisciplinary coordination and collaboration.

## Priority Recommendation 6

### **Organize a Strategic and Systematic Process of Agenda Setting with Core Partners and Allied Disciplines**

6.1 Facilitate a prioritization and consultation process to define the top epidemic social science operational research questions, contribution, approaches and capacity building needs at different stages of a response. This should

include developing a shared language and standard definitions for social science research and social aspects of epidemics.

6.2 Focus on defining the contribution of different social science disciplines, the way they can work together, the way they can work with non-social science disciplines, and research and knowledge gaps.

## Priority Recommendation 7

### **Better Define Core Competencies and Develop a Field Training Programme**

7.1 Extend SocialNet (an epidemic response deployment training for social scientists) to support itself long-term and institutionalize a Field Social Science Training Programme (along

the lines of FETPs/EIS), including certification, simulation exercises, field learning and training on the basics of outbreak response.

7.2 Develop curriculums and accepted training norms for core competencies and support key organizations in these training capacities over time.

## Priority Recommendation 8

### **Support the Epidemiology-Anthropology Tandem**

8.1 Fund strategic integration of social science data analytics into epidemiological datasets and networks, and define opportunities and barriers to integration and data sharing.

8.2 Include socio-cultural and political factors as an essential part of the risk triangle

and include social scientists in the risk and vulnerability assessment process.

8.3 Promote the integration of social science in epidemiological investigations and epidemiological modelling through workshops and joint funding calls.

## Priority Recommendation 9

### **Integrate Social Science into One Health preparedness and Epidemic Response, including Real-Time Entomological, Ecological and Zoonotic Research and Antimicrobial Resistance**

9.1 Ensure the funding of high priority research on the interlinkages between epidemics and human, animal and ecosystem health, including spillover risks such as bushmeat

hunting and livestock intensification, vector exposure, urbanization and other related social-ecological change and disease drivers.

9.2 Support integrated vulnerability and resilience mapping to include social, cultural, economic, historical and political variables in collaboration with geographic modelling and statistical analysis.

## Priority Recommendation 10

### **Support Process Evaluations and Documentation**

10.1 Fund impact evaluations of social science research integration into epidemic preparedness and response in order to document success stories and lessons learnt and increase visibility.

10.2 Support evaluations of social science methods and data in past epidemics in order to consolidate tools and methods and appraise systems, including KAP study design and the incorporation of social science insights into operations.

## Priority Recommendation 11

### **Support the Development of a Social Science Code of Conduct in Epidemics**

11.1 Design a broad consultation process to define and develop a social science code of conduct in epidemics and legal and institutional guidelines, in coordination with ethicists and by looking to other disciplines in the epidemic response space (clinical trials and humanitarian

ethics, for example). This should define issues of informed consent (individual but also community consultation and follow-up), confidentiality, data generation and analysis, researcher-participant relationships and reporting of final outcomes. It should include guidelines for the compensation of local consultants and research staff, including in the event of injury, illness or death.

## Priority Recommendation 12

### **Create an Early Career Development Fellowship Scheme**

12.1 Develop an epidemic social science early career fellowship scheme that ties together national funding for medicine, public health and social sciences into a dedicated career track. Fellowship schemes should include post-doctoral level and implementation research and joint northern and southern mentorship, be based largely in crisis-affected countries and include training for social scientists in field

epidemiology, project management skills, public communication and policy engagement. Ideally, this would be followed by a longer-term (e.g. two-year) professional training period, paid and connected to government priorities. As with FETPs/TEPHINET programmes, fellows should provide training to public health schools and government, situated within, for example, the African CDC. A set of priority countries could be selected to pilot such a scheme.

## Priority Recommendation 13

### **Establish a Seed-Funding or Small Grants Scheme for Researchers from the Global South**

13.1 Support the establishment and long-term maintenance of a seed-funding or small grants scheme targeted at global south countries in order to support innovation and jump-start capacities (e.g. modelled from TDR's small grant initiatives).

13.2 Support the establishment of a seed-funding or small grants scheme focused on under-developed areas of research and integration, including an emphasis on preparedness and recovery.

## Priority Recommendation 14

### **Facilitate existing Epidemiology Networks, notably TEPHINET, to Institutionalize Social Science Capacities**

14.1 Facilitate a group of experts to include a social science component in epidemiology field

training, working with TEPHINET, in order to grow social science field training and capacity with epidemiologists and public health institutes. Define learning material and work through regional and country partners.

## Priority Recommendation 15

### **Support Medium and Long-Term Growth of Social Science Capacity in Response Organizations and in National Preparedness and Response Plans at Multiple Levels**

15.1 Invest in medium and long-term development of social science capacity within WHO, UNICEF,

IFRC and other humanitarian organizations.

15.2 Efforts should be made to integrate social science with the JEEs, National Action Plans and preparedness exercises in order to build policy mandate, national approval, legislative demand and budget pre-positioning.

## Priority Recommendation 16

### **Develop and Deploy Awareness-Raising and Short Training Material so that Non-Social Scientists can become Better Acquainted with Social Science Research**

16.1 Develop short courses for regional and country level preparedness and response staff on social science contributions, social science research and cultural competency training. Digital course material could be placed on the

OpenWHO platform (e.g. “Get Social”). Training courses should be geared towards everyone within an organization, including incident managers, human resources, security and logistics professionals.

16.2 Develop training materials and initiatives for national ethics committees to enable better social science review and approval.

## Priority Recommendation 17

### **Support the Development of a Community of Practice**

17.1 Support the growth of a professional association for epidemic social scientists working in response to infectious threats, in order to

support peer-to-peer learning, in association with other social science professional associations.

17.2 Fund an Annual Conference for epidemic social science.



Credit: Debora Diniz / Anis

# Introduction

## **Medicine is a social science, and politics is nothing else but medicine on a large scale.**

**- Rudolf Virchow (1848)**

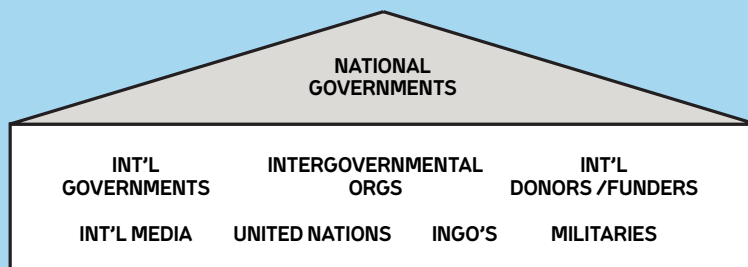
Epidemics are social and political events that require social and political responses and solutions. They are defined by the interactions between microbes, people, animals and ecosystems, influenced by broad historical and contemporary biosocial forces. As the world continues to undergo unprecedented ecological, socio-economic and geopolitical change, there is greater awareness that novel infectious disease events bring with them immense social complexity, uncertainty and potential for terrible and atrocious disruption. Few dispute the importance of strengthening our collective ability to engage with these phenomena as a core capacity of global health architecture. Epidemics are often ranked alongside nuclear war and climate change as a fundamental existential threat to humanity and an equitable world.

This report articulates a vision and roadmap for the way global health funders, as well as multilateral agencies, governments, public health institutes and universities, can improve global, regional and national level epidemic preparedness and response systems through a concerted strategy of investment in social science capacity, infrastructure, tools and durable systems. The authors see social science as an equalizing force that can motivate collaboration, help humanize epidemic response and generate a strong ethical alliance with local populations, health systems and human rights – which ultimately makes for more efficient and effective emergency response and healthcare systems. We define the role of social science in

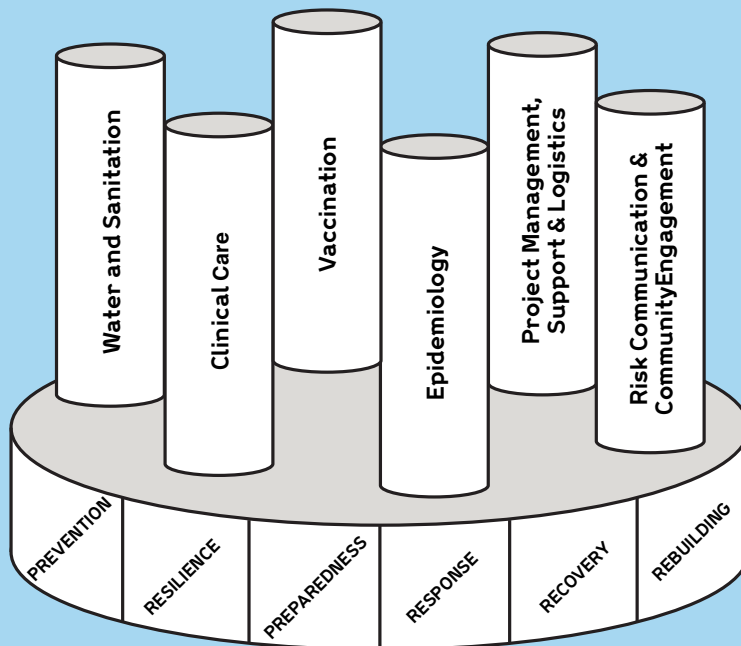
this field broadly to mean a holistic engagement with social, cultural, historical, economic and political factors as they affect, and are affected by, disease outbreaks, epidemics and pandemics, with a particular focus on the way people (communities, healthcare workers, local government, humanitarian responders and others) experience, engage and negotiate their circumstances.

Social science data and competencies have the potential to redefine productively the landscape of epidemic preparedness and response. There exists a strong desire among a broad set of involved stakeholders for social science insights to shape the day-to-day decisions and strategies of epidemic response, and this emerging field of practice is already generating new forms of operational data and insights to facilitate critical self-reflection and adaptive learning based on a greater appreciation of the broader context of places, peoples and health systems. There is now an urgent need to extend, institutionalize and optimize this emerging knowledge-to-action field of practice. Among the experts consulted for this report, there is a general feeling that the widespread adoption of social science techniques, and better integration of community knowledge and participation, will challenge the status quo of the existing humanitarian system, scientific and medical education and global and national governance regimes. Implementation of coordinated social science agendas is a necessity that can no longer be ignored.





**FIELD RESPONSE PILLARS**



**THE COMMUNITY IS THE FOUNDATION OF ANY RESPONSE**

**Fig.2 The Epidemic Response Ecosystem**

# How Social Science Can Save Lives

**“If you have the trust of the community, you don’t need anything but running water and chlorine to beat Ebola.”**

**(Key Informant)**

Saving lives during an epidemic requires the rapid deployment and agile coordination of a wide range of materials, staff and systems within a diverse and often challenging organizational ecosystem (Figure 2). Day-to-day decision-making takes place in a context of uncertainty, complexity, fear and stress across different temporal and spatial scales, embedded within the forces of politics, history and the unequal and inadequate distribution of resources. An epidemic response of global concern typically involves an array of local and national government bodies supported by the UN, humanitarian non-governmental agencies, donors and funders, civil society groups including the media, militaries and other partners. These government structures and partners work through a range of management, planning and field response structures and pillars that typically include elements of: epidemiological surveillance; clinical care and management; water and sanitation; therapeutics and vaccination; laboratory diagnostics; social mobilization; risk communication; community engagement; project management; and logistics. At the foundation of any response, however, is the local affected population, which has its own social diversity, capacities, level of resilience and interests.

In many regards, the effective rollout of response capacities and capabilities, from national and global to field-level pillars and community-led activities, are all predicated upon the quality, course and timeliness of key information flows and knowledge synthesis. Meaningful data about a wide range of factors and dynamics need to be rapidly collected at different levels, analysed and synthesized and translated into appropriate channels for decision-making. Social science focuses on phenomena, and produces knowledge and competencies that have traditionally been weak, missing or simply neglected by mainstream biomedical epidemic response architectures. Efforts to capture complex socio-cultural conditions and fragile health systems in epidemiological models and clinical treatment guidelines during the West African Ebola epidemic (2014-2016), for example, have been consistently shown to have been inadequate (Abramowitz et al. 2018). The ongoing and now second largest historical Ebola outbreak (2018-present) in the politically volatile eastern Democratic Republic of Congo (DRC) calls into question our collective capacity for effective Risk Communication and Community Engagement (RCCE) (Vinck et al. 2019).

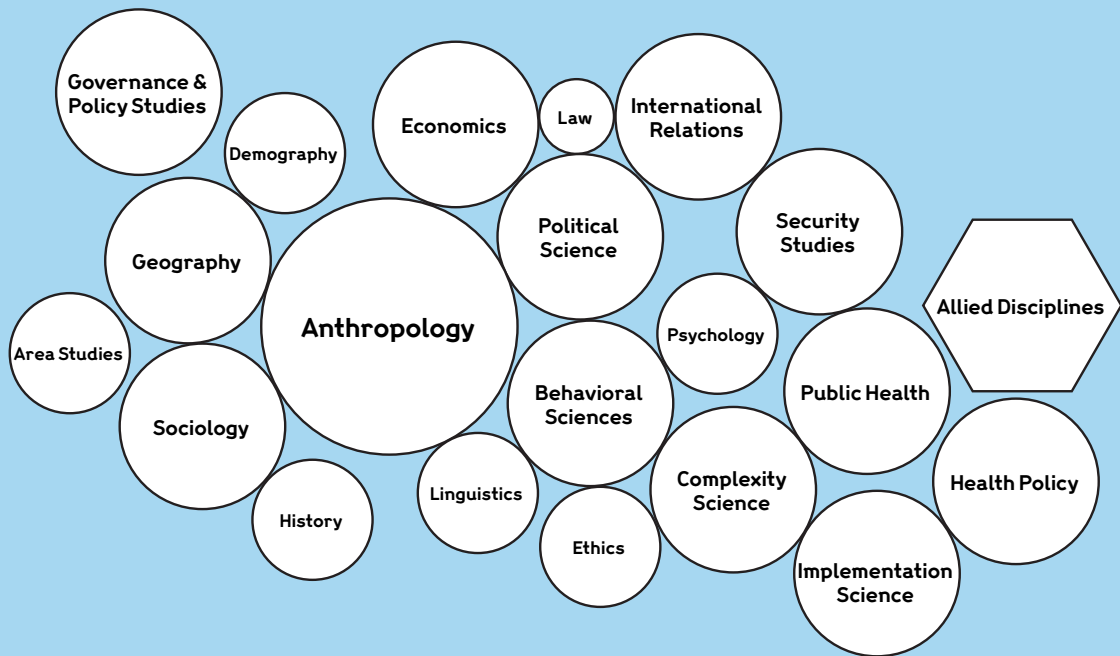
The value-claim of social science is that it can offer new information, new knowledge, new methods and frameworks, new analytics, new approaches and new competencies. This contribution extends far beyond RCCE to encompass the full spectrum of decision-making across the pillar system and incident management structure, and from community-level to global governance (Figure 3). At a national level, for example, social science can inform fiscal, structural and policy reforms to improve the preparedness of national health systems. Because of the dominance of biomedical approaches thus far, integrating social science techniques into the ecosystem of response will

help orientate and mobilize more people-centred national, regional and global systems.

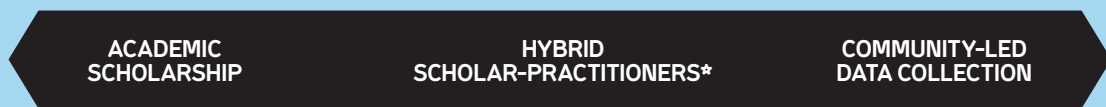
It must be acknowledged, however, that the current evidence for the way social science can save lives is mostly anecdotal due to a lack of investment and limited institutionalization. We have case studies and latent core capacities, such as a toolbox of anthropological methods. Furthermore, the value and contribution of social science can be inferred by looking at other global health fields, such as the control of HIV/AIDS, malaria, TB, NTDs and health system strengthening and the generally acknowledged role of the social determinants of health and health policy. Now is the time to build the evidence-base.



**Fig.3: Informational Contribution of Social Science to Epidemic Response**



**RESEARCH-PRACTICE CONTINUUM**



\*Hybrid Scholar-practitioners, working with allied disciplines, response partners & academics

**Fig.4: The Disciplinary Ecosystem**

# Defining a Knowledge-to-Action Discipline

**“Social science is stuck in one small corner of risk communication, but [it] needs to cut across all of the pillars. [This] will require a kind of revolution in each organization.”**

(Key Informant)

The term “epidemic social science”, as we conceptualize and apply it within the world of epidemic preparedness and response, encompasses a broad umbrella of disciplinary expertise, knowledge and skills (Figure 4). By and large, recent momentum for change in the preparedness and response community has been heavily influenced by medical anthropology and, to a lesser extent, behavioural sciences focused on risk communication. As the field moves forward, however, there is a need to consolidate and institutionalize the contribution of medical anthropology while simultaneously building an inherently interdisciplinary and applied field of practice that is fully integrated with existing public health and emergency response structures.

Our research for this report (supported by our extensive, collective field experience) has shown that, in general, social scientists do not understand the world of public health and the humanitarian system, while public health officials and the humanitarian system do not know the world of

the social sciences. The core competencies needed to generate robust insights from time-pressured studies that accept uncertainty and (like outbreak epidemiology) generate rapid analysis and insights have not been sufficiently developed. Applied social scientists who work in epidemic preparedness and response, with the epidemiological and public health skills needed to facilitate and negotiate their relevance, are relatively few. What is needed now is concerted investment in durable systems and the institutionalization process in order to support the emergence of a cadre of hybrid practitioner-scholars, who can act as brokers, translators and facilitators.

Some social science experts believe that theoretically-inclined but still important work will go under-funded if the focus becomes dominated only by applied practitioners, which will subvert critical perspectives on the power and politics of the international system. They worry that “social science” will become a “buzzword”, dominated by “quick and dirty” studies that focus exclusively on

manipulating behaviour change and community rumours. While we share these concerns, we believe the independence of social science research and engagement can be maintained by a reflexive engagement, and should not shy away from integration, operationalization or innovation. We believe the hybrid scholar-practitioner is an antidote to this problem. Transcending the artificial divide between practice and research appears to be occurring for the social sciences in other areas of global health, but is unnecessarily lagging behind in emergency epidemic response.

The full inclusion of social science within the current structures of epidemic preparedness and response could drive a fundamental paradigm shift, even a “revolution”, in dominant norms and mechanics. Social science will challenge the tendency for epidemics to be viewed through an exclusively biomedical gaze with a focus on technical fixes, rather than as complex socio-political emergencies that require social, cultural, economic, political and health system solutions. To accomplish this, a broadening of the range of expertise is required; however, in contexts where basic salaries for medics, epidemiologists, veterinarians and other key professionals are not met, it is often difficult for decision-makers to imagine carving out budget lines for what are deemed to be “non-essential” activities. Social science knowledge may also represent a challenge to the institutional status quo, because its analysis may identify these institutions themselves as part of the problem. From this perspective, social science engagement needs to be viewed as an “essential activity” in order to overcome the vested interests and inertia in the scientific status quo.

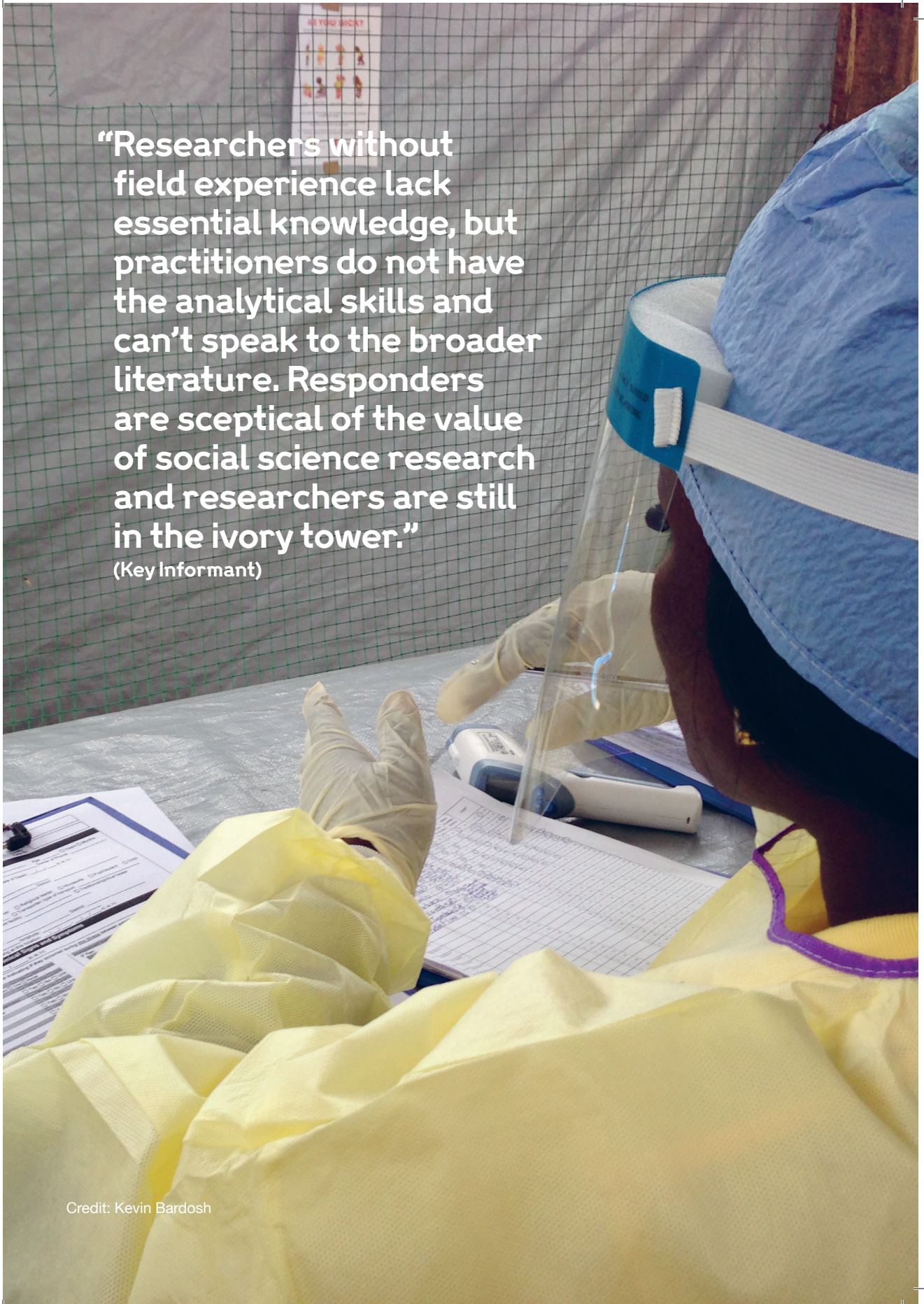
Nevertheless, there is a need to manage expectations. Social science is sometimes seen as a tool – “the keys” – to “unlock” community acceptance. This narrow, instrumental view has precedence in the early role of social science in the HIV and TB fields in the 1990s, which

conceptualized these (re)emerging diseases as behavioural problems that could be solved only by behavioural change techniques. Within response agencies, social science has most frequently been siloed within the risk communication, health promotion and community engagement fields, to focus on community resistance and compliance. While we recognize the important role social science has in RCCE, which should not be understated, there is an urgent need to broaden and clarify its value and contributions beyond this narrow remit. Furthermore, interest and momentum around the potential for social science is high in some disease specializations and low in others – a potentially counter-productive evolution given the unpredictable nature of emerging infectious diseases. Lastly, greater professionalization of social sciences in epidemics, in and of itself, remains only a partial response to the deep political-economic and governance challenges – both in states and donor institutions – that prevent long-term structural change.

What is needed now is a strategic vision for expanding social science into all aspects of epidemic response, building durable regional and national capacities, defining high-impact areas for contribution and aligning this expansion with the needs and expectations of non-social science actors. Analogues are found in the fields of virology in the early to mid-1900s and field epidemiology in the 1970s and 1980s. Both disciplines underwent substantial periods of professionalization, core capacity investment and methodological change that brought them from the periphery of public health to the centre. New field-level “rapid” techniques did not preclude the equally important growth of theoretical and conceptual work; for epidemiologists and virologists, these often cross-pollinated across disciplinary lines, catalysing long-lasting advancements for public health. Similarly, there is no substitute for investments in the nuts and bolts of research infrastructure, human capital and fit-for-purpose and durable systems.

**“Researchers without field experience lack essential knowledge, but practitioners do not have the analytical skills and can’t speak to the broader literature. Responders are sceptical of the value of social science research and researchers are still in the ivory tower.”**

**(Key Informant)**





# Improvements in the Current Architecture of Epidemic Response

**“There has been a major sea change in [the] last 4-5 years on how CDC and others see the value of social science data” (Key Informant)**

Since the 2014-2016 Ebola and Zika epidemics, there have been substantial international initiatives aimed at strengthening global health security: the Africa Centres for Disease Control and Prevention (Africa CDC); the Coalition for Epidemic Preparedness Innovations (CEPI); the Regional Disease Surveillance Systems Enhancement Program (REDISSE) in West Africa; the WHO’s Health Emergencies Program and R&D Blueprint; and the World Bank’s Pandemic Emergency Financing Facility, to name a few (Ravi et al. 2019). National-level capacity building has been an important component of these efforts, including building stronger health systems, rapid response units, laboratory and surveillance capacity, supply chains, One Health country platforms (which integrate human, animal and ecosystem health) and improving human resources for health and capacity for scientific research.

Investments in integrating social science have not, as a rule, followed the same proportion and scale as those of other scientific disciplines such as epidemiology, disease modelling or virology. Although there is no formal analysis of financial flows, one estimate placed anthropological investments during the West African Ebola epidemic at less than 0.03% of the overall \$10 billion response (Abramowitz, 2017). According to Larkan et al. (2015), only 3% of WHO non-support staff have the social science, legal or economics skills and training required for epidemic preparedness.

That said, there have been a few noteworthy advances from the situation just a few years ago, when efforts were more ad hoc and fragmented (Figure 5). Even here, however, changes have occurred more on a global level and much less at national and local levels, especially in high priority countries. There is a fundamental lack of basic investment in social science in the global south. In the majority of cases, social science appears to be more established in public health institutes where some initial effort at integrating social perspectives has occurred. Most new projects are also short projects, with limited reach and small initial investments. In the broader landscape, many new epidemic initiatives, like CEPI, have not included social science in their funding frameworks. Engagement by social scientists in the preparedness field is widely acknowledged to be very minimal. Many of the activities and project objectives that we outline in this report do not fit neatly into traditional social science or public health funding streams, and hence they often remain under-the-radar. Currently, Ebola is pushing the agenda for social science engagement; however, social inquiry needs to expand well beyond this. These early advances in the field should be seen as opportunities to leverage and expand upon them. As we discuss in the body of this report, the gaps remain considerable.



Greater awareness of the importance and contribution of social science; a more clearly defined space for social science in the global architecture (i.e. within GOARN, WHO, UNICEF, OFDA, CDCs, IFRC, MSF).

Initial EU investment in building social science capacity and networks, with the 3-year Horizon 2020 Sonar-Global network. The CIHR have also launched a global governance of infectious disease network initiative.

Preliminary integration of social scientists in rapid support teams, most notably with the UK-Public Health Rapid Support Team (UK-PHRST).



Efforts to institutionalize online collaborative knowledge sharing platforms, including Epidemic Response Anthropology Platform (ERAP).

Some Field Epidemiology Training Programs (FETPs) have begun including basic introductions to social science.

New clinical research networks (ALERRT, Pandora-ID-Net, PREPARE) have included social science components.



The Social Science and Humanitarian Action Platform (SSHAP) has developed a model and mechanism for rapid synthesized knowledge briefs, tailored to demand and in accessible forms.

The JEEs have expanded the role of risk communication and community engagement assessments.

A GOARN Social Science Research network has been established to coordinate research.



WHO developed and tested the first social science in epidemic training “boot camp” (Social-Net) in 2017, with a second version recently conducted in eastern Europe (2018).

**Fig. 5: Progress in Building Social Science Capacity since the Ebola and Zika Emergencies**

FEB 2019

### EXPERT TEAM DELIBERATION

The team deliberation included initial written responses to a set of questions.

### EXPERT CONSULTATION WITH SONAR-GLOBAL

The consultation workshop was conducted with 20 expert social scientists from Africa, Asia, and Europe during the kick-off meeting of the newly funded Horizon 2020 SoNAR-global consortium, in Paris.

### LITERATURE REVIEW

An initial list of codes were used to analyze 128 identified high-priority peer-reviewed articles and grey literature reports

### 75 KEY INFORMANT INTERVIEWS

We conducted 75 high-level key Informant interviews, with most lasting 45-60 minutes, from an initial list of 105 key stakeholders from the social science, epidemiology, biomedical, global health, and humanitarian field with substantial experience in research, implementation, and policy.

### ANALYSIS OF EBOLA 100 INTERVIEWS

We reviewed interview transcripts from 56 semi-structured interviews with researchers and responders from the West African Ebola epidemic, specifically related to their use and perception of social science data in the response archived by the Ebola 100 project.

### FOCUS GROUPS

Two focus group discussions were conducted with members of the GOARN Research Social Science group and a team of social scientists from South Asia.

MARCH 2019

### TEAM-BASED PRIORITIZATION & ANALYSIS

An initial list of 600 gaps and 220 distinct recommendations (broad and specific) emerged from this data. A prioritization and analysis phase reduced these to 12 gaps and 38 recommendations.

APRIL 2019

Fig.6: Methods that Informed the Report

# Findings from the Gap Analysis: A Summary

The recommendations outlined in this report emerged from a broad consultation process, exploring the current gaps in knowledge and infrastructure that prevent the full integration of social science research in epidemic preparedness and response as well as key priorities and recommendations for funders to help address these gaps. Our analysis is informed by the methods outlined in Figure 6, including a consultation workshop, a literature review, an analysis of 56 semi-structured interviews from researchers and responders involved in the West African Ebola epidemic (archived by the Ebola 100 project), two focus groups and 75 high-level key Informant interviews. This data was used by our expert team, who have substantial experience in the field of social sciences, infectious disease and epidemic response, in an internal process of team deliberation, priority ranking and analysis. An initial list of 600 gaps and 220 distinct recommendations (broad and specific) emerged

from this data. Our thematic analysis of gaps identified 12 main knowledge and infrastructure gaps, which are outlined in Figure 7. For the recommendations, we developed a prioritization matrix, which included three categories (valuation, urgency and expected impact) for ranking these recommendations, based on a 1 (low) to 3 (high) scale. We then strategically analysed the relationships between these recommendations and merged them as part of a coherent funding and strategic investment plan.

Our analysis seeks to outline the state of the field – the gaps in knowledge, infrastructure and funding that prevent the full integration of social science in epidemics – and offers a roadmap for funders, as well as the broader community of scholars, practitioners, governments and preparedness and response organizations, to address them through a bold and urgent plan of investment and action.

<b><u>INFRASTRUCTURE GAPS</u></b>	<b><u>KNOWLEDGE GAPS</u></b>
<p style="text-align: center;"><b>1</b></p> <p style="text-align: center;"><b>Under-Institutionalized Capabilities Across Preparedness &amp; Response Organisations</b></p> <p style="text-align: center;"><b>2</b></p> <p style="text-align: center;"><b>Funding Schemes &amp; Deployment Mechanisms are Slow and Under-Developed</b></p> <p style="text-align: center;"><b>3</b></p> <p style="text-align: center;"><b>Major Gaps Between Social Scientists and Epidemic Practitioners</b></p> <p style="text-align: center;"><b>4</b></p> <p style="text-align: center;"><b>Few Entry Points for the Integration of Social Science Knowledge</b></p> <p style="text-align: center;"><b>5</b></p> <p style="text-align: center;"><b>Lack of Investment in Social Science Infrastructures and Capacities in the Global South</b></p> <p style="text-align: center;"><b>6</b></p> <p style="text-align: center;"><b>Research Collaboration &amp; Data Sharing Approaches are Informal and Inadequate</b></p> <p style="text-align: center;"><b>7</b></p> <p style="text-align: center;"><b>No Current Curriculums, Accepted Core Competencies &amp; Training Infrastructures for Social and Non-Social Scientists</b></p>	<p style="text-align: center;"><b>8</b></p> <p style="text-align: center;"><b>Lack of a Common Language, Agenda, Core Set of Objectives and Strategy</b></p> <p style="text-align: center;"><b>9</b></p> <p style="text-align: center;"><b>Substantial Challenges in Acceptance and Awareness of Social Science by Non-Social Scientists</b></p> <p style="text-align: center;"><b>10</b></p> <p style="text-align: center;"><b>Underdeveloped Evidence-Base of Social Science Engagement in Epidemic Response</b></p> <p style="text-align: center;"><b>11</b></p> <p style="text-align: center;"><b>Lack Of Standards &amp; an Agreed Upon Toolbox of Methods and Metrics</b></p> <p style="text-align: center;"><b>12</b></p> <p style="text-align: center;"><b>No Standards for Ethical Clearance and Engagement</b></p>

**Fig.7: Overview of the 12 Main Identified Gaps in Infrastructure and Knowledge**

# A Vision for Accelerating the Field: Key Considerations

In comparison to related fields such as epidemiology or virology, funding levels for social science are substantially below reasonable levels given high current expectations and implications. There is an assumption that, in comparison to biomedical research projects in epidemics, social science can operate on a shoestring without multi-site comparative and fully institutionalized capacities, networks and flagship initiatives. This is erroneous.

Social science needs to be viewed in the same way other established applied science fields of epidemic response are considered. Making social science a permanent, core part of the preparedness and response architecture will demand bold and strategic investments that build core capacities and competencies at multiple levels simultaneously. It will demand the development of a learning ecosystem, with flexibility and room to experiment and innovate, while also actively assisting in leveraging existing networks, resources and expertise from parallel fields working in epidemic response with long-standing infrastructures. The goal should not be to compartmentalize systems and networks further, but to build them out from within existing structures and institutions. Epidemic social science should not become a parallel system, or an academic specialization.

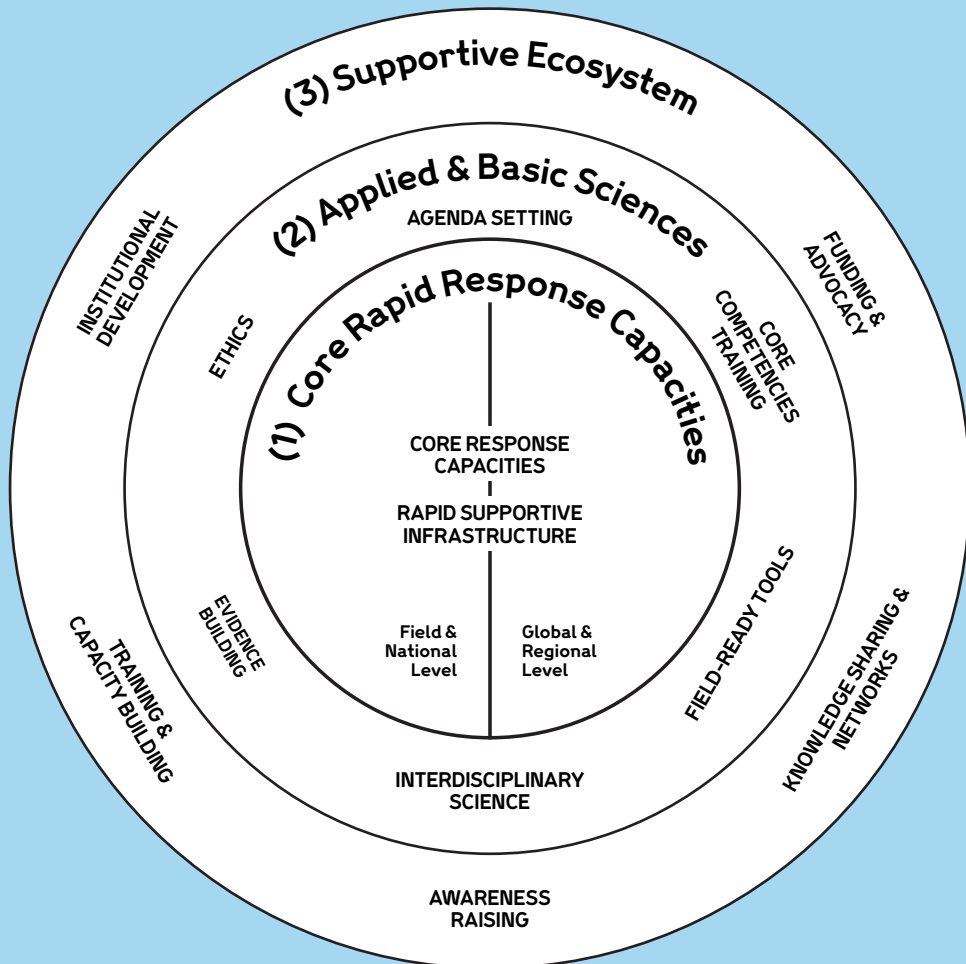
Many of the recommendations in this report should not be undertaken by standard open grant calls. Rather, they should be integrated into strategic investments in a global network of social science units that, acting as nodes in a global network, are overseen by a coordination body. Some recommendations below are non-monetary, while others are probably best integrated together

as a joint programme of work. Institutional capacity at the country level is essential: we expect a virologist or epidemiologist to have a global network to leverage. This is what the social science field needs today.

In the short term, we see the Global Outbreak Alert and Response Network (GOARN), WHO, UNICEF and SoNAR-Global as particularly relevant to the overall growth and governance of the discipline for the public good. We also see important opportunities for growth in UK-PHRST, and the work of SSHAP, TEPHINET, Africa CDC and IFRC.

Currently, MOHs and response agencies do not know who to ask for help to provide technical assistance for social science. There is a tension between the need for a core team to focus efforts and develop the field and, on the other hand, the involvement of a broader coalition of interested parties. There is an expanding “in-network” of go-to social science partners who are developing expertise, but it is important that the visibility of practitioners from the global north does not undermine diversification and investments in the human resources of low and middle-income countries. A monopolization of the space is not in the public interest, but a focused core team of professionals and operationalizing units is still needed as a first priority. There are ways to design networks to avoid these problems.

Lastly, funders have an essential, catalytic role to play in growing the field of social science in epidemic preparedness and response. It is important that they function as advocates for mainstreaming the discipline, act as champions and help create momentum and critical tipping points of investment.



**Fig. 8: Domains that Need to be Strengthened to Support Social Science Integration**

## Gaps & Priority Recommendations

**“The problem is not that we’re not doing good social science. The problem is that the good social science is not finding its way into practice”**

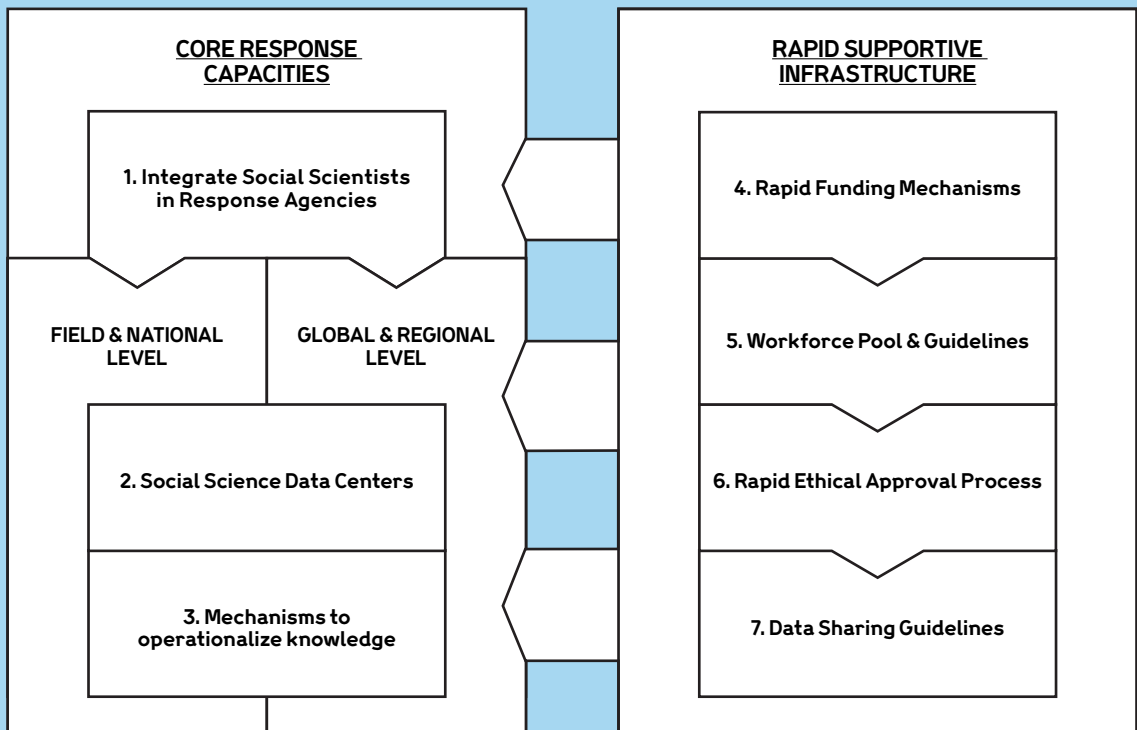
(Key Informant)

In the remainder of this report, we outline the various barriers to social science integration and the solutions needed to address them. The recommendations are organized across three domains: 1) core response capacities; 2) applied and basic science investments; 3) and the supportive ecosystem (Figure 8).

**A selection of 17 out of the 38 recommendations are marked with a double asterisk (\*\*).**

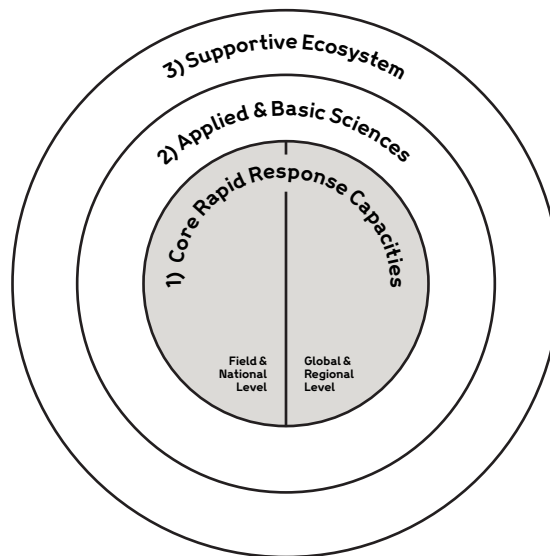
We see these 17 areas as the most urgent and foundational components, where a concerted programme of investment could simultaneously address many of the other gaps and recommendations. This list can also be found in the beginning of this report in Figure 1.





**Fig. 9: Developing Core Rapid Response Capacities**

# Domain 1: Developing Core Rapid Response Capacities



There is an urgent need to develop core response capacities and capabilities across the full spectrum of the rapid response ecosystem and support their institutionalization for knowledge translation. This will enable social scientists to generate critical insights and gain structured authority in the field and in policy roles. Developing these response capacities must include two components: core response capacities and rapid supportive infrastructure (Figure 9).

To develop the former, focused investments are needed in core human resource development, such as secondment mechanisms and the integration of social science data into field analysis and decision-making across the pillar system. The latter includes supportive mechanisms, such as rapid funding mechanisms, human resource pools and guidelines, ethical clearance mechanisms and data sharing agreements.

## **CORE SOCIAL SCIENCE CAPACITIES FOR RAPID RESPONSE**

**“Social scientists are often missing from senior operational discussions on preparedness and response.”**

(Key Informant)

Institutionalizing epidemic social science capacity must take place at multiple levels within the architecture of epidemic response, but should begin with integrating social scientists into existing response organizations and key public health institutes. Developing national capacities in high-priority countries must be the ultimate focus, although global and regional capacity building support will be required over the short and medium terms. There is no way around basic investments in human resources. For example, UN agencies, notably WHO and UNICEF, at headquarters, regional and country levels each currently rely on one focal person to coordinate all social science work, and their time and effort is partitioned between risk communication, community engagement and social science. A similar situation exists within many other institutes and international NGOs. Coordination at national and field level is more problematic without a clearly defined coordinator to liaise between partners, teams and data streams. In general, there are no permanent or temporary staff dedicated to integrating social science into epidemic preparedness and response. In fact, reliance on short-term consultants has impeded the growth of core capacities.

This lack of capacity and coordination means that integration occurs in a very piecemeal, informal fashion, without systematic networks available to orientate better quality social science fieldwork and engagement. Studies are done in isolation, on different timelines, and ask slightly different questions, generating non-aggregated data. There is also a clear need for agreed-upon mechanisms to feed social science information, insights, data and analysis into epidemic preparedness and response decision-making at field and global level. Social science data, and outcome data generally, are missing from Situation Reports.

The involvement of GOARN response and GOARN research remain in the early stages, but should play important roles in supporting integration and growth. In the DRC Ebola epidemic, recent efforts have been made to improve coordination (through WHO convening RCCE calls, GOARN SS-R group and field coordination units) but mechanisms or agreements for data sharing and for expert input into the design of research studies are lacking.

Addressing these gaps and building core capacities requires that we:

## Recommendation 1 \*\*

### **Integrate Social Scientists into Response Organizations**

- 1.1 Support a secondment mechanism between academia and response agencies including the Ministry of Health, using GOARN and other avenues, to enable social scientists to assist during epidemics; this would be embedded within existing structures.
- 1.2 Support the appointment of social

scientists to key roles within preparedness and response organizations, placed in coordination at headquarters.

- 1.3 Develop mechanisms, including 2-5 year start-up grants, to assist response agencies (WHO, UNICEF, IFRC and other organizations) in establishing social science capacities through support for core staff and a package of activities to be implemented across the organization.

## Recommendation 2 \*\*

### **Develop Social Science Data Centres at Field and Global Levels**

- 2.1 Support the development of data coordination and analysis centres at field and global level that can coordinate and integrate social science data across the pillar system. These should have the capacity to integrate, synthesize, analyse and archive large and diverse sets of data

(qualitative and quantitative, epidemiological and geospatial/GIS information) and provide remote data analysis support during epidemics.

- 2.2 Continue and expand support for rapid contextual social science brief data, and ensure its institutionalization.

- 2.3 Ensure the inclusion of social science data in Situation Reports.

## Recommendation 3 \*\*

### **Strengthen Mechanisms to operationalize and coordinate Social Science Knowledge in order to influence Decision-Making**

- 3.1 Develop guidelines and Standard Operating Procedures (SOPs) for the way social science should be operationalized during epidemics to support adaptation mechanisms (e.g. adaptive management and programming) and real-time learning.
- 3.2 Provide guidance to standard components of the pillar structure on the way

they can integrate elements of social science data collection and analysis.

- 3.3 Formalize collaborative operational research with response agencies in order to streamline access and legitimacy.

- 3.4 Support GOARN and GOARN Research in mainstreaming and integrating social science in all epidemics at a level that is proportional to need and contribution relative to other response specializations.

## **RAPID SUPPORT INFRASTRUCTURE**

**“We should have a cluster of people, in every high priority country, trained in rapid social science field assessments, that can be called up in case of an outbreak.”**

(Key Informant)

Supporting core capacities will require an infrastructure and knowledge architecture that facilitates and enables rapid deployment and mobilization. Currently, all aspects of social science – human, financial and material resource mobilization – are ill-suited for epidemic response. Secondment mechanisms to transfer social scientists into active epidemic situations are hampered by administrative and institutional shortcomings; efforts have been made to create “rapid funding mechanisms”, but even then, most do not begin fieldwork until the epidemic is on a path of containment. Funding disbursement mechanisms demand

that contracts and conditions are in place before an emergency. Organizations that frequently respond to epidemics struggle to identify social scientists with the right experience, language skills and expertise, and have difficulty identifying regional and country experts. In particular, emergency response work clashes with the pace, incentives and demand of university teaching and administrative responsibilities. New pathways for agile, rapid engagement are urgently required to move social scientists into the field, integrate with other disciplines and translate findings into decision-making.

## Recommendation 4:

### **Develop Rapid Funding Mechanisms for Research during Epidemics**

4.1 Develop institutional and financial mechanisms for teams to begin research immediately at the start of an emergency.

## Recommendation 5:

### **Support a Workforce Pool and Guidelines for Deployment**

5.1 Support individual institutions and/or central coordinating agencies (e.g. WHO) to maintain a register of social scientists situated at the national level and a surge capacity roster of international social scientists.

5.2 Develop guidelines for deployment and staff development for field deployment and remote support arrangements, including SOPs, supervision, mentoring, basic employment conditions, compensation, terms of reference, intellectual rights and retention mechanisms.

## Recommendation 6:

### **Examine Options and Develop Guidelines for Rapid Ethical Approval Mechanisms, including Pre-Approval and Socialization**

6.1 Support a process of consultation to help better define rapid ethical approval mechanisms for social science and options for pre-approval in different regions, agencies and high-priority countries, coordinated through GOARN. This should include exploring rapid approval

mechanisms (i.e. CDC and UNICEF) that fall under public health practice, and models from clinical research and other fields (i.e. the step-wedge approach).

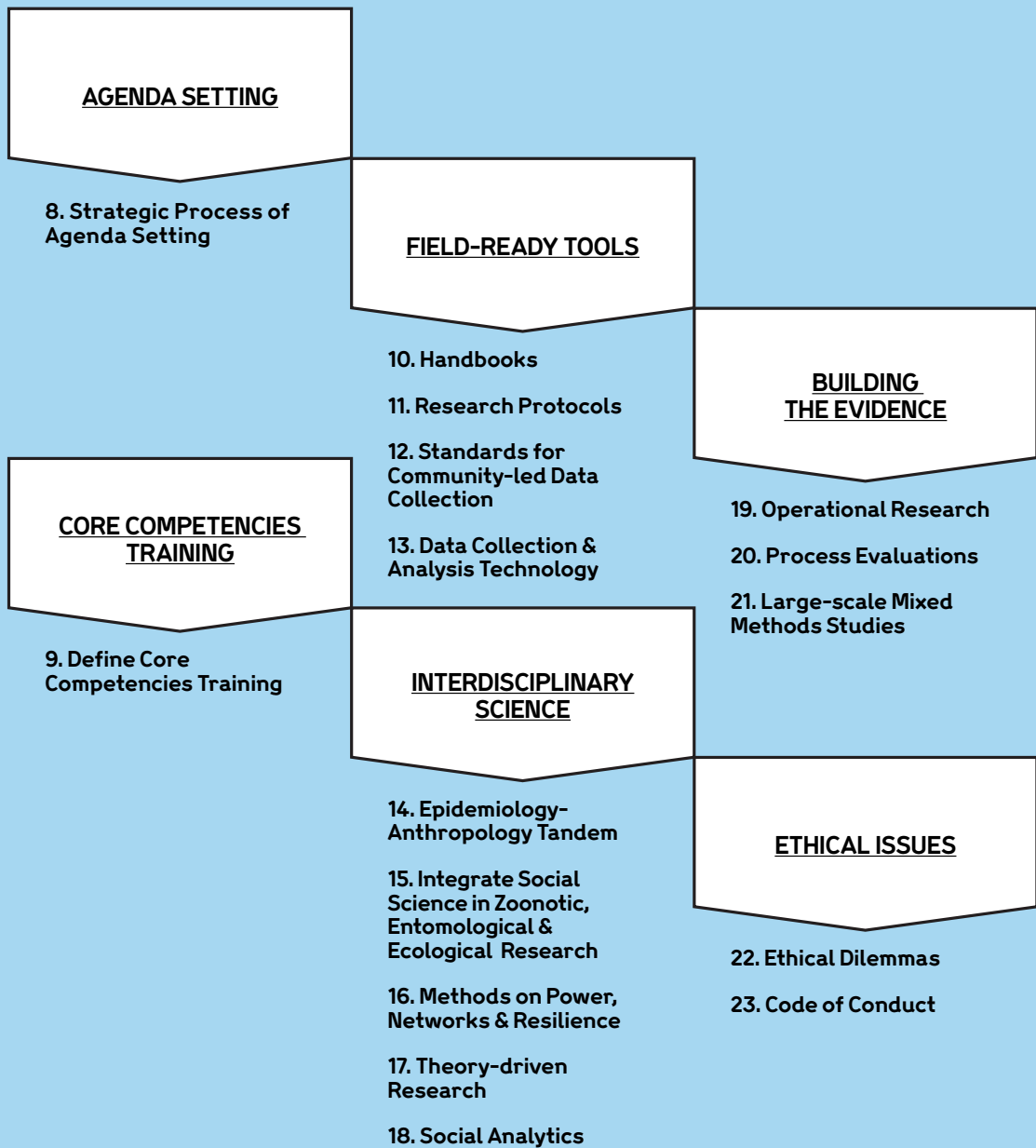
6.2 Support a process of socializing national ethics boards in pre-approval processes, as well as norms of qualitative and ethnographic data collection.

## Recommendation 7:

### **Support the Development of Data Sharing Guidelines and Agreements**

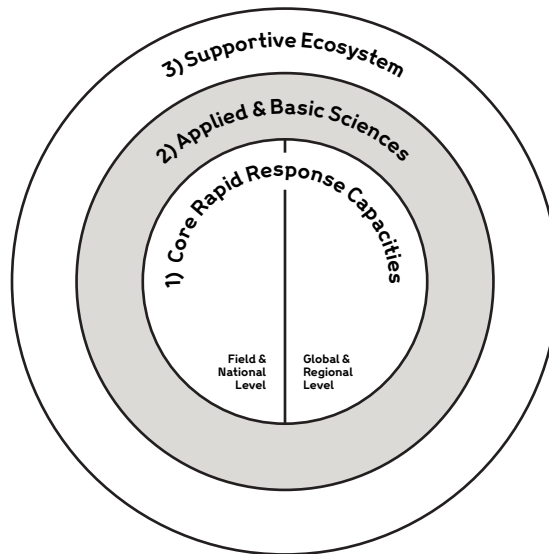
7.1 Develop guidelines and agreements for social science data sharing during epidemics

and ensure approval and support from the major response agencies. This should include challenges around non-disclosure agreements, qualitative data and publishing standards.



**Fig. 10: Strengthening Basic Science across the Applied-Academic Continuum**

## Domain 2: Strengthening Social Science across the Applied-Academic Continuum



Core rapid response capacities for epidemic social science must be supported by a corresponding set of investments in applied and basic science in order to support operationalization and optimal interdisciplinary growth and innovation. It is imperative that this occurs simultaneously across the spectrum of applied and scholarly science and in ways that

solidify and expand the current disciplinary repertoire. These science investments are needed as they would better define and develop the discipline and field of practice, build evidence of value-claims, standardize methods and tools and push the boundaries of current science and field engagement.



## **AGENDA SETTING**

**“We understand that social science is important, and know generally the questions and focus. But how to link research with operations, and embed it into a response framework, is the major unanswered question.”**

**(Key Informant)**

Despite much enthusiasm, there remains uncertainty about what types of social science data, insights and research should be prioritized at different stages of a response, or the location of entry points for social science integration across the response activities (including logistics, administration and finance) and into the decision-making process. Models and budgetary options for integration have not been explicitly defined or explored in any systematic way that would allow for comparison and serious discussion. There is an important debate to be had about what is included and excluded by the term “social science” within the epidemic space, and how terminology will shape the field going forward. The lack of a shared language creates unnecessary obfuscations.

By and large, medical anthropology has driven the momentum for change in preparedness and response structures. To build an inherently interdisciplinary and applied discipline, however, greater inclusion of economics, political science, psychology, international relations, sociology, geography, history and other disciplines is needed. Some of these disciplines may not be relevant to the immediate needs of a response, but have important contributions to make regarding the governance of health systems and medical humanitarian interventions, social determinants of health and health policy. The goals, contributions and character of this entire applied interdisciplinary field have not been well articulated, and nor have the core competencies required to integrate social science effectively within the existing architecture.

### **Recommendation 8 \*\***

#### **Organize a Strategic and Systematic Process of Agenda Setting with Core Partners and Allied Disciplines**

8.1 Facilitate a prioritization and consultation process to define the top epidemic social science operational research questions, contributions, approaches and capacity building needs at different stages of a response. This should

include developing a shared language and standard definitions about social science research and social aspects in epidemics.

8.2 Develop models showing how best to embed social science into response and existing structures, and how agencies can build this capacity internally.

8.3 Convene a high-level expert consultation in order to identify barriers to social science in epidemics in the IHR, and develop WHO guidance about resolving these issues and facilitating integration.

8.4 Invest in defining the contribution of different social science disciplines, the way they can work together, the way they can work with non-social science disciplines and

research and knowledge gaps. This should involve convening a series of working groups of experts in: anthropology, political science, economics, demography, international relations, law, psychology, geography, linguistics, ethics, security studies, history, linguistics, complexity science, implementation science, behavioural sciences, health policy, governance and policy studies, public health and other allied disciplines.

## **CORE COMPETENCIES TRAINING**

**“Social scientists need to know the emergency response jargon, and key epidemiological terms. They need to understand WHO bureaucracy, and the institutional relationships between the big agencies, what the UN agencies do, also IHR and about the SDGs.”** (Key Informant)

Strengthening basic science and knowledge translation capacity is also related to core competencies. Social scientists lack exposure to epidemic training and biomedical concepts, including the basics of epidemiology, emergency and policy frameworks and the financing, ethics and exigencies of the humanitarian system. The core competencies needed to generate robust

insights from time-pressured studies that accept uncertainty and (like outbreak epidemiology) generate rapid analysis and insights have not been sufficiently developed. Developing cadres of practitioner-scholars who can conduct research as well as play key translational roles (as brokers, translators and facilitators) will require field-based core competency training.

### **Recommendation 9 \*\***

#### **Better define Core Competencies and Develop a Field-Training Programme**

9.1 Extend SocialNet (an epidemic response deployment training for social scientists) to support itself long-term and institutionalize a Field Social Science Training Programme (along the lines of FETPs/EIS), including certification,

simulation exercises, field learning and training on basics of outbreak response.

9.2 Develop curriculums and accepted training norms for core competencies and support key organizations in these training capacities over time.

## **FIELD-READY METHODOLOGICAL TOOLS**

**“The time lag for real-time data to global level is a big problem. Everyone collects data differently and it is hard to aggregate. Really hard to enforce standards, and high staff turnover means people are in and out all the time. There is a lack of institutional memory in outbreak response, and a lack of money for structural reforms.”**

**(Key Informant)**

Basic science investments are needed to collate, standardize, test and refine existing social science knowledge tools to make them fit-for-purpose. KAP studies continue to be the default or standard method, although the quality of existing studies and their appropriateness and relevance is of major concern. Rapid qualitative assessments, community feedback and community-led data collection systems are currently gaining traction. Issues of quality, standards, best practice, metrics and methods are all required. From a technology standpoint,

the field is also lagging behind in using tablets for data collection and building databases for complex analysis that can integrate social variables. Much social science data gathering and analysis is still done with pen and paper. Qualitative analysis software is proprietary, expensive and difficult to learn. It is also unclear how to address the more personal aspects of anthropological fieldwork, including participant observation and field notes in remote analysis and the implications of this moving forward.

### **Recommendation 10**

#### **Develop Comprehensive Fit-for-Purpose Handbooks for Rapid Social Science Methods in Epidemics**

10.1 Develop fit-for-purpose methodological handbooks for rapid social science methods, analysis and reporting, for use by response

agencies and applied field teams during different stages of an epidemic. This should include developing standards and guidelines, practical advice on field team composition, interdisciplinary multi-method rapid data analysis and knowledge translation.

## Recommendation 11

### **Develop and Refine Pre-Positioned Research Protocols**

11.1 Develop a toolbox of methods and SOPs for research at critical integration points. This should include: 1) transmission and spread; 2) case surveillance; 3) disease emergence and mitigation at animal-environmental source; 4) evaluating interventions; 5) RCCE; 6) local health care; 7) recovery; 8) clinical research; and 9) preparedness. These customizable research protocols should be co-constructed and developed through a consortium of academics,

NGOs, governments and response partners, through task forces and working groups. They should be formalized and given adequate training, dissemination and support. This should not be a single project, but rather a long-term process of collating, testing, deploying, refining and adapting, through a variety of epidemics and in different regions. Guidelines for pre-positioning research protocols should be developed for high priority countries. Protocols should be tested for anticipated outbreaks, such as pandemic flu, cholera and yellow fever.

## Recommendation 12

### **Develop Minimum Standards, Guidance and Tools for Community-Led and Responder-Led Data Collection, Feedback and Accountability Systems**

12.1 Enable social scientists to work with response partners to develop community-led and responder/health system-led data collection systems that can collect integrated social science data, including rapid assessment methodologies, citizen social science, community-based rapid ethnography and routine monitoring and evaluation data.

12.2 Develop the necessary tools, procedures, metrics and verifications to ensure that communities are at the decision-making tables, and that responders and communities are both active and accountable to each other.

12.3 Support metrics to evaluate accurately the effectiveness of community feedback and accountability mechanisms, by tracking the opinions, perceptions and knowledge of multiple sectors of the community, including those who are traditionally outside of community decision-making processes (as these individuals are more likely to be at risk).

## Recommendation 13

### **Support Streamlined Data Collection and Analysis Technology**

13.1 Address gaps in knowledge about, and use of, new software and hardware technology for social science research.

13.2 Explore and scale innovative technological options for data collection, such as tablets and apps, and analysis programs for real-time analysis, including open access qualitative data analysis software for emergencies (e.g. initiatives such as Open Data Kit).

## **INTERDISCIPLINARY RESEARCH**

**“In the epi modelling space, we are not sure where social science can fit and how to engage with social science. We think maybe to have social science inform our baseline assumptions about a context, including the context of the response and our data. Also to help us understand the drivers for behaviours. This can include details about population density, for example. So we can communicate context, assumptions and uncertainties.” (Key Informant)**

While field-ready tools are an urgent necessity, so too are the application of other forms of interdisciplinary methods as well as novel, critical theoretical perspectives that expand current disciplinary boundaries. For example, risk communication and behaviour theories used in epidemic response are outdated and in need of re-assessment, although they continue to dominate response strategies and research. Furthermore, epidemiological data is difficult for social scientists to access, and the burden of constructing and maintaining large datasets, including personal health information, to conduct

analysis linking social and epidemiological variables and issues is a major roadblock to building the evidence-base. There is little investment in building integrated databases. Greater clarity is needed on the contributions of different social science disciplines, and the way social science can and should be integrated with allied disciplines such as epidemiology, epidemic modelling, geospatial mapping, ecology, entomology, veterinary science and big data and social analytics. All of this is required to push the boundaries of current science and develop new, interdisciplinary science.

### **Recommendation 14 \*\***

#### **Support the Epidemiology-Anthropology Tandem**

- 14.1 Fund strategic integration of social science data analytics into epidemiological datasets and networks, and define opportunities and barriers to integration and data sharing.
- 14.2 Include socio-cultural and political

factors as an essential part of the risk triangle and include social scientists in the risk and vulnerability assessment process.

- 14.3 Promote the integration of social science in epidemiological investigations and epidemiological modelling through workshops and joint funding calls.

## Recommendation 15 \*\*

### **Integrate Social Science into One Health Preparedness and Epidemic Response, including Real-Time Entomological, Ecological and Zoonotic Research and Antimicrobial Resistance**

15.1 Ensure high priority research is funded on the interlinkages between epidemics and human, animal and ecosystem health, including spillover risks such as bushmeat hunting and

livestock intensification, vector exposure, urbanization and other related social-ecological change and disease drivers.

15.2 Support integrated vulnerability and resilience mapping to include social, cultural, economic, historical and political variables in collaboration with geographic modelling and statistical analysis.

## Recommendation 16:

### **Develop Methodological Innovations focused on Power, Social Networks and Community Resilience**

16.1 Develop, deploy and evaluate new methods in comprehensive mapping of politics, economics and the finances of a response area, including security and armed conflict. This could include power mapping, political economy analysis, decision trees, stakeholder analysis and

social network analysis. Support a process of integrating this work into surveillance, WASH, IPC and RCCE.

16.2 Support research on community and health system resilience: examine how national structures work, how people organize their lives and response in times of health crisis and how they recover.

## Recommendation 17:

### **Support Theory-Driven Research and their Translations into Practice**

17.1 Support a programme of work that pushes the boundaries of current theory and

conceptual approaches, with specific focus on risk communication, community engagement and local and global preparedness and response governance. Support the translation of theory into practice.

## Recommendation 18:

### **Develop a Joint Call for Projects with Technology Companies interested in Open Source, Ethical and/or Community-Owned Data Systems and Analytics**

18.1 Define opportunities for industry collaborations with technology companies (e.g.

Facebook/Amazon/Alibaba/Google and start-ups). Develop guidelines and tools for the use of social analytics. Ensure an extensive consultation on ethics and the placement of data into the public domain, with proprietary inputs negotiated on a need-by-need basis (e.g. Missing Maps initiative).

## **BUILDING THE EVIDENCE-BASE**

**“The biggest challenge for social science to be included in the humanitarian sector is validation. Because it’s very hard to prove how social science insights influence programme outcomes.”**

**(Key Informant)**

There continues to be a widely acknowledged “evidence-gap” in the way social science can improve epidemic preparedness and response, justifying reticence for some. There are, for example, few robust examples or case studies of social science improving a response, with most literature focused on Ebola, but even here causative mechanisms are unclear. It is hard to quantify or measure the impact of qualitative studies, and more challenging to account for the cumulative effects of small day-to-day operational changes brought about by insights and attitudinal shifts by response managers

and field teams as they approach and solve problems. While there are legitimate questions about demonstrating value (where, when, how, why, how much), without substantial investments in the field, value claims will remain anecdotal and suggestive. At the same time, supporting epidemic social science research should also be viewed as an essential part of promoting implementation science and operational research more generally, in order to evaluate the effectiveness of response strategies. We need to build this dual evidence-base in tandem with developing the discipline.

### **Recommendation 19**

#### **Enable Operational Social Science Research in Epidemics**

19.1 Ensure long-term support for agile and robust operational social science research that addresses high-impact research gaps and questions about intervention effectiveness and response culture, including through randomized controlled trials and longitudinal data collection that tracks effectiveness over time. This should

plug high priority evidence gaps and build the evidence-base for operational relevance.

19.2 Fund interdisciplinary teams (social science, epidemiologists, virologists etc.) with a strong modelling component in order to incorporate behaviour and community engagement into epidemiological modelling with the goal of building the RCCE evidence-base.

## Recommendation 20 \*\*

### **Support Process Evaluations and Documentation**

20.1 Fund impact evaluations of social science research integration in epidemic preparedness and response in order to document success stories, lessons learnt and increase visibility.

20.2 Support evaluations of social science methods and data in past epidemics in order to consolidate tools and methods and appraise systems, including KAP study design and the incorporation of social science insights into operations.

## Recommendation 21

### **Support Large-Scale Mixed Methods Preparedness Studies in High-Priority Countries**

21.1 Develop and deploy a standardized preparedness survey in high-priority countries. As with UNICEF's multi-point cluster survey

for maternal and child health, this could be done at regular five-year intervals, focusing on preparedness issues and with the secondary objective of socializing biomedical researchers, governments and response agencies to social science.



## ETHICAL ISSUES

**“We need a code of conduct for social science in outbreaks, of how to do respectful and meaningful research that does not burden the population, especially with patients and their families.”**

(Key Informant)

Epidemic social science has important contributions to make to ethical and moral reflection and the development of guidelines and codes of conduct. Concerted work on epidemic response ethical standards should be supported, as should research on the conflict between institutional priorities and the needs and wants of communities, including during periods of recovery, as well as codes of conduct

and legal recourse in instances of abuse and unethical behaviour. There are also disciplinary ethical questions that need to be engaged, including the effects of research on the response and recourse to unintended consequences. This includes multiple researchers interviewing the same affected patient or family and creating research fatigue.

### **Recommendation 22**

#### **Convene Research on the Ethical Dimensions and Dilemmas of Social Science Research and Applied Fieldwork**

22.1 Convene a series of consultations and/or research projects on the ethical dimensions

and dilemmas of social science research and applied fieldwork in epidemic preparedness and response, including the way research can be meaningfully accountable to communities.

### **Recommendation 23 \*\***

#### **Support the Development of a Social Science Code of Conduct in Epidemics**

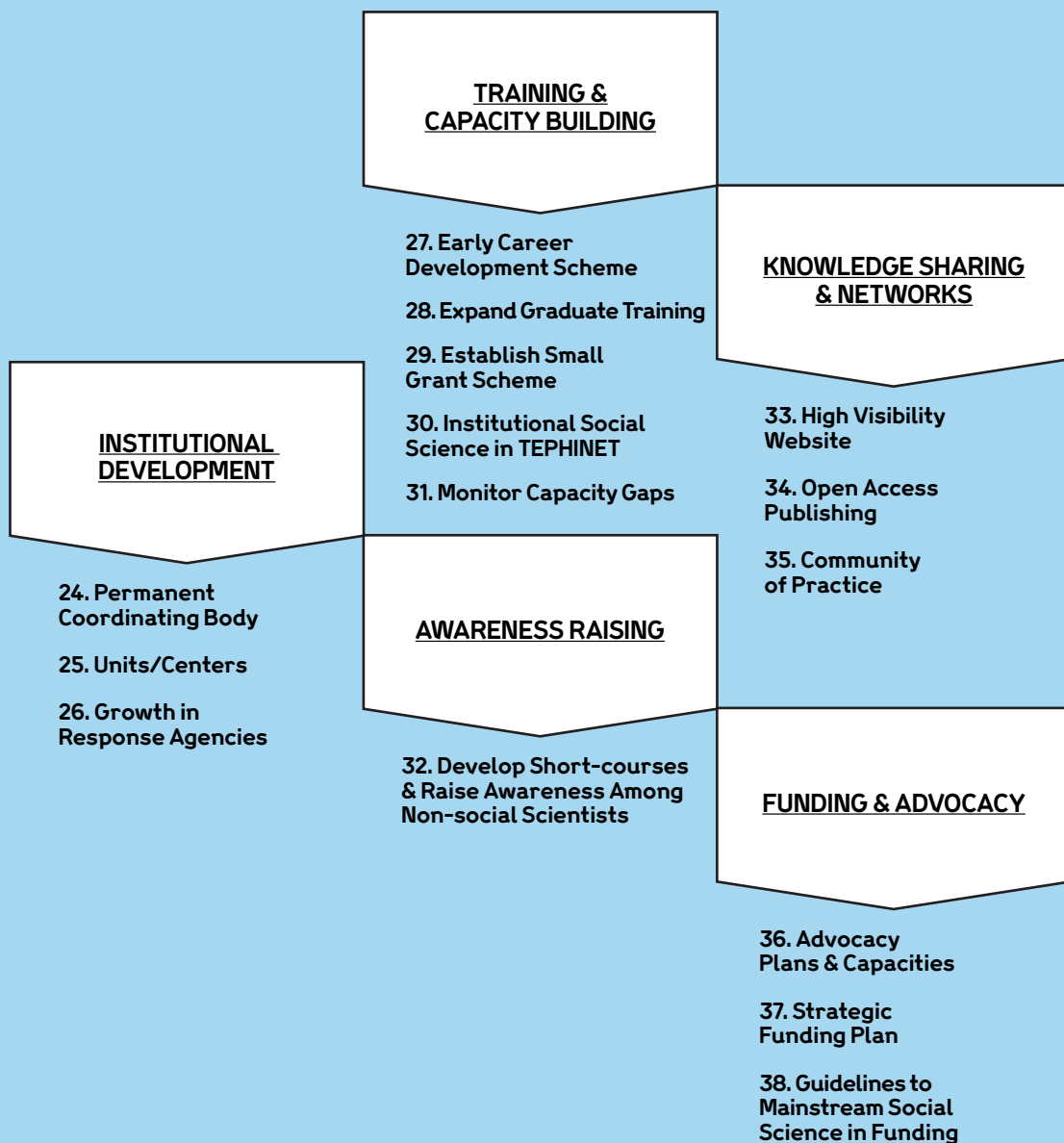
23.1 Design a broad consultation process to define and develop a social science code of conduct in epidemics and legal and institutional guidelines, in coordination with ethicists and by looking to other disciplines in the epidemic response space (clinical trials and humanitarian

ethics, for example). This should define issues of informed consent (individual but also community consultation and follow-up), confidentiality, data generation and analysis, researcher-participant relationships and reporting of final outcomes. It should include guidelines for the compensation of local consultants and research staff, including in the event of injury, illness and death.

A photograph of a busy street in Bangkok, Thailand. In the foreground, a man in a grey t-shirt is holding a clear plastic water bottle. Next to him, a woman in a dark blue shirt and black pants is wearing a white face mask and holding a pink shopping bag. In the background, a red bus is visible, and many other people are walking on the sidewalk. The scene is captured during the day with some shadows, suggesting late afternoon or early morning.

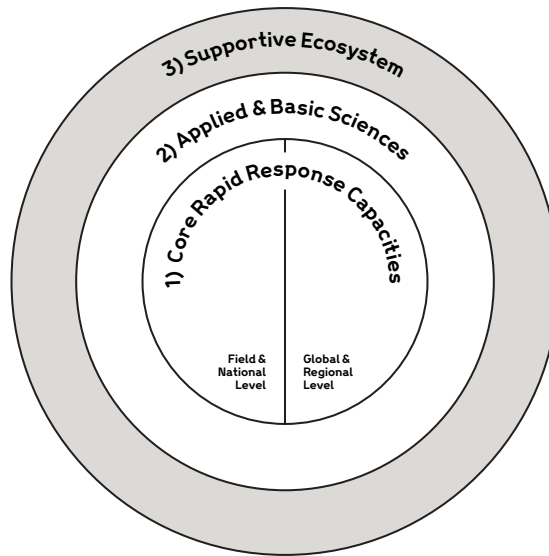
**“We could have deployed right away for the surveys but we had to wait two months for amendments from the ethics review board, even though we already had ethical approval and asked for expedited request! It was such an unnecessary delay.”** (Key Informant)

Credit: David Maurice Smith; Copyright: Wellcome  
Location: The Mahidol-Oxford Tropical Medicine Research Unit (MORU), Bangkok, Chiang Rai, Thailand



**Fig. 11: A Supportive Social Science Ecosystem**

# Domain 3: A Supportive Social Science Ecosystem



The development of core epidemic social science response capacities and the strengthening of basic science need to be supported, in different ways and at different temporal scales, by a broader ecosystem of knowledge, infrastructure and funding. Like a natural ecosystem, this will support the growth of other competencies,

capacities and capabilities through synergistic effects that facilitate the flow of resources and information. These foundational elements will provide durable resilience to the growth of social science integration. The growth of the discipline will depend on the eventual strength of this supportive and foundational ecosystem.

## **INSTITUTIONAL DEVELOPMENT**

**“We need a permanent operational budget to engage in advocacy and long-term strategic planning, training, publications, learning and collaborations.”**

**(Key Informant)**

The growth of agile social science research units and centres that actively engage in preparedness and response will be important for knowledge generation and capacity strengthening. In the near-term, these should leverage existing epidemic response networks and institutes, for example those embedded within public health agencies, humanitarian organizations or reputable biomedical research centres. Currently, a great deal of work rests on the shoulders of a few key innovators, without much institutional infrastructure, and are focused around specific diseases, like Ebola. Projects are funded short-term without mechanisms for collaboration or onboarding strategies to grow teams, or without the means to rapidly deploy and coordinate field activities or re-orientate resources to prepare for and respond to new epidemics. There are systemic deficiencies in research infrastructures

in middle and low-income countries that need to be addressed – capacities that are often taken for granted in northern institutions.

In the global south, lack of administrative and office staff, project managers and data management capacity are major impediments to research, but so too are a lack of basic internet, journal access, and grant writing capacity. Academic partnerships often do not address these systemic administrative capacity gaps. Epidemic social science, therefore, needs a programme of institutional development in order to ensure the appropriate growth, advocacy and communication capacity to bring its full expertise to the table. Without this, insights cannot be engaged at key policy, resource mobilization, agenda setting and prioritization points in epidemic management decision-making.

### **Recommendation 24 \*\***

#### **Establish a Permanent Non-Profit Coordinating Body for Advocacy, Administration and Capacity Building**

24.1 Establish a non-profit coordinating body for advocacy, administration and capacity building, such as a common service platform or secretariat, with permanent staff and a multi-country presence. This body should liaise

continuously with epidemic preparedness and response actors at international and national levels, tasked with advocacy, coordination, technical expertise development, standards and guidance development, tool development, information and knowledge synthesis, professional development, data sharing support, internal and external ethics review, an

archival capacity (i.e. Ebola 100 project) and administrative responsibilities. This entity should have sufficient legal and accounting capabilities to support long-term contracts with private

vendors, academic institutions and governments, and sufficient funding to support the overhead and technical support required for long-term knowledge management.

## **Recommendation 25 \*\***

### **Invest in a Global Network of Fit-for-Purpose Epidemic Social Science Units and Centres, Especially in Crisis-Prone Countries in the Global South**

25.1 Establish a network of regional fit-for-purpose social science units and centres to function as innovation accelerators and WHO collaborative centres. In most countries, investments should be made within public health institutes that have strong existing ties to epidemic response mechanisms and partners. A package of infrastructure investments

(administrative, human resources, internet and journal access, networking resources, fellowship support and mentorship) should be defined and supported, as should a set of field activities for an initial five-year start-up phase. These centres should have a permanent operational budget to engage in deployment, secondment, real-time data analysis, knowledge translation, training, advocacy, strategic planning, publications, methods development, long-term learning and interdisciplinary coordination and collaboration.

## **Recommendation 26 \*\***

### **Support The Medium and Long-Term Growth of Social Science Capacity in Response Organizations and in National Preparedness and Response Plans at Multiple Levels**

26.1 Invest in medium and long-term development of social science capacity within WHO, UNICEF, IFRC and other humanitarian organizations.

26.2 Efforts should be made to integrate social science with the JEEs, National Action Plans and preparedness exercises in order to build policy mandate, national approval, legislative demand and budget pre-positioning.

## **TRAINING AND CAPACITY BUILDING**

**“There needs to be social science across the whole organization, in all trainings, all needs to be touched by social sciences. There needs to be ‘social science for dummies’ trainings to make all pillars aware of the value and relevance”**

**(Key Informant)**

As already noted, there is a need to increase the competence of social scientists in basic epidemiological and public health skills and in emergency national and international systems and frameworks in order to facilitate their relevance and capabilities. Capacity building should take place within a broad space, including post-graduate fellowship schemes, graduate level social science training and the leveraging of existing outbreak training programmes and networks, most notably in national Field Epidemiology Training Programmes (FETPs),

which are coordinated at the global level by TEPHINET. In the global south in particular, there is a need to invest in long-term capacity building to address systemic barriers: lack of grant writing capacity, mentorship opportunities, publication incentives and English language skills (the lingua franca of the international system). As part of capacity building efforts, there should also be a seed funding/pilot project funding mechanisms to support promising scholars and practitioners and serve as a catalyst for growth (e.g. similar to TDR’s small grant initiatives).

### **Recommendation 27 \*\***

#### **Create an Early Career Development Fellowship Scheme**

27.1 Develop an epidemic social science early career fellowship scheme that ties together national funding for medicine, public health and social sciences into a dedicated career track. Fellowship schemes should include post-doctoral level and implementation research and joint northern and southern mentorship, be based largely in crisis-affected countries and include training for social scientists in field

epidemiology, project management skills, public communication and policy engagement. Ideally, this should be followed by a longer-term (e.g. two-year) professional training programme, paid and connected to government priorities. As with FETPs/TEPHINET programmes, fellows should provide training to public health schools and governments situated within, for example, the African CDC. A set of priority countries could be selected for piloting such a scheme.

## Recommendation 28

### **Expand Graduate and Post-Graduate Training and Education on Social Science, Infectious Disease and Epidemics**

28.1 Facilitate a process of graduate and post-graduate curriculum review, development and support in order to increase training

of social scientists, along the continuum of applied-academic research, in the basics of outbreak response, and facilitate opportunities for field-based learning, internships, exchange programmes and career development

## Recommendation 29 \*\*

### **Establish a Seed-Funding or Small Grants Scheme for Researchers from the Global South**

29.1 Support the establishment and long-term maintenance of a seed-funding or small grants scheme targeted at global south countries in order

to support innovation and jump-start capacities (e.g. modelled from TDR's small grant initiatives).  
29.2 Support the establishment of a seed-funding or small grants scheme focused on under-developed areas of research and integration, including an emphasis on preparedness and recovery.

## Recommendation 30 \*\*

### **Facilitate Existing Epidemiology Networks, Notably Tephinet, to Institutionalize Social Science Capacities**

30.1 Facilitate a group of experts to include a social science component in epidemiology field training, working with TEPHINET and key national

Field Epidemiology Training Programmes (FETPs), in order to grow social science field training and capacity with epidemiologists and public health institutes. Define learning material and work through regional and country partners.

## Recommendation 31

### **Develop Indicators to Monitor Epidemic Social Science Capacity at Country and Organization Level**

31.1 Invest in metrics to evaluate epidemic social science capacities and infrastructures at

different levels, for example through a scorecard that would allow for identification of gaps, comparison between countries and regions and evaluation of change over time.



## **AWARENESS-RAISING WITH ALLIED DISCIPLINES**

The social science ecosystem needs allied disciplines to understand social science contributions and value and to be socialized in the requirements and norms of social science research. In one regard, this will require a change to the negative perceptions that many biomedical researchers and response partners have about social science: irrelevant, vague, un-scientific and too theoretical. This appears to be driven by lack of integration and appreciation of social context in science education more generally, as well as limited exposure to qualitative and ethnographic data. This also extends to the receptivity of national Institutional Review Boards (IRBs), which need to be socialized in handling qualitative and

community-led data collection and participatory methods. Lastly, there is also an urgent need to increase the understanding among response agencies of the finance, capacity and logistics needs of social science studies. There is a dominant perception that social science can be supported with a small, ad hoc pool of funds, and there is a lack of appreciation of the time and training requirements involved in data collection that needs to be challenged and changed. While epidemiological studies are regularly accepted to take months or longer to complete, all forms of social studies are expected to be completed within much shorter timeframes.

### **Recommendation 32 \*\***

#### **Develop and Deploy Awareness-Raising and Short Training Material for Non-Social Scientists to become better Acquainted with Social Science Research**

32.1 Develop short courses for regional and country-level preparedness and response staff on social science contributions, social science research and cultural competency training.

Digital course material could be placed on the OpenWHO platform (e.g. “Get Social”). Training courses should be geared to everyone within an organization, including incident managers, human resources, security and logistics professionals.

32.2 Develop training materials and initiatives for national ethics committees to enable better social science review and approval.

**“The government is not aware of [the] value of qualitative social science and multidisciplinary teams. Whenever I go to meetings, I am the only social scientist, for many many years now. People are confused and ask me what anthropologists do; they confuse it with entomology and archaeology.”**

(Key Informant)

## **KNOWLEDGE SHARING PLATFORMS & NETWORKS**

**“There are not many academics focused on knowledge translation in the operational research and epidemic space. But practitioners are really interested in publishing their lessons, and working with the academic community.”**

(Key Informant)

Knowledge sharing platforms and networks are an important part of supporting the integration of epidemic social science and the growth of new knowledge and approaches. This includes a commitment to Open Access publishing, the

centralization of resources on the web, an expert database and various face-to-face opportunities for social scientists to attend conferences, organize and strategize and share knowledge.

### **Recommendation 33**

#### **Support a High-Visibility Website with Multiple Modalities**

33.1 Support a central, inclusive, user-friendly and high-visibility website that has multiple capabilities and modalities. This should build on the existing platform of the Epidemic Response Anthropology Platform (ERAP), but could also: 1)

act as a data repository of field-level data and an archive, with the ability for data sharing through password encryption; 2) include a community-led rapid peer-review process for field research, knowledge briefs and blogs; and 3) include modalities for high-resolution conference calls between members (i.e. BlueJeans or Webex).

### **Recommendation 34**

#### **Continue and Expand Support for Open Access Publishing**

34.1 Mandate and support open access publishing for all research activities, and develop a mechanism to support publishing efforts by non-grant holders.

34.2 Support rapid peer-review/open source publication in peer review journals for epidemic social science work from lower and medium income countries.

34.3 Ensure open firewalls for epidemic related materials in social science and public health journals.

## Recommendation 35 \*\*

### Support the Development of a Community of Practice

35.1 Fund the long-term administration of an online database of epidemic social science experts, by country and region, to build national networks (e.g. a linked, accessible professional network) of epidemic social science experts, including searchability by regional and linguistic competencies.

35.2 Support the growth of a professional association for epidemic social scientists working in response to infectious threats, in order to

support peer-to-peer learning, working with other social science professional associations.

35.3 Fund epidemic social scientists, including southern researchers and practitioners, to attend conferences on infectious disease threats.

35.4 Fund an Annual Conference of epidemic social science.

35.4 Support institutes that have an explicit and central mandate for translational work to bridge the divide between research, policy and practice (i.e. the WHO's Global Health Histories at York University and MSF's Crash initiative).

## FUNDING AND ADVOCACY

**“We need an advocacy group to sit at the table, to push organizations to have social science be part of the response before, during and after.**

(Key Informant)

Growing the field of epidemic social science will benefit significantly from concerted advocacy and communication strategies and capacities that help create momentum and visibility and generate additional partnerships. In addition, it is imperative that the community as a whole

thinks both outside and inside the current funding box, finding ways to maximize resources and synergies with existing initiatives while also generating new forms of investment and support. There are a number of ways that funders can assist with creating momentum.

## Recommendation 36

### Develop and Deploy Advocacy Plans and Capacities

36.1. Support robust advocacy communication, dissemination and media capacities, targeting different high priority stakeholders, in order to

raise the profile and visibility of social sciences in the epidemics field. This should include hiring media public engagement officers.

36.2. Ensure that epidemic social science projects are showcased at major conferences.

## Recommendation 37

### **Develop a Strategic Plan to Broaden the Funding Landscape**

37.1 Support a strategic scoping process to define opportunities to broaden the funding landscape for epidemic social science engagement (i.e. Open Philanthropy).

37.2 Fund an annual Funders Forum and invite a broad range of stakeholders. Raise the visibility of the forum; write a joint position statement on the importance of epidemic social science and invite other funders to join the Funders Forum.

## Recommendation 38

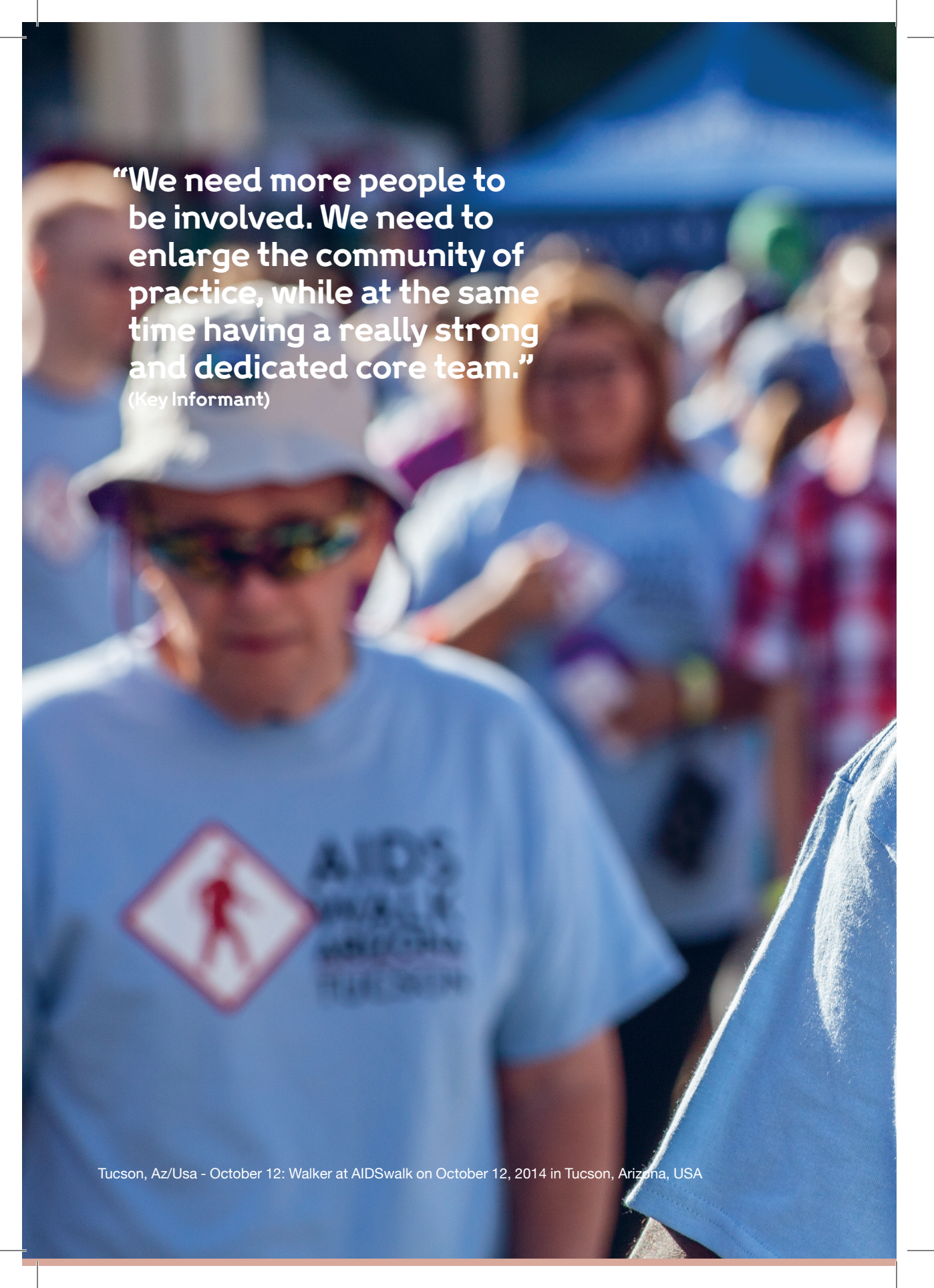
### **Develop Guidelines and Expectations for Funders to Mainstream Epidemic Social Science in Funding Determinations**

38.1 Funders need to review their own investments internally and explore avenues to integrate epidemic social sciences across streams and divisions. This could include mandating social science as part of clinical trial funding; ensuring that proposals come from interdisciplinary teams, such as joint principal investigators from the social sciences and

biomedical fields; and ensuring adequate social science representation on internal reviews, assessments and committees.

38.2 Allocate a certain percentage of epidemic response funding to social science research.

38.3 Establish expectations that social science must be integrated into new or current high-impact projects and initiatives, and fund onboarding mechanisms for current initiatives that do not (i.e. CEPI).

A photograph of a person wearing a white bucket hat and sunglasses, wearing a light blue t-shirt with a red diamond logo and the text "AIDS WALK". The person is looking down. In the background, other people are visible, some wearing similar blue t-shirts, and a blue tent is partially visible.

**“We need more people to be involved. We need to enlarge the community of practice, while at the same time having a really strong and dedicated core team.”**

(Key Informant)

# Conclusion

A key aspect of saving lives during an infectious disease epidemic is the effective generation and use of contextual information and knowledge that can guide adaptive planning, agile decision-making and more effective interventions. Throughout this report, we have built on the increasingly shared sentiment that improving epidemic preparedness and response would benefit significantly from investment in social science knowledge, frameworks, analytics, approaches and competencies. We have outlined the core gaps that prevent social science integration in epidemics, and presented a strategic roadmap for investment across three domains: core capacities, applied and basic science and the growth of a supportive disciplinary ecosystem.

Our recommendations are not without precedence. If we look to the development of allied scientific disciplines that are now essential parts of the global epidemic response architecture, we find historical antecedents for the professionalization process. These include virology in the early 1900s and field epidemiology in the 1970s/1980s. These disciplines underwent substantial periods of sustained core capacity building, growth in the applied and basic science continuum and broad global and national investments in institutionalization.

While early advances have been made in the field of epidemic social science, these need to be urgently leveraged and expanded upon, supported with a similar level of investment to the level these allied disciplines received in the past. Will we look back and see the 2020s as the core period of growth in the field of epidemic social science?

Social science has demonstrated its potential to help save lives, humanize epidemic response and mitigate the disruptive socio-economic and psychosocial burdens associated with outbreaks, epidemics and pandemics. Now is the time for social scientists, funders, global agencies, allied disciplines, and national governments to build core capacities and competencies in a strategic manner, and move epidemic social science from the margins to the mainstream. If this is successful, there is no doubt that the widespread adoption of social science techniques, and integration of community knowledge and participation, will challenge the status quo of the existing humanitarian system, scientific and medical education and global and national governance regimes. It will challenge it in order to make it more people-centric and responsive to the needs and challenges of the 21st century – a century that is widely predicted to witness many more infectious disease epidemics.

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses, income, and transfers between accounts.

Next, the document outlines the process of reconciling bank statements with the company's records. It stresses the need to identify and explain any discrepancies, such as outstanding checks or bank errors, to ensure that the books are in balance. Regular reconciliation is presented as a key practice for preventing errors and detecting fraud.

The following section covers the preparation of the income statement and balance sheet. It provides a step-by-step guide on how to calculate net income and determine the company's financial position at a specific point in time. The document also includes a checklist of items to verify before finalizing these statements.

Finally, the document discusses the importance of retaining financial records for a sufficient period. It references relevant tax laws and regulations, advising companies to keep records for at least six years to comply with legal requirements and to have the necessary documentation for audits or tax disputes.



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