



COMMUNITY-CENTRED APPROACHES TO HEALTH EMERGENCIES: **PROGRESS, GAPS AND RESEARCH PRIORITIES**

WHO COVID-19 social science in outbreak response
JULY 2021



World Health
Organization



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Acknowledgements

WHO and the R&D Blueprint gratefully acknowledge the many individuals and organisations who contributed to the planning and delivery of this meeting. We acknowledge, in particular, the WHO COVID-19 Research Roadmap social science working group who provided technical expertise in planning the meeting and Jamie Bedson, meeting rapporteur.

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Abbreviations

ARISE	Accountability and Responsiveness in Informal Settlements for Equity
CBS	Community-Based Surveillance
CBO	Community-Based Organisation
CDD	Community Driven Development
CHW	Community Health Worker
COVID-19	Coronavirus Disease 2019
CSO	Civil Society Organisation
DRR	Disaster Risk Reduction
GIS	Geographic Information System
GPMB	Global Preparedness and Monitoring Board
Health-EDRM	Health Emergency and Disaster Risk Management
IDS	Institute for Development Studies
IFRC	International Federation of Red Cross and Red Crescent Societies
IPHCC	Indigenous Primary Health Care Council
KLU	Katholieke Universiteit Leuven
KYC	Know Your City Campaign
NPI	Non-Pharmaceutical Intervention
PHE	Public Health Emergency
RCCE	Risk Communication and Community Engagement
SDG	Sustainable Development Goal
SDI	Slum Dwellers International
UCLG	United Cities and Local Governments
UN	United Nations
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Executive summary

The WHO ad hoc consultation: Community-centred approaches to health emergencies: progress, gaps and research priorities brought together stakeholders from around the world who share a common goal: ensuring community-centred approaches are at the core of health emergencies.

Researchers, practitioners, governmental representatives, representatives of multilateral agencies and donors presented case studies and discussed progress, gaps and research priorities for community-centred approaches. Meeting objectives were to:

- Identify knowledge gaps and evidence needs that can be addressed through interdisciplinary or social science research.
- Understand and document the experience gained through local, regional, and national approaches, strategies and initiatives for inclusive, people and community-centred responses to the COVID-19 pandemic and other infectious disease outbreaks.
- Inspire new perspectives to tackling pandemic challenges through citizen engagement and participation.

In parallel breakout sessions, participants discussed progress and evidence gaps related to community-centred approaches in different phases of the health emergency cycle and highlighted key lessons from active community-centred initiatives and programmes being delivered around the world. These included citizen science for early disease detection in mitigating mosquito-borne disease in Spain; readiness activities focused on community-led informal settlement mapping in Kenya and maintenance of community health worker networks in Uganda; response in indigenous communities in Canada and research highlighting the importance of local epidemiological knowledge in response in South Sudan; and community mechanisms for recovery developed during the Zika outbreak.

The meeting highlighted three key areas for advancing research and evidence-informed practice:

- 1. Research to understand community groups, structures, and needs and inform inclusive, appropriate, tailored, and responsive interventions and programmes.**
- 2. Research to strengthen community-centred initiatives and achieve outcomes.**
- 3. Research to understand and address structural barriers and enablers to integration of community-centred approaches.**

Panellists specified key questions and directions for research in these areas to strengthen community-centred approaches across the health emergency cycle. This included calls for greater emphasis on the use and uptake of community-generated data and knowledge; the development of the ‘business case’ for community-centred approaches and potential economic benefits; understanding the barriers and supports that facilitate the integration of community-centred approaches across all levels of government; and the development of partnerships between all stakeholders (public and private) involved in public health emergencies.

Health emergencies, such as the current global pandemic, begin and end in communities. Community-centred approaches – be they local community action, approaches informing wider readiness and response measures, or approaches informing or informed by participatory research – reflect community voices that are grounded in local realities and are essential to making sustained change. Research must play a central and evolving role in strengthening these approaches.

1. Introduction

Recent global epidemics – including the current COVID-19 pandemic – have reached deep into the lives of people and societies across the world. The health, economic, political, educational and societal consequences of large-scale disease transmission are felt by communities globally, but disproportionately impact those who are most vulnerable and living in fragile or conflict settings.

These impacts will be felt for years to come and the impacts of health emergencies are negatively affecting delivery of the Sustainable Development Goals (SDGs).¹ In September 2019, just prior to the COVID-19 outbreak, the inaugural report of the Global Preparedness and Monitoring Board (GPMB) called for urgent action to prepare a whole-of-society approach that can anticipate, detect, respond effectively to and recover from a respiratory pathogen pandemic.² However, despite these high-level calls for action and the accumulated lessons of recent epidemics, including Ebola and Zika, the global community was unprepared.

The GPMB report calls for engaged citizenship as one of five urgent actions to both strengthen the response to COVID-19 and prepare the world for future events of this kind.³ It advocates for communities being at the centre of disease prevention, detection, response and recovery initiatives. This is a core goal of multiple high-level policies, frameworks and agreements globally, including the SDGs, the Sendai Framework for Disaster Risk Reduction 2015-2030,⁴ the Sphere Standards,⁵ the Grand Bargain,⁶ and the Health

Emergency and Disaster Risk Management Framework.⁷ Recent COVID-19 Strategic Preparedness and Response Plans repeatedly stress the need for inclusive, people and community-centred approaches to preparedness and response and the vital role that can be played by local actors, including communities and the Civil Society Organisations (CSOs) that support them.^{8,9,10,11}

The pandemic has revealed many gaps, successes, and challenges on the part of Member States in understanding and incorporating community-centred approaches to preparedness, readiness, and response. All too often the power of communities is not fully realised due to inadequate governance structures, and technical complexity. Understanding the successes, and challenges, of Member States and civil society actors in relation to incorporating community-centred approaches to preparedness, readiness, and response provides an important opportunity to further this work in a comprehensive and systematic way.

¹United Nations Department of Economic and Social Affairs (2015). Sustainable Development Goals. Available at: <https://sdgs.un.org/goals>

²Global Preparedness Monitoring Board (2019). A World at Risk: Annual Report on Global Preparedness for Health Emergencies. Available at: https://apps.who.int/gpmb/assets/annual_report/GPMB_annualreport_2019.pdf

³Ibid.

⁴United Nations Office for Disaster Risk Reduction (2015). Sendai Framework for Disaster Risk Reduction 2015-2030. Available at: <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>

⁵Sphere (2018). The Sphere Handbook. Available at: <https://spherestandards.org/handbook-2018/>

⁶IASC. The Grand Bargain website. <https://interagencystandingcommittee.org/grand-bargain>

⁷WHO (2019). Health Emergency and Disaster Risk Management Framework. Available at: <https://www.who.int/hac/techguidance/preparedness/health-emergency-and-disaster-risk-management-framework-eng.pdf>

⁸WHO (2021). COVID-19 Strategic Preparedness and Response Plan (SPRP 2021). Available at: <https://www.who.int/publications/i/item/WHO-WHE-2021.02>

⁹RCCE Collective Service. (2021). COVID-19 Global RCCE Strategy. Available at: https://www.rcce-collective.net/resource/covid-19_rcce_globalstrategy2020/

¹⁰United Nations (2020). UN Research Roadmap for COVID-19 Recovery. Available at: <https://www.un.org/en/pdfs/UNCOVID19ResearchRoadmap.pdf>

¹¹British Academy (2021) Shaping the COVID Decade: addressing the long-term societal impacts of COVID-19. Available at: <https://www.thebritishacademy.ac.uk/documents/3239/Shaping-COVID-decade-addressing-long-term-societal-impacts-COVID-19.pdf>

2. Consultation background

On the 31st March 2021, WHO convened an ad hoc consultation: Community-centred approaches to health emergencies: progress, gaps and research priorities¹² The consultation brought together researchers, practitioners, governmental representatives and representatives of multilateral agencies and donors from across the world.

The objectives of the meeting were to:

- Identify knowledge gaps and evidence needs that can be addressed through interdisciplinary or social science research.
- Understand and document the experience gained through local, regional, and national approaches, strategies and initiatives for inclusive, people and community-centred responses to the COVID-19 pandemic and other infectious disease outbreaks.
- Inspire new perspectives to tackling pandemic challenges through citizen engagement and participation.

The COVID-19 Research Roadmap social science working group provided technical guidance in developing the content for the meeting. The meeting content was also shaped through consultation and discussion with many groups and agencies, including the Risk Communication and Community Engagement (RCCE) Collective Service.¹³

This report documents proceedings and key outcomes from the meeting and initiates a research agenda to further integrate community-centred approaches within the health emergency cycle.

The report is aimed at a wide audience, including researchers, health programme managers, health and community workers, public health response actors, community volunteers and social mobilisers, CSOs, Community-Based Organisations (CBOs), government representatives, and donors.



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3. Community-centred approaches: Framing the discussion

3.1 Understanding community

Communities are dynamic and diverse groups of people that share particular features. Communities can be defined in many ways including, for example, by geographic location, age, gender, wealth, ethnicity, occupation, and a range of social, cultural, economic and political factors. These factors also intersect and overlap with each other, revealing the complexity involved in defining different community groups. Some communities have a digital as well as physical presence, while others may be exclusively digital or online.

Communities also have unique social structures, different forms of authority and representation, and power dynamics both internally and with other communities. Understanding these dynamics provides rich and complex insights into vulnerability, discrimination, marginalisation, and power.

Communities can also be defined at many levels, including, local, subnational, national, regional, and international levels. Individuals belong to multiple communities at the same time. Understanding these dimensions and contextual realities is important for community-centred approaches.¹⁴

3.2 Community-centred approaches

‘Community-centred approaches’ can be seen through the lens of ‘bottom-up’, ‘intermediate’ and ‘top-down’ responses.¹⁵

‘Bottom-up’ Public Health Emergency (PHE) response actions and activities are often undertaken on a voluntary basis and aim to mitigate the impacts of health emergencies and disease transmission. Examples might include advocacy and support for disease-safe behaviours, community organising to identify and communicate disease risk, community-led data collection or community-level organising to support livelihoods or food security.

‘Top-down’ strategies are utilised by governments and response actors and include interventions, policies, regulations and laws that can be mandated during a health emergency. These are often criticised for not treating communities as active participants but as passive recipients and ‘beneficiaries’ of messages and services in disease response. However, these ‘top-down’ strategies can be community-centred when they are informed by and responsive to community feedback and input regarding their design, implementation and evaluation. Some examples are ensuring that all interventions are undertaken through established and trusted community networks, ensuring that all pillars of the biomedical response have mechanisms in place for listening to communities and changing practices and policies and providing technical and funding support for the successful approaches of CSOs.

An ‘intermediary’ set of approaches also operates in health emergencies at institutional and organisational level. Organisational and institutional policies (for example mask use and social distancing policies enforced in banks, schools and supermarkets) promote and reinforce behaviours targeting disease-safe activities. These ‘intermediary’ actions interpret and implement ‘top-down’ strategies while also negotiating access with, and being responsive to, the communities they serve.

Research activities can also be seen through the ‘top-down’ and ‘bottom-up’ lens. While playing an essential role in identifying and understanding what is happening in communities, research is community-centred when it has the participation of communities from design through to the analysis and communication of results.

¹²See Appendix I for the programme agenda.

¹³The RCCE Collective Service is a collaborative partnership, supported by WHO, IFRC, UNICEF and GOARN, that brings together a wide range of organisations engaged in policy, practice, and research for RCCE to ensure expert-driven, collaborative, consistent and localised RCCE support reaches governments and partners involved in the national response to COVID-19 and beyond.

¹⁴Wilkinson A. et al. (2017). Engaging ‘communities’: anthropological insights from the West African Ebola. *Philosophical Transactions of the Royal Society B*. Available at: <https://doi.org/10.1098/rstb.2016.0305>

¹⁵Jalloh. M. F et al. (2021). Behaviour adoption approaches during health emergencies: implications for the COVID-19 pandemic and beyond. *BMJ Global Health*. Available at: <https://gh.bmj.com/content/6/1/e004450>

3.3 The health emergency cycle

The health emergency cycle¹⁶ provides a framework from a governance perspective for describing the stages of an outbreak or health emergency. It includes several phases that track the trajectory of an event. Community-centred approaches play an important role in improving outcomes throughout this cycle. During the consultation, contributors discussed progress, challenges, and evidence gaps in relation to key stages of the health emergency cycle. These cycles may be defined as follows:

Early disease detection most often refers to the identification of early signs of disease that risk becoming a PHE.¹⁷ Public health surveillance – the continuous, systematic collection, analysis and interpretation of health-related data – is essential in detecting disease outbreaks quickly before they spread, cost lives and become difficult to control.¹⁸

When not identified and addressed early, new or re-emerging infectious diseases can transmit to large numbers of community members and reach epidemic and/or pandemic proportions. While traditional detection via public health surveillance is essential, an expanded definition of ‘early disease detection’ recognises the importance of identifying risk before there is a disease.

This takes into account a more holistic view that includes environmental, animal health and human health factors. This expanded definition includes the detection of risks such as behaviour and behavioural change, vector change, animal migration and animal health signals.

Preparedness involves capacity strengthening, scenario planning, infrastructural development and evaluation practices to prepare for a health emergency of unknown cause. The International Health Regulations (IHR) signpost development PHE response plans at the national, intermediate and community/primary response level for relevant hazards.¹⁹ These include mapping potential hazards, hazard sites, identification of available resources, including personnel, finance, and stockpile to support operations during a PHE.



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Readiness refers to the moment of transition between longer-term preparedness policies and actions and response to an imminent risk or hazard and considers the immediate actions required to respond to a developing risk or hazard.

The effectiveness of readiness will depend greatly on how adequate and comprehensive prior ‘preparedness’ has been, and thus requires consideration of the scope of form of preparedness required. This includes addressing health and societal inequalities and improving trust and accountability in citizen-state relations.

Response is defined as the set of actions that, in an epidemic or pandemic context, attempt to address health issues including public, social, economic, and psychological health aspects based on the assessment of all forms of pre-existing or pandemic-induced vulnerability.

Recovery is the processes involved in re-establishing the social, economic, and cultural lives of communities impacted by disaster and emergencies.

In practice, the health emergency cycle is not a linear sequence and there are often overlaps between phases. Indeed, the populations of many Member States during COVID-19 are experiencing, in parallel, response (surveillance, lockdown, vaccinations) and recovery (lifting of restrictions, businesses, and schools reopening) phases. Communities around the world also experience concurrent health crises in different phases.

¹⁶WHO (2017). Emergency Response Framework. Available at: <https://www.who.int/hac/about/erf/en/>

¹⁷<https://www.who.int/activities/rapidly-detecting-and-responding-to-health-emergencies>

¹⁸https://www.who.int/immunization/monitoring_surveillance/burden/vpd/en/

¹⁹<https://www.who.int/ihr/preparedness/en/>

3.4 Evidence base for community-centred approaches

During the last decade, a body of evidence has demonstrated the value and challenges of community-centred approaches. This now extensive literature provides insights into issues such as governance, community engagement, and methodological frameworks, among other issues. Research has an essential role building an evidence base for community-centred approaches and mediating the complex interaction between 'bottom-up', 'intermediary' and 'top-down' strategies and approaches across the health emergency cycle. Social science and multidisciplinary research reveals an understanding of the complex interaction between community-level practices, knowledge and capacities and the imperatives of ending disease transmission and mitigating the impacts of response measures. In framing the discussion, a number of areas for research to further advance evidence-informed practice were highlighted:

Understand communities as heterogeneous units with intrinsic strengths and expertise and capable of developing valuable solutions

Communities are diverse groups with dynamics that may create situations of vulnerability – research can provide insight into these practices and provide solutions to better support the needs of these groups. For actions across the health emergency cycle to be equitable and effective, they need to respond to the specific needs and capacities of different community groupings. The ways in which public health actors view and understand community groups will influence the kinds of programmes and interventions that are designed and implemented. One important area for research is in the development of methods that can allow for rapid assessment of diversity within communities to reveal important dynamics of power, vulnerability, and marginalisation. Vulnerability is contextual and populations that may be vulnerable in one setting might not be in another. Producing data on the needs of these populations is critical to understanding the uneven impacts of emergency events and response actions and to inform responsive, tailored interventions to mitigate these harms. When data is not produced

to capture the needs of those with disabilities, for example, these groups become invisible, and their needs cannot be addressed in a systematic way.

Communities self-mobilise in response to crisis – research can help to define and enable this momentum. Community members and groups have resilience, are often pragmatic, and have a good understanding of what they need. They also have legitimate understandings of 'health' and 'disease' that may or may not be expressed in biomedical terms, and bring an understanding of the local, social, economic, political, and infrastructural factors impacting their capacity to act. Contributors to the meeting highlighted clear examples of where local groups and organisations mobilised to respond to community needs during COVID-19 and other public health crises. These bottom-up movements often arise and function outside of formal national response structures. Recognising and valuing these initiatives and understanding what gives rise to them and what makes them work, brings new opportunities to strengthen public health responses.

Different types of evidence, including participatory and operational research, are needed to strengthen community-centred initiatives

Value and invest in multiple forms of evidence. Research to strengthen community-centred initiatives calls for methods and approaches that are best suited to provide insight into the 'messy realities' of field-based practice, the lived experience of community members, or contextual dimensions that influence the successes of non-pharmaceutical interventions. These kinds of research questions offer important operational insight and can enable trust and uptake.²⁰ As with all forms of research, evidence can vary in terms of quality and rigour and this impacts the way in which key outcomes are valued and trusted. Research methods guiding the collection and analysis of multiple forms of data (including, for example through citizen science and community-generated data, qualitative data, programmatic and operational data) need to be clearly articulated and critically appraised. Innovation in terms of methods and approaches to data were key themes of discussion throughout the meeting.

²⁰Carter S. et. al. (2020). What questions we should be asking about COVID-19 in humanitarian settings: perspectives from the Social Sciences Analysis Cell in the Democratic Republic of the Congo BMJ Global Health. Available at: gh.bmj.com/content/5/9/e003607

Attention to how research is conducted as well as what research is conducted. In addressing ‘how’ social science and public health research is conducted, efforts need to be directed at ensuring the participation of communities, including local researchers, in identifying research priorities and designing research strategies. The design, delivery and uptake of community-centred research also often calls for multidisciplinary and cross-sectoral partnerships that bring together wide-ranging forms of expertise. Often the notion of ‘community-centred’ also extends to the research methodologies used, including how research is designed, placing the tools for data collection in the hands of community members (including from within organisations and volunteers in communities themselves). The community members can also contribute to data analysis efforts and be empowered to use evidence at local and national levels.

Understanding community-centred programmes through operational research – what works, how and why. The value of engaging communities in risk mitigation, early disease detection, readiness, response and recovery is not only a moral imperative: working in this way produces better operational outcomes. Operational research can strengthen community-centred programmes by bringing sharp focus to the drivers and mechanisms of action that lead to improved public health outcomes. This research involves using data-driven insights to adjust key aspects of programmes to enhance the way they operate and includes, for example, articulating monitoring and evaluation frameworks, developing metrics to measure outcomes, understanding effective feedback loops for sustained engagement of communities, and critical review of what limits or facilitates uptake of programme outcomes. Operational and programmatic research also helps to demonstrate the added value of community-centred approaches by articulating quantifiable impacts and outcomes and thus substantiating the investment made in them. Identifying what operational and programmatic data are collected

and how they can be used for further research purposes provides a rich vein of quantifiable information. Strong leadership in this area can result from the big agencies coming together around community-centred approaches, rather than being competitors.

Policy, leadership, governance, and accountability can be a barrier or enabler

Influence of leadership, governance, structural inequalities and accountability mechanisms.

Leadership and governance at all levels are essential to driving a whole-of-society approach to tackling epidemic threats and provides real opportunity for dialogue and exchange with civil society. Community-centred approaches to health emergency interventions empower communities and establish clear accountability mechanisms. Research can examine and define how the actions, policies and processes of governments, multilateral institutions and other public health organisations act as bottlenecks or enablers to progress. Understanding the structural barriers to and facilitators of community approaches and perspectives provides an opportunity to strengthen both ‘bottom-up’ community-centred approaches and how these are integrated into ‘top-down’ and ‘intermediary’ actions. This kind of evidence supports governments to coordinate responses in a way that actively includes community perspectives.

Drawing on advances in policy, practice, and measurement of community-centred approaches.

Increases in the sophistication of design and implementation of community engagement and mobilisation -- facilitated by greater guidance on community-centred approaches, standardisation, coordination, and measurement tools -- provides for greater structure at a more granular level for understanding the linkages between community action, governance and accountability. Research that draws on these advances can support them to strengthen the mechanism that facilitates practical operationalisation of community-centred approaches.

²¹GPMB and IFRC (2019). From Words to Action: Towards a community-centred approach to preparedness and response in health emergencies. Available at: https://apps.who.int/gpmb/assets/thematic_papers/tr-5.pdf

²²UNICEF (2019). Minimum Standards and Indicators for Community Engagement. Available at: <https://www.unicef.org/mena/reports/community-engagement-standards>

²³Collective Service for RCCE (an initiative led by GOARN, IFRC, UNICEF and WHO). Website: <https://www.rcce-collective.net>

²⁴de Vries et. al. (2020). Methodology for assessment of public health emergency preparedness and response synergies between institutional authorities and communities. BMC Health Services Research.

4. Session discussions and outcomes

This section describes the discussions held across four concurrent sessions focusing on early disease detection, readiness, response and recovery. The case studies described include practical examples of community-centred approaches and identify future hurdles and opportunities for advancing these. Research gaps identified during the sessions are summarised in Section 5.

4.1 Early disease detection

“Surveillance is the centre pillar of public health and community-based surveillance is the community-centred way of detecting and monitoring health risks”

Amrish Baidjoe,

Norwegian Red Cross/London School of Hygiene and Tropical Medicine, Norway

In this session, participants described community-centred approaches to early disease detection, including those for Community-Based Surveillance (CBS). CBS is ‘the systematic detection and reporting of events of public health significance within a community, by community members’.²⁵ Engaging communities as partners in a multisectoral One Health approach to surveillance is well recognised as best practice. Participants signposted the vital role of research in strengthening the design and implementation of these initiatives in early reporting of events that signal unusual disease activity.

Progress

Ministries of Health and organisations working in public health increasingly see the value of CBS. Involving community members in surveillance can expand capacity of formal surveillance mechanisms and speed the time between disease or early risk detection and public health action. The role of local communities in surveillance is increasingly recognised within formal public health surveillance

structures. For example, the International Federation of Red Cross and Red Crescent Societies (IFRC) CBS activities support community volunteers and Community Health Workers (CHWs) to play a lead role in the early detection of unusual signs of illness among members.²⁶

New methods of data collection are being developed to improve quality. Paper-based data collection methods are still widely used for CBS and these are appropriate to many contexts. However, these methods can also increase risk of human error, and slow down collation and analysis of data. Moving to mobile phone data collection, such as the Nyss platform developed by the IFRC, can improve data collection processes by speeding up operations, supporting the upload and centralisation of data in real time, and provide timely information for determining when risk thresholds have been exceeded to trigger action.²⁷ The Nyss platform utilised for these activities allows for real-time detection, reporting, aggregation and analysis of information on community health risks. Working in this way has extended the range of surveillance efforts, filled gaps where the formal system is not reaching and also contributes sufficient data to be able to achieve trigger thresholds for taking action against emerging risks. In areas where there is limited health infrastructure – for example, in conflict settings – community surveillance has provided insights and action where visibility for response actors is limited. Community surveillance is becoming an important contributor to public surveillance efforts and an investment in the skill, energy and motivation of communities. Placing tools and technology in the hands of communities – not only for data collection but also for services including point-of-care testing – expands access to both data and services and places them closer to communities.

Established CBS initiatives adapt and respond to new health threats. Conservation Through Public Health²⁸ is an example of working with communities and existing health structures to identify unusual

²⁵Technical Contributors to the June 2018 WHO meeting. A definition for community-based surveillance and a way forward: results of the WHO global technical meeting, France, 26 to 28 June 2018. Euro Surveill. 2019;24(2):pii=1800681. <https://doi.org/10.2807/1560-7917.ES.2019.24.2.1800681>

²⁶Red Cross/Red Crescent Community-based Surveillance: <https://www.cbsrc.org>

²⁷Red Cross/Red Crescent, Nyss: A community-based surveillance platform. <https://www.cbsrc.org/what-is-nyss>

²⁸Conservation Through Public Health, Uganda: <https://ctph.org>

events in both people and animals. Village teams – established initially to address human to gorilla transmission – have expanded to work on identifying zoonotic disease more broadly, along with identifying potential cases of TB and COVID-19, the promotion of animal husbandry and contact tracing.

Social innovation and user-centred design contributes to development of technologies that can mitigate risk of disease. In Cambodia, the Asia Pacific Malaria Elimination Network²⁹ works with communities, including women's groups, to identify and design low-cost mosquito traps out of recycled materials. The co-creation of solutions founded in local social ecology creates a win-win situation of engaging communities, facilitating ownership, income generation and vector control.

Involvement of medical students in community engagement and response builds capacity and awareness among the next generation of medical professionals. The International Federation of Medical Students Association³⁰ supports its members to work directly with communities to survey and understand their needs and engage them in disease risk assessment. They staff national surveillance call centres with student volunteers, use digital applications to develop alert mechanisms, build alliances with colleagues from other health sector disciplines and create training for students.

Hurdles and opportunities

Coordination for collating and analysing data.

During an acute health emergency, managing and coordinating alerts from multiple stakeholders can result in duplication and fragmentation of efforts. While risk signals may be coming from communities during an emergency, there are often a large number of public health and humanitarian actors contributing surveillance data. Coordination and common platforms to collect and analyse surveillance data (at national, regional and global levels) are key to maximise good use of these data in close to real time.³¹

Incentives for community participation in early detection of unusual disease activity. Incentives, whether monetary or in-kind, need to be appropriate to the context and setting, and account for the real

work and opportunity cost for community members involved in these activities. Financial incentives can risk undermining work through distorting incentives and creating competition. Strategies to address this include: promoting village savings and loan associations as a mechanism for action; skill development and training; leadership development and creation of job opportunities; co-designing surveillance systems with communities to ensure they are relevant and meeting a need; providing timely feedback of the results from the data that are generated; crediting data collectors in scientific publications; generating income from risk mitigation products; and payment using livestock and the distribution of offspring.

Sustaining CBS initiatives outside of acute health emergencies. Funding mechanisms are required to ensure that communities continue to be supported, or that novel systems that are low-cost and sustainable are identified and incorporated into the Member States' planning. Governments have a role to play in creating an enabling environment that encourages social innovation and grassroots participation.

Capacity-building. Training of experts working with communities in public health, epidemiology or any related fields traditionally focuses on issues of classical public health science and technical approaches to surveillance and biomedical interventions. However, working with diverse, heterogenous communities requires diplomacy, communication skills and the capacity to understand contextual factors that are key to building trust before any sharing or action is undertaken. New models of practice and training are needed to prepare future generations of health providers (e.g. medical students) to tackle the real-world challenges that lie at the intersection of environmental, animal and human health.

Improving data quality. Community-generated data can vary in quality and this can impact the reliability and validity of analyses using these data. More work is required to articulate the strengths and limitations of community-generated data and identify best practices for quality improvement.

²⁹Asia Pacific Malaria Elimination Network, Cambodia: <https://www.apmen.org>

³⁰International Federation of Medical Students' Associations: <https://ifmsa.org>

³¹For example, collection (and ongoing analysis) of surveillance and other epidemiological data (contact tracing, case management) for the 2014-2016 Ebola outbreak in Sierra Leone was not completed until years after the outbreak ended. Although a remarkable achievement, it highlighted the lack of an established real-time platform during that emergency: Agnihotri. S et. al. Building the Sierra Leone Ebola Database: organization and characteristics of data systematically collected during 2014-2015 Ebola epidemic. *Annals of Epidemiology* 60 (2021), 35 – 44.

Citizen-generated data for early disease detection – A case study from Spain

The Mosquito Alert³² system in Spain promotes active community participation in research and data collection to encourage ‘citizen science’ that is accessible to all community members. The project’s social media application generates data that is quickly analysed to map in real time the results of the data collected. As a result, vectors have been identified that would be near impossible using standard procedures that did not include community members.

Key factors that have led to success and expansion of the programme

A dedicated interdisciplinary approach and team including the integration of in-kind collaborators (from academia, education, pest control agencies, public health practitioners and decision-makers). The re-emergence of vector-borne diseases in Spain/EU, and the use of novel digital technologies to address this, is now a programme and government funding priority. Initial in-kind collaborations and small budgets from public health agencies acting at regional level have been important.

Assuring the quality of citizen-collected data and overcoming barriers to its acceptance

Mosquito Alert collects citizen data and ensures its quality through: i) face-to-face training and inclusion of entomological guides and data collection approaches within the application; ii) promoting the application via social networks, blogs, webs and media; iii) capacity within the application for citizens to self-complete and send data; iv) a network of expert entomologists that validates pictures from citizens; v) the use of mathematical approaches to eliminate sampling biases and validate digital data with traditional surveillance; and vi) moving towards artificial intelligence and crowd validation of pictures, which will help in quantifying learning rates by machines and communities.³³

At each step in the project, barriers have needed to be overcome in promoting citizen-generated data and addressing a perceived lack of trust in

these data. For example, academic communities, which include entomologists, entomological medicine communities already doing surveillance and control, epidemiologists and public health practitioners, have needed convincing of the value and quality of these data. Technological challenges include the development of the application, data interoperability and making the technology accessible to citizens. Advocacy has been necessary to overcome psychological hurdles related to new innovation and changing established practice.

Lessons learned from developing the programme

A primary lesson of working with communities in this way is that even with budget, resources and trust, the process of learning together and developing systems and processes in conjunction with communities takes time. Obtaining results and learning by doing is essential so that reputation and trust can be built. Working with communities requires suitable investments over a longer period (in this case seven years), rather than expecting results to be achieved with higher budgets over a shorter time period. Traditional two- to three-year-based funding is not enough and sustainability is required for longer-term planning, maintaining dedicated personnel, and maintaining the platform.

Role of government in the programme and integration with government programmes

While government has been positive, Mosquito Alert has yet to be integrated into official surveillance and control programmes at national level. Integration will mean being formally part of the arboviruses response programme in Spain. This will mean it can be actively promoted, linked with other official surveillance programmes in different territories, included in government planning, have further resources allocated to it, and thus have greater impact. It will take significant effort to actively integrate and maintain it in Spain’s national systems and programmes. At the local scale in Barcelona it is already very well integrated. While the public health agency of Barcelona has never paid for using the system, it has promoted and helped leverage it at the city scale.

³²Mosquito Alert, Spain: <http://www.mosquitoalert.com/en/>

³³Palmer JRB, Oltra A, Collantes F, Delgado JA, Lucientes J, Delacour-Estrella S, Bengoa M, Eritja R, Bartumeus F. 2017. Citizen science provides a reliable and scalable tool to track disease-carrying mosquitoes. *Nature Communications* 8:916.

4.2 Readiness

“Slum Dweller Federations often say, ‘We have a problem, but we are the solution. If you don’t engage us then you might come up with solutions that are not best fit for us’”

Jane Wairutu, SDI-Kenya

The COVID-19 pandemic is not just a health and healthcare crisis, but also an economic, political, cultural and environmental crisis. Pre-existing and longer-term structural inequalities that are revealed in a health emergency worsen their impacts.

Investment in preparedness that is wide in scope and goes beyond health to address intersectoral issues and structural inequalities is necessary to underpin effective readiness. A significant scope of research is therefore required to understand the complex nature of readiness. Case studies in this session provided insights into readiness across a range of contexts and identified several research priorities.

Progress

Research provides an understanding of what preparedness and readiness is from the perspective of local communities. The technical concept of preparedness and readiness is not universally shared by communities and formal health emergency governance structures (or even between agencies working within formal structures). Communities focus on readiness priorities in accordance with local knowledge, which may not necessarily reflect the priorities of the formal preparedness and response structures.³⁴ Formal preparedness and response activities, when not informed by community-centred approaches, can also be perceived as undermining community action.³⁵

Large-scale funding mechanisms for community-centred programming can provide a platform for communities to identify and respond to a crisis. Where developed, such Community-Driven Development (CDD) programmes supported by the World Bank and other development partners provide systems, procedures, staffing, skills, trained volunteers and flexibility to support community-led responses.³⁶ There are three core elements to the CDD platform that help to facilitate readiness:

i) organisational structures and processes at community-level to identify, understand and respond to challenges; ii) mechanisms for transferring and managing resources to the local level; and iii) feedback mechanisms for channelling community issues and concerns.

Learning from Disaster Risk Reduction (DRR) approaches. The Health Emergency and Disaster Risk Management (Health-EDRM) framework provides a common language and approach that can be adapted and applied by those working in health and other sectors to reduce health risks and consequences of emergencies and disasters.³⁷ Lessons from the Health-EDRM include: i) the need for the health sector to be ready to work in concert with other sectors so as to not be overwhelmed during a response; ii) consideration of how to prepare for public-private partnerships by bringing the private sector into readiness planning; iii) understanding residual risk – those risks that can remain outside DRR planning – include a range of health aspects including categorisation of essential workers, data management, gender impacts, protection; and iv) the need for holistic risk communication across society.

Networks of frontline workers, such as CHWs, establish longstanding relationships with local communities that are particularly effective in a crisis. Maintenance of essential health services is fundamental to preparedness and readiness. CHWs are often at the centre of community health: they work as part of the health system and provide a bridge between communities and public health services of the state. Living Goods³⁸ in Uganda supports CHWs to be responsive, trusted, motivated, and accountable by providing the key tools for them to undertake their work. This includes training on service provision and communication, performance management, content and tools for communication (including cell phones), along with appropriate stipends for work undertaken. For COVID-19, networks of CHWs played an important role in complementing over-stretched public health sectors, maintaining essential health services, identifying and enrolling target populations for vaccination and undertaking RCCE activities.



³⁴Institute of Development Studies, UK: <https://www.ids.ac.uk>

³⁵<https://www.ids.ac.uk/programme-and-centre/pandemic-preparedness/>

³⁶World Bank Community-Driven Development: <https://www.worldbank.org/en/topic/communitydrivendevelopment>

³⁷Health Emergency and Disaster Risk Management Framework. (2019). Available at: <https://www.who.int/hac/techguidance/preparedness/health-emergency-and-disaster-risk-management-framework-eng.pdf>

³⁸Living Goods, Uganda: <https://livinggoods.org>

Community mapping of informal settlements – A case study from the Know Your City Campaign

The Know Your City (KYC) Campaign is an initiative by Slum Dwellers International (SDI)³⁹ and United Cities and Local Governments (UCLG) supported by Cities Alliance. It assists communities in collecting information and using it to improve their settlements and neighbourhoods, to engage with local governments, and to make planning more inclusive. The campaign has supported communities to collect data on urban informal settlements across Africa and Asia that are profiled and mapped geo-spatially.

Data include physical aspects such as population density, boundary maps, services such as water and sanitation points and health centres. In addition to the profiling data collected, SDI-Kenya and Accountability and Responsiveness in Informal Settlements for Equity (ARISE) have collected information on the number and location of community health volunteers which is combined with qualitative data on challenges, including training, resources and remuneration.⁴⁰ Vulnerable groups, including women, are also given the opportunity to voice challenges, priorities and solutions. All the research findings are validated by communities.

Impacts of the programme

The programme has supported those living in informal communities to succeed in having their settlements included in formal city maps. This recognition from local authorities has resulted in these communities being included in planning and investments for the improvement of urban informal settlements. Capacity was built during the knowledge and learning exchanges that occurred between SDI federations and country staff on the process for profiling communities, including data collection methods and use of Geographic Information System (GIS) mapping.

As a result, the programme has provided city data on informal settlements in 478 cities in 32 countries and over 7,000 slums that were profiled.⁴¹

Key lessons from working with communities to collect data

The methodologies and tools for collecting slum data under the KYC Campaign had to evolve based on feedback from communities regarding their practicality and scope for improvement. The power of GIS mapping has enabled data visualisation that provides a useful feedback mechanism for communities to better understand their data. Deeper partnerships between city governments and the KYC data collection activities will be necessary in the future to support informal settlement dwellers to update data on a more regular basis, and therefore more comprehensively capture the experience of communities. Expanding the mapping could also support communities to use the data to form partnerships with state and non-state actors to facilitate greater change.

The role of KYC data in supporting government in Kenya

In Kenya, research findings include settlement profiling data that played a role in supporting the Kenyan COVID-19 National Task Force to identify gaps and potential readiness actions, while also informing the Ministry of Health on the number of informal settlements in the city of Nairobi during the COVID-19 crisis. KYC data were used by support organisations to plan interventions for handwashing, including handwashing stations, design of sensitisation campaigns for COVID-19, and supporting over 5,000 vulnerable families in the communities. KYC data have also informed government planning processes, including those developed in collaboration with communities, CSOs and local government authorities, and has been integrated into the city local plans.⁴²

³⁹Know Your City Campaign: <https://sdinet.org/explore-our-data/>

⁴⁰Accountability and Responsiveness in Informal Settlements for Equity: <http://www.ariseconsortium.org/>

⁴¹Know Your City: Slum Dwellers Count' (2018) https://sdinet.org/wp-content/uploads/2018/02/SDI_StateofSlums_LOW_FINAL.pdf

⁴²Mukuru Special Planning Area informal settlement upgrading project: <https://www.muungano.net/mukuru-spa>

Hurdles and opportunities

Creating an enabling environment for multidisciplinary research on readiness.

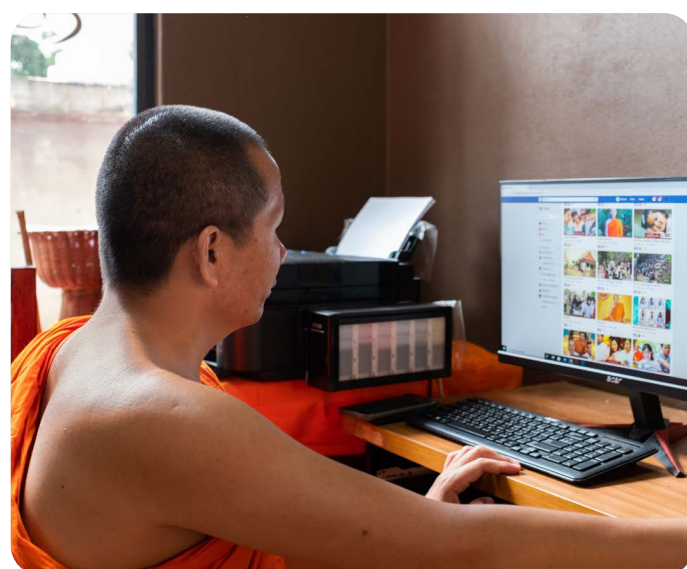
Multidisciplinary research that includes, for example, biomedical, social and environmental science perspectives, may be best placed to tackle the complexity of research related to community-based readiness. Mechanisms and incentives to support collaboration for multidisciplinary research, better understanding of barriers and disincentives to collaboration, and development of standards and protocols for multidisciplinary research, would help to advance practice in this area.

Community-led data collection design and challenges.

Community-led data are data collected by community members, usually within the context of a broader data collection initiative (such as the SDI, Mosquito Alert and the Red Cross examples). Methodological and practical challenges with community-led data collection include: representation and sample size given research and funding constraints; bioethics issues related to Western-centred approval frameworks of data management; the acceptance and interpretation of community-generated data by decision-makers; and accessibility of data and the monetisation of data (whereby data is treated as a commodity to be on-sold). To maximise engagement, community members need to see the value of the data they are being asked to collect and to receive feedback about how these data inform action related to protecting their health and livelihoods. Ideally, communities should be engaged in the identification of indicators of priority to them. Engaging communities to collect data and produce research that is not directly linked to their needs or has limited benefit to them can rupture relationships and create mistrust. Further, community members need to be involved in the design and implementation of data collection activities and in ensuring that culturally acceptable methodologies are used to gather data.

‘Community engagement’ data that are collected by CSOs and NGOs offer a rich resource. Organisations collect a large amount of data that are often only used for donor reporting or internal learning and this can provide much valuable data for researchers. Improving the quality and trustworthiness of these routinely collected data can provide important opportunities for secondary analysis, including for rapid analysis during an emergency.

Readiness for rapid social science research in future outbreaks. Another dimension of readiness was also discussed during this session: the readiness to rapidly deliver social science research related to community-centred initiatives for acute crises. Key mechanisms to advance the field include articulating an adaptive research agenda, flexible funding mechanisms, shared use of information and communication technology platforms, processes to centralise and share data, agile research approvals processes and shared ethics standards for social science research. Research readiness should also include agreed standards for data management and data storage, streamlining ethics approval processes and pre-positioned data sharing and access agreements.



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4.3 Response

“Accountability means not only having a seat at the table, but having our voice count at the table, and not just saying we included you there so that was your space, but you actually listened to our input and included it in accountability structures” Caroline Lidstone-Jones, Indigenous Primary Health Care Council, Toronto, Canada

Response during health emergencies includes a wide range of actions within an ongoing process of repeated assessment, planning, action, and review, focused on responding appropriately to needs and capacities as they evolve. This session consisted of case studies that explored different dimensions of community-centred approaches to response.

Progress

Local responses to COVID-19 demonstrate the power and potential of participatory practice to tackle pandemic challenges. The Thai Health Promotion Foundation⁴³ established a participatory process of co-responsibility between local communities, various civil society actors and health officials in response to the COVID-19 pandemic. The intervention identified priority needs, collected resources and organised the necessary activities and services based on needs assessments of the most vulnerable people. This included: a well-coordinated campaign strategy, setting up a community food bank, community kitchen, community market, allowing sharing the purchase, sale of local products and food online; various forms of administrative, financial or logistical support to people impacted by COVID-19, and containment measures. Specific services have been developed to support children in school or in their families. The key elements strengthening the self-management of the community response include: i) participation of the transformative leaders in the community; ii) a learning and knowledge management system that informed planning and decision-making; and iii) cooperation between local communities and other sectors.

Integrated response services for contact tracing and COVID-19 advice delivered by community representatives built trust and improved uptake.

At the Katholieke Universiteit Leuven (KLU) in Belgium, a system was established for COVID-19 testing and contact tracing amongst a large student population. The key elements to success (and overcoming challenges of community trust) included: a well established system of privacy safeguards related to data management, training and supervision of local medics and student volunteers; regular communication of privacy safeguards to end users; providing administrative services including appointment-making, a helpline and COVID-19 advice alongside contact tracing to encourage information exchange; and ensuring the maintenance of feedback loops between key stakeholders. KLU⁴⁴ found that combining response services – for example integrating testing, contact tracing, care provision and administrative services in one location – improved efficiency, resulted in high levels of community access, and established trust with the target community.

New methods to rapidly understand vulnerability in the context health emergencies inform tailored and responsive actions.

The COVID-19 crisis has exacerbated or given rise to inequalities that have led to new forms of vulnerability. Understanding what fragility, marginalisation and exclusion can mean in any given context, and how they are produced, manifest themselves and change over time, is essential to moving beyond concepts of ‘community’ that are exclusionary. SoNAR-Global⁴⁵ has adapted a vulnerability assessment and systematic data collection tool developed by University College London to map and understand the diversity and heterogeneity of communities and social networks including vulnerability to share with response actors. In practice, this means identifying local categories of vulnerability, evaluating the complex processes that produce vulnerabilities during the pandemic, then helping marginalised people to connect to available resources/forms of assistance (formal, informal), making sure they have access and that the form of assistance responds to their needs, and adapting resource allocation more effectively and responsively to those needs.



Issues of bioethics (the ethics of medical and biological research) are enhanced when considered through a community lens. Bioethics and research justifications that make moral judgments about the right and wrong or justness and unjustness of working with communities are traditionally considered through a ‘Westernised’ lens. The Indigenous Primary Health Care Council (IPHCC)⁴⁶ in Canada found that looking at bioethical decision-making through an indigenous lens meant looking at the historical impacts of issues such as racism and discrimination while at the same time considering the power of understanding those historical impacts and perspectives on outcomes. Examining ethical decision-making in conjunction with communities will result in more meaningful engagement and collaborative decision-making.

Tailoring vaccine delivery and contact tracing efforts to specific vulnerable communities can increase uptake. In support of this, IPHCC worked to conduct and validate their own studies outside of governmental systems to demonstrate that indigenous communities were being impacted in a greater way than was being reported by the government. This included the creation of Indigenous-specific indicators that are meaningful to the target communities and resulted in targeted communication adaptive changes at vaccination sites and in significant uptake. In addition, indigenous community-specific contact tracing was designed to take into account the vulnerabilities of those populations.

⁴³Thai Health Promotion Foundation, Thailand: <https://en.thaihealth.or.th>

⁴⁴Katholieke Universiteit Leuven, Belgium: <https://www.kuleuven.be/english/>

⁴⁵SoNAR-Global: <https://www.sonar-global.eu>

⁴⁶The Indigenous Primary Health Care Council: <https://www.iphcc.ca>

Participatory research on local knowledge systems – A case study from South Sudan

South Sudanese communities have long hard experience of epidemic response. The Rift Valley Institute⁴⁷ in South Sudan has conducted research highlighting the importance of local epidemiological knowledge, including symptomatic diagnoses, in organising early response within weak health systems. They found that in chronically weak clinical healthcare contexts, communities organise their own emergency responses to diseases building on knowledge and strategies developed during previous outbreaks.

Primary challenges to implementing the community-centred approaches identified

Emergency medical interventions in South Sudan have been generally top-down and authoritative and operated on a very limited model of engagement with 'traditional leaders' and one-way simplified information campaigns. Epidemic response teams often have a limited understanding of how and where residents seek medical knowledge and help, and struggle to recognise local experience and medical knowledge. Clinical medical staff are often suspicious of local medical workers, such as herbal medics and, especially in rural areas, many residents are suspicious of pharmaceutical medicine.

Common success factors for community-centred approaches identified

By listening to residents about past response activities and connecting this to archival documentation of past responses, the research identified three common characteristics of successful past responses to acute crises:

1. Response teams collaborated quickly with what local organisation was available, including teachers and students, midwives and women's unions to run door-to-door information campaigns and case tracking.
2. Response teams shared epidemiological information widely, with both local leaders and households more generally, to spread clear understanding of symptoms and risks, and help identify cases within the community.

3. The response worked to control the epidemic between households, rather than taking an individualistic approach to isolating cases and preventing transmission – recognising that most people's livelihoods and care depend on their families.

Presenting research findings to government and communities

South Sudanese researchers have presented the research findings to the Ministry of Health and its national strategy committee, as well as other major international health agencies working in South Sudan. It is hoped that the research recommendations will be used in integrating epidemic responses into local community health systems and in reaching out to non-clinical healthcare workers across communities. Findings were also presented to research site communities and included discussing ways forward locally.

Lessons for future health emergency response

Epidemic emergency responses need realism, time, and integration into wider healthcare work. In South Sudan, like elsewhere in Africa, epidemic campaigns often ask for actions that are unrealistic in the context of a lack of functioning local clinics and daily economic pressures. They often focus on individual diseases and support reactive rather than proactive epidemic action. South Sudanese people often find these atomised programmes frustrating – especially where they fail to take into account other local risks to life, such as conflicts and environmental disasters that pose a more immediate danger. It takes sustained conversations and collaborative planning to build local knowledge of the epidemic risk and trust in the response. Epidemic responses would find local collaborators and community trust if they built on past epidemic responses within a local area, listening to what worked (and what did not), sharing a detailed understanding of symptoms and transmission risks using local terminologies, and drawing in local herbalists and surgeons who are often seeking skills and knowledge. This would pick up on locally tested and understood transmission prevention tactics and provide the trust and mutual understanding needed for a comprehensive response.

⁴⁷The Rift Valley Institute, South Sudan: <http://riftvalley.net>. Thank you to Nicki Kindersley (Cardiff University and Rift Valley Institute) and Joseph Diing (Rift Valley Institute), for contributing to this case study.

Hurdles and opportunities

Understanding the barriers and obstacles to community voices being expressed and heard. This includes developing an adequate understanding of the complexity of power dynamics within communities, whereby formal leadership may not necessarily represent the full range of community perspectives due to local inequities. When adequately representative of all community members, including vulnerable groups, communities bring a form of power that is reflective of their local needs and realities. This power needs to be shared through mechanisms that meaningfully reach decision-makers in order to include community perspectives.

‘Validation’ and recognition of local knowledge systems and data. In low-resource settings, health knowledge and expertise within the non-formal health sector (mainly women) is critical in organising local responses. Engaging with local informal health systems that are compensating for weak formal health systems presents opportunities to ensure that those working in those systems are included in funding and planning. Clinical priorities and the high standards often mandated during health emergency response often do not reflect the practical realities of many contexts. Biomedically sound standards of practice are essential; however, an understanding and acceptance of alternative or local knowledge within the context of weak health systems is essential in bridging the gap between clinical best practice recommendations and contextually relevant and appropriate solutions.

Translating findings into response policy and action. The needs of communities identified by research into issues such as vulnerability, are not routinely recognised and addressed by governments and response authorities. Engaging decision- and policymakers upfront in the research being undertaken and ensuring research produces clear policy recommendations which could be co-developed, is key to ensuring research findings influence policy decisions.

Making research inclusive and accountable. Research conducted during a PHE should have a clearly articulated route to how it will impact the

response and who will benefit from the findings. Research-fatigued communities that see no tangible change as a result of their participation can choose not to participate in future studies. Best practice for community-centred research requires decisions about what research is conducted and how it is conducted to include the views of affected communities.

4.4 Recovery

“The post-epidemic social and economic consequences are usually missed by health and political authorities as well as funders” Gustavo Corrêa Matta,
Zika Social Science Network and Sergio Arouca National School of Public Health, Oswaldo Cruz Foundation (FIOCRUZ), Brazil

This session built on the United Nations (UN) Research Roadmap for the COVID-19 Recovery,⁴⁸ a consultative process that included more than 270 experts who identified research priorities across five domains: i) health systems and services; ii) social protection and basic services; iii) economic response and recovery programmes; iv) macroeconomic policies and multilateral collaboration; and v) social cohesion and community resilience. The session looked at examples of how community-led initiatives can address efforts across these domains.

Progress

Communities and community networks demonstrate an ability to organise and act more rapidly than formal mechanisms.

Communities have designed and implemented their own response and recovery mechanisms at speed, often faster than formal government-led approaches have managed. In South Africa, the ‘Cape Town Together Community Action Network’⁴⁹ initiative brought together networks of community organisers, social activists, public health practitioners and researchers to deliver a rapid community-led response. Self-organising

⁴⁸UN Research Roadmap for the COVID-19 Recovery. Available at:

<https://www.un.org/en/coronavirus/communication-resources/un-research-roadmap-covid-19-recovery>

⁴⁹van Ryneveld. M, Whyte. E and Brady. L. (2020). What is COVID-19 Teaching Us About Community Health Systems? A Reflection from a Rapid Community-Led Mutual Aid Response in Cape Town, South Africa. International Journal of Health Policy and Management. Available at: https://www.ijhpm.com/article_3904.html

neighbourhood groups responded to local needs – for example, by setting up COVID-safe community kitchens, mask-making groups, access to water, and community care centres. The network also contributed community-level insights into policy as part of the health response and was supported by researchers, including from the Western Cape Department of Health, that were ‘embedded’ in that they were also active members of the initiative.⁵¹

Initiatives are underway that focus on recovery, reaching beyond epidemiological impacts. The downstream effects of COVID-19 have highlighted the critical role of resilience and the need for longer-term initiatives that build and support community resilience including in the midst of the ongoing COVID-19 pandemic. For example, research conducted by JustJobs Network⁵² in India has shown the significant toll COVID-19 has had on livelihoods, employment and economic opportunity. These challenges need to be addressed now so communities have more control over economic generation.

Legacy networks from previous PHEs have been drawn on to advance COVID-19 recovery. Research on the social impacts of the Zika epidemic in Brazil by the Oswaldo Cruz Foundation (FIOCRUZ)⁵³

described community mechanisms established to combat Zika that involved social movements and trusted mechanisms for information sharing and focused on supporting mothers and children with microcephaly. There were high levels of organisation amongst women via the WhatsApp platform. The research found that these groups were then leveraged by the women for broader recovery efforts, including for other birth defects and during COVID-19.

Funding agencies are looking at how research can reflect changes in attitudes towards community-centred research design and implementation.

As a funder, the Social Sciences and Humanities Research Council in Canada⁵⁴ highlighted that opportunities exist for investing in research for community-centred approaches that will result in sustained investments in community solutions and the research of these for recovery. Funding awards should include a diversity of knowledge, recognise different knowledge systems and ethnologies, support multidisciplinary research, and facilitate partnerships globally.

Local knowledge systems that are integrated into how research is conducted can improve community governance. Data that are relevant and contextualised to communities are essential to



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understanding community-approaches to response and recovery. The Grand Challenges Canada Indigenous Innovation Initiative⁵⁵ has worked to ensure early and sustained engagement with indigenous communities from research through to analysis. Having respect for community voices, respecting their dignity, and placing them on an equal playing field with academics and service providers, results in stronger outcomes and impacts.

Partnerships across civil society and research brings rich understanding from multiple perspectives of the impacts of pandemics and opportunities for recovery. Given the wide range of socio-economic impacts of COVID-19 that reach across policy, implementation and research, these partnerships will be essential. The National Science Foundation of Sri Lanka⁵⁶ has recognised that Community-Based Organisations (CBOs) play a pivotal role in bringing community concerns to the fore, especially in the recovery process. Funding agencies should support CBOs to co-design and conduct research related to community-centred approaches to recovery.

The COVID-19 pandemic has seen unprecedented investment in social science research across multiple issues impacting communities but this investment has not been equitable globally. The African Academy of Sciences⁵⁷ has led on agenda-setting for COVID-19 research on the continent. However, despite the explosion in research there is still inequality on a number of fronts (e.g. access to data, access to grants and funding, technology and academic publication). There is a need to build the capacity of African researchers and in regions where domestic researchers are underrepresented in research design and funding.

Hurdles and opportunities

Governance, partnerships and creating an enabling environment for recovery. For research related to recovery, partnerships are essential between governments, NGOs, informal community-based groups, multilateral organisations and the private sector. Recovery is impacted by issues to do with health, loss of livelihoods, lack of social security

and basic services, logistics issues related to vaccines and technologies, pre-existing poverty and inequality and the shrinking of economies. The transversal nature of these issues requires not only multidisciplinary research, but also supportive, multisectoral partnerships. Researchers must establish strong partnerships with policy and decision-makers to ensure that community-centred research results in policy change.

Addressing the sustainability of community-centred approaches and associated research.

When post-epidemic social and economic consequences are overlooked by health and political authorities and funders, research has an important role to play in highlighting the socio-economic impacts of a crisis so that they are not neglected. This also applies to maintaining significant resources allocated for establishing response systems (such as community surveillance), health system strengthening, and community-centred research, which often dries up when disease transmission stops or is considered low-risk (e.g. Ebola in West Africa and Zika in South America).

Research accountability: ethics, data sharing and scale. Research must be coordinated and collaborative in terms of partnerships between local researchers and local communities. Research becomes extractive when it is driven by the imperative of global or non-local research institutions and is not linked to local structures that are able to enact or implement policy change for recovery. While the discussion on data access and sharing is resulting in progress on protocols and platforms and greater data equity, there needs to be more sharing of data across all stakeholders. When researchers see data as proprietary, it can take years to be fully available for other researchers. This is counterproductive and can be unethical when recovery is an urgent priority. There are examples of databases for sharing data, but these are predominantly epidemiological data – and do not currently include data from social science research.

⁵¹Western Cape Department of Health: <https://www.westerncape.gov.za/dept/health>

⁵²JustJobs Network, India: <https://www.justjobsnetwork.org>

⁵³Oswaldo Cruz Foundation (FIOCRUZ), Brazil: <https://portal.fiocruz.br/en>

⁵⁴The Social Sciences and Humanities Research Council, Canada: <https://www.sshrc-crsh.gc.ca/home-accueil-eng.aspx>

⁵⁵Grand Challenges Canada Indigenous Innovation Initiative: <https://www.grandchallenges.ca/programs/indigenous-innovation-initiative/>

⁵⁶The National Science Foundation of Sri Lanka: <https://www.grandchallenges.ca/programs/indigenous-innovation-initiative/>

⁵⁷The African Academy of Sciences: <http://aasciences.africa>

5. Evidence gaps

Discussions during the consultation resulted in the identification of approximately 125 evidence gaps across the phases of the health emergency cycle (Appendix 2). These were grouped thematically, and examples of questions are summarised in the tables below.

Short-term evidence gaps relate to research that can be conducted within 3-6 months and were identified with a view to responding to current ongoing COVID-19 challenges, including in terms of the evidence that can inform population readiness to face further and anticipated waves of COVID-19. Medium- (6-24 months) to longer- (24 months+) term priorities consider the wider investments that need to be made to build and advance the evidence base for community-centred approaches.

Short-term (3-6 months) to medium-term (6-18 months) evidence gaps to strengthen community-centred approaches

Research priority area	Key research questions	Types of studies
Research to understand community groups, structures and needs, and inform inclusive, appropriate tailored and responsive interventions and programmes	<ul style="list-style-type: none"> • What are best practice methods to assess marginalisation and vulnerability among community groups? What are the needs among identified groups, and what data needs to be captured to reveal how health emergencies impact them? (short-term) • What are current high-impact approaches to co-develop and tailor the design and delivery of policies, programmes and interventions to respond to fragility, marginalisation, exclusion and vulnerability of some community groups? (short-term) • What methods have been successful for integrating community knowledge and expertise identified through research into public health and clinical responses? (short-term) 	<ul style="list-style-type: none"> • Systematic review of existing tools and approaches • Methodological innovation, e.g. for rapid assessment of vulnerability, power mapping • Participatory practice and intervention co-design • Implementation science • Consultations using qualitative methods (e.g. surveys, focus groups)
Research to strengthen community-centred initiatives and achieve outcomes aligned with public health goals	<ul style="list-style-type: none"> • What methods are needed to rapidly assess existing CSOs and CBOs to reach the communities that they serve? How can fair, trusting partnerships with governments and these groups be established and strengthened? (short-term) • What are recent scalable and high-impact community-centred approaches that have been utilised to improve contact tracing? How can the impact of these approaches be evidenced? (short-term) • How can we better understand care needs, including those related to care at home, and community-centred approaches to meet these needs in contexts of uncertainty about clinical aspects of emerging infectious disease, and to increase mutual trust with health workers and within the response? (short-term) 	<ul style="list-style-type: none"> • Methodological innovation, e.g. related to measurement • Implementation science • Programmatic and operational research • Consultations using qualitative methods (e.g. surveys, focus groups) • Systematic review of existing tools and approaches

Research priority area	Key research questions	Types of studies
	<ul style="list-style-type: none"> • What defines and drives effectiveness or success in relation to community-centred initiatives? What are best methods and approaches to understand and assess if these approaches are inclusive, if they build on social capacity, enhance trust, are replicable or scalable, and are meaningful to the affected populations? (medium-term) • What are the fundamental principles of successful approaches to citizen-collected data and how can we evaluate and ensure quality? What methodological approaches (e.g. standardised application of sampling biases and quality filters) are needed to strengthen the reliability, quality and validity of citizen-collected data? (medium-term) • What tools and operational criteria are needed for effective 'feedback loops' with communities for sustained engagement, and how can meaningful two-way communication be measured? (medium-term) • What methods and approaches are being used for CBS, and what defines and drives the success of high-impact approaches? What successful approaches have been employed (including tools and methods) to ensuring data quality in relation to CBS? What are the optimal technologies for specific contexts and disease types? (medium-term) 	
Research to understand and address structural barriers and enablers to integration of community-centred approaches	<ul style="list-style-type: none"> • Drawing on analysis of current engagement with/of civil society and community groups, what can we rapidly learn about barriers and enablers to their full involvement in tackling pandemic challenges (e.g. related to governance, socio-economic and environmental factors)? (short-term) • What are the barriers to public health and biomedical actors in actively incorporating community-centred approaches within and across the health emergency cycle? (short-term) • In what way do actions, policies and processes of governments, multilateral institutions and other public health organisations act as bottlenecks or enablers to community-centred approaches? (medium-term) 	<ul style="list-style-type: none"> • Consultation via online surveys, use of qualitative methods (e.g. focus group interviews) • Multidisciplinary research methods consisting of teams including social scientists, political scientists, and economists

Long-term (24 months+) evidence gaps to strengthen community-centred approaches

Research priority area	Key research questions	Types of studies
Research to understand community groups, structures and needs, and inform inclusive, appropriate, tailored and responsive interventions and programmes	<ul style="list-style-type: none"> • How can commonly recognised aspects of epidemics (such as stigma, anxieties, fear) and their responses be anticipated and mitigated through research into community-centred approaches? • How are better connections between state-or government-led response and community-level activities facilitated and what are the factors that have or have not enabled these? • What are the barriers to equity in research related to the identification of research priorities, access for local researchers, and facilitating community-generated data collection? 	<ul style="list-style-type: none"> • Methodological innovation, e.g. for developing community indicators • Consultations using qualitative methods (e.g. surveys, focus groups)
Research to strengthen community-centred initiatives and achieve outcomes	<ul style="list-style-type: none"> • What are the methodological innovations required for effective research into community-centred approaches across the health emergency cycle? • What are the fundamental elements of community-centred approaches that have been scaled in health emergencies? What are the practical limits to scale and what are the trade-offs in terms of quality when approaches are scaled? • What is the business case for investment in community-centred approaches? How do we measure the extent to which community-centred approaches reduce the costs and improve the outcomes of health emergencies? • What are the appropriate parameters to be included in standards or guidance developed for activities such as community readiness and CBS? What are the actions or policies that are transferable and measurable across contexts? • What are the impacts of political, social, cultural and economic forces on the environment in any given context and how do they place pressure on wildlife and other environmental aspects from where zoonotic disease emerges? • What is the legacy and associated impacts of previous health emergencies – including structural, socio-cultural, political, environmental, and economic impacts – and how can it guide strategies associated with future health emergencies? 	<ul style="list-style-type: none"> • Methodological innovation, e.g. for advancing methods and metrics for measuring community-centred approaches • Participatory practice and intervention co-design • Implementation science • Systematic review of archival documentation (explanatory studies, evaluations) • Cost-benefit analyses • Multidisciplinary research methods consisting of teams including social scientists, political scientists, and economists

Research priority area	Key research questions	Types of studies
	<ul style="list-style-type: none"> • What community-centred research methods and approaches are required to inform research across a range of health emergency impacts, including health service access and delivery, mental health, psychological wellbeing and recovery, the use of vaccines, disaster risk communication, public trust in science, economic recovery, strengthening of the education systems, community engagement systems, gender equality and environmental sustainability? 	
Research to understand and address structural barriers and enablers to integration of community-centred approaches	<ul style="list-style-type: none"> • What are the design, partnership and funding requirements necessary for applying One Health methodologies that are collaborative, multisectoral and transdisciplinary to research on community-centred approaches? • What are the optimal health and community health financing models across different contexts for promoting community-centred design and delivery? What models disincentivise the participation and inclusion of communities? • During health emergency recovery, what sectors at state-level are most at risk of governance/policy failure and what are the associated impacts on communities? How can the identification of these risks result in recommendations for public policy, funding and capacity-building? • What training, partnerships and platforms are required for advancing researcher capacities to make informed and practical recommendations for the operationalisation of research findings for policy and implementation in real time? 	<ul style="list-style-type: none"> • Adaptation of One Health research approaches • Consultations using qualitative methods (e.g. surveys, focus groups) • Implementation science

6. Conclusion.

Health emergencies, such as the current global pandemic, begin and end with communities. The ad hoc consultation: Community-centred approaches to health emergencies: progress, gaps and research priorities provided clear, practical examples of how community-centred approaches are innovating, adapting and growing in response to localised health emergencies.

Community-centred approaches, be they local community action, approaches informing wider readiness and response measures, or informing or informed by participatory research, reflect community voices that are grounded in local realities and are essential to making sustained change. Research must play a central and evolving role in strengthening these approaches.

The outcome of this consultation points to broad areas for research to advance this agenda. Evidence generated to address the gaps identified in this consultation will likely challenge established norms and processes and test the accountability of international policies and frameworks to local populations. This action is necessary and timely in global efforts to prevent and respond to new pandemic threats.



Appendix I: Consultation agenda

Time	Topic	Speakers
13:00-13:10	Welcome remarks and objectives of the meeting	Soumya Swaminathan , Chief Scientist, WHO
Opening panel		
13:10-14:10	Moderator: Nina Gobat , University of Oxford	Elhadj As Sy , Co-chair, Global Preparedness Monitoring Board Mike Ryan , Executive Director, WHO Health Emergencies Programme Tian Johnson , African Alliance Sabina Rashid , BRAC James P Grant School of Public Health, BRAC University
Breakout sessions		
14:15-15:45	Participants are invited to join a breakout session where panellists will present various perspectives and examples of effective and successful experiences from the field. <ul style="list-style-type: none"> • What have we learned from community-centred initiatives in each of these stages of the health emergency cycle? • What are the urgent current knowledge gaps and research questions to advance the field in this area? 	
Group 1	Early disease detection Moderator: Arnold Bosman , Transmissible BV Rapporteur: Danny de Vries , University of Amsterdam Join panel here: www.tinyurl.com/WHOGroup1	Amrish Baidjoe , Lead Public Health and Community-Based Surveillance: Norwegian Red Cross/London School of Hygiene and Tropical Medicine, Norway Gladys Kalema-Zikusoka , Conservation Through Public Health, Uganda Frederic Bartumeus , Mosquito Alert lead, ICREA Research Professor, Theoretical and Computational Ecology Group; CEAB-CSIC (Girona) and CREA (Barcelona), Spain Pierre Echaubard , APMEN: Cambodia – Vector-borne disease, Thailand Omnia Elomrani , Liaison Officer for Public Health Issues, International Federation of Medical Students Associations, Egypt
Group 2	Readiness Moderator: Melissa Leach , Institute of Development Studies, United Kingdom Rapporteur: Debora Diniz , Universidade de Brasília, Brazil	Jane Wairutu , Shack Dwellers International - Kenya, Nairobi Hayley MacGregor , Institute of Development Studies, United Kingdom Emily Chan , Chinese University of Hong Kong Ana Lucia Arellano , Latin American Network of Non-Governmental Organizations of Persons with Disabilities and their Families (RIADIS) Sean Bradley , World Bank, United States of America Diana Nambatya Nsubuga , Africa Regional Deputy Director, Policy and Advocacy, Living Goods, Uganda

Time	Topic	Speakers
Group 3	<p>Response</p> <p>Moderator: Karl Blanchet, University of Geneva, Switzerland</p> <p>Rapporteur: Khoudia Sow, Centre Régional de Recherche et de Formation à la Prise en Charge Clinique de Fann, Dakar, Sénégal</p>	<p>Caroline Lidstone-Jones, Indigenous Primary Health Care Council, Toronto, Canada</p> <p>Joseph Diing, Rift Valley Institute, South Sudan, and Nicki Kindersley, Cardiff University and Rift Valley Institute, South Sudan</p> <p>Tamara Giles-Vernick, Coordinator SoNAR Global, Institute Pasteur, France</p> <p>Chantal Akoua Koffi, Université Alassane Ouattara de Bouaké, Cote d'Ivoire and CADMEF - Association of Deans of Faculty of Medicine of French-speaking African countries</p> <p>Joren Raymenants, Katholieke Universiteit Leuven, Laboratory of Clinical Bacteriology and Mycology, Belgium</p> <p>Khanitta Nuntaboot, Center for Research and Development in Community Health System, Community Health Research and Knowledge Management Node for the Thai Health Promotion Foundation, Faculty of Nursing, Khon Kaen University, Thailand</p>
Group 4	<p>Recovery</p> <p>Moderators: Samuel Oji Oti, International Development Research Centre, Canada and Morgan Lay, Canadian Institutes of Health Research, Canada</p> <p>Rapporteur: Steven J Hoffman, Canadian Institutes of Health Research, Canada</p>	<p>Leanne Brady, Health Policy and Systems Division, University of Cape Town and Emergency Medical Services, Western Cape Department of Health</p> <p>Sabina Dewan, JustJobs Network, India</p> <p>Gustavo Corrêa Matta, Zika Social Science Network and Sergio Arouca National School of Public Health, Oswaldo Cruz Foundation (FIOCRUZ), Brazil</p> <p>Ursula Gobel, Social Sciences and Humanities Research Council of Canada</p> <p>Thilina Kumari Kandanamulla, National Science Foundation of Sri Lanka</p> <p>Luiz Eugênio Mello, São Paulo Research Foundation (FAPESP), Brazil</p> <p>Aparna Mukherjee, Indian Council of Medical Research</p> <p>Isayvani Naicker, African Academy of Sciences</p> <p>Sara Wolfe, Indigenous Innovation Initiative, Grand Challenges Canada</p> <p>Yazdan Yazdanpanah, INSERM, France</p>
Defining the research agenda and way forward		
16:00-16:50	<p>Moderator: Joao Rangel de Almeida, Wellcome Trust</p>	<p>Danny de Vries, University of Amsterdam, the Netherlands</p> <p>Debora Diniz, Universidade de Brasília, Brazil</p> <p>Khoudia Sow, Centre Régional de Recherche et de Formation à la Prise en Charge Clinique de Fann, Dakar, Sénégal</p> <p>Steven J Hoffman, Canadian Institutes of Health Research, Canada</p>
16:50-17:00	Closing remarks	Ana Maria Henao Restrepo , WHO

Appendix II: Research gaps and questions identified

Research priority	Questions and areas of focus – operational focus	Types of studies
Overarching themes		
Understanding community groups, structures and needs for development of inclusive, appropriate and tailored interventions	<ul style="list-style-type: none"> • What are best practice methods to rapidly identify and understand the needs of different population groups including those who are less visible and marginalised? • How can the outcome of these assessments inform tailored, responsive programmes? • What are best approaches to tailor the design and delivery of programmes and interventions to respond to fragility, marginalisation, exclusion and vulnerability of some community groups and mitigate the differential impacts of public health responses among these groups? • What approaches and tools need to be developed and adapted for the rapid assessment of vulnerability and power mapping? • What are best practice research approaches to integrate and leverage community knowledge and expertise across the health emergency cycle? • What are the barriers to public health and biomedical actors in actively incorporating community-centred approaches within and across the health emergency cycle? 	<ul style="list-style-type: none"> • Consultation with public health actors via online surveys, use of qualitative methods (e.g. focus groups, key informant interviews) • Participatory practice and intervention co-design • Implementation science • Systematic review of existing tools and approaches • Consultation with communities (e.g. through focus groups, key informant interviews) • Methodological innovation, e.g. for rapid assessment of vulnerability, power mapping
Incorporating community-generated data for research and response	<ul style="list-style-type: none"> • What methodological approaches (e.g. standardised application of sampling biases and quality filters) are needed to strengthen the reliability, quality and validity of citizen-collected data? What are the optimal ways of adjusting scientific methods to ensure their use? • What community-led data collection methods are most effective for generating well-known, high-quality data to reset global norms around quality, sufficiency and representativeness? • What tools and operational criteria are required for the assessment of 'feedback loops'? What does an effective 'feedback loop' look like and how is its effectiveness measured? What are the key elements of a community-centred feedback loop that can be applied across contexts? • What methodological approaches are required to be able to better generalise small samples often used by social science research with a good degree of reliability? 	<ul style="list-style-type: none"> • Systematic reviews of existing community-led data collection tools, methodologies and technologies • Participatory research • Operational research • Implementation science • Observational studies (especially during response) • Multidisciplinary analysis and testing of community-generated data sets (e.g. Integrated Data Modelling)

Research priority	Questions and areas of focus – operational focus	Types of studies
Understanding community groups, structures and needs for development of inclusive, appropriate and tailored interventions	<ul style="list-style-type: none"> • What are the operational imperatives, structures and systems of the emergency response architecture (e.g. how pillars take in and interpret information) that need to be matched with the needs and capacities of communities to participate? • What research frameworks or approaches need to be established for overcoming the structural barriers to understanding community-centred approaches, including working within biomedical pillars and across the stages of the health emergency cycle? • How can community-centred resilience, readiness and response be built into strategic and operational planning so that it is a much bigger component of health emergency activities? • What is the business case for investment in community-centred approaches? How do we measure the extent to which community-centred approaches reduce the costs and improve the outcome of health emergencies? • What forms of operational and/or programmatic research are required to support decision-makers to better understand community-centred approaches and how to integrate them into planning and interventions? • What are the approaches and associated tools that can be adapted for use by communities in holding governments to account for their commitments and service delivery, especially in health? • What evidence is needed, and in what form, for community-centred approaches to be integrated across all workstreams and at all levels within WHO health emergency action? 	<ul style="list-style-type: none"> • Analysis of existing impact evaluations and budgets by multidisciplinary research teams including social scientists, political scientists, and economists • Systems analysis of humanitarian framework • Operational research • Implementation science • Cost-benefit analysis
How can we improve 'how' research on community-centred approaches is conducted?	<ul style="list-style-type: none"> • What are the methodological innovations required for effective research into community-centred approaches across the health emergency cycle? • How are issues of bioethics understood from community perspectives and how do issues of discrimination, power imbalances and research inequities impact research decision-making, funding and accountability? How can a reframed understanding of bioethics guide future research decisions? • What forms of interdisciplinary partnership are most effective and what are the possibilities of working with epidemiologists, demographers and modellers in such a way that highlights richness of qualitative approaches? 	<ul style="list-style-type: none"> • Consultation with communities, researchers (north and south) and public health actors, NGO stakeholders, multidisciplinary partners (e.g. surveys, focus groups) • Systematic reviews of current tools and methods (bioethics approvals, training methods) • Participatory practice and intervention co-design • Integrated mathematical modelling using social science data

Research priority	Questions and areas of focus – operational focus	Types of studies
	<ul style="list-style-type: none"> Given that readiness and response are unidirectional actions (i.e. bottom-up and top-down), how do we build the capacity of social science research to make practical recommendations for operationalisation based on research findings? What are the operational opportunities and challenges for embedding researchers within health systems and community organisations over a long period of time, thereby improving their capacity to understand and appreciate community-centred approaches? How are the barriers to equity in research regarding issues such as the identification of research priorities, equity and access for local researchers, and facilitating community-generated data collection overcome? 	
Early disease detection		
How can we improve community-centred surveillance efforts	<ul style="list-style-type: none"> What methodologies and approaches are being utilised for community surveillance, and what are the fundamental drivers of success? What is the evidence that integrating surveillance with community engagement and alongside other public health interventions increases trust and efficiency? What inputs are required for developing minimum standards for community-centred surveillance in support of better accountability, efficiency and comparable measurement of outputs and impacts? What are the appropriate tools and methods for facilitating community surveillance and data collection? What are the optimal technologies for specific contexts and disease types? 	<ul style="list-style-type: none"> Consultation with public health actors and RCCE experts via online surveys, use of qualitative methods (e.g. focus group interviews) Participatory practice and intervention co-design Implementation science Systematic review of existing tools and approaches Consultation with communities using qualitative methods (e.g. surveys, focus groups)
How can we better understand broader community perceptions of risk?	<ul style="list-style-type: none"> How do we integrate an understanding of the complex interactions that exist between both communities/public health and the ecosystem of people, animals and environment into early disease detection systems? What is the impact of issues such as population on the environment and how do they place pressure on wildlife and other environmental aspects from where zoonotic disease emerges? 	
What are the optimal approaches to early disease detection?	<ul style="list-style-type: none"> What are the best practices and how have communities and the public health system worked together to design and implement early disease detection systems? How do we ensure that a One Health approach is applied to all aspects of community-centred research and programming? 	

Research priority	Questions and areas of focus – operational focus	Types of studies
Readiness		
How can we best define and contextualise readiness from a community-centred perspective?	<ul style="list-style-type: none"> • How are the different preconditions for readiness – e.g. governance frameworks, existing networks, state capacities – in different contexts best categorised and how are they measured in a meaningful way? • How can these preconditions be developed into typologies of community-led readiness and response that support of a comparative research agenda? • What are the appropriate parameters to be included in the development of standards for community readiness, and what are the minimum actions or policies that are transferable across contexts that can assist multiple stakeholders to have a shared language and fundamental understanding of readiness and how to measure the associated parameters? • What are the core parameters for synthesising contextual evidence related to readiness (e.g. mapping of organisations and civil society movements, access of health services, formal and informal forms of governance, mapping of social vulnerabilities, local capacities), and how are these data best collected and analysed? 	<ul style="list-style-type: none"> • Multidisciplinary research methods consisting of teams including social scientists, political scientists, and economists • Meta-analyses of governance contexts • Systematic reviews of current tools and methods for measuring readiness • Consultation with key stakeholders using qualitative methods (e.g. focus group interviews, online workshops)
How can we best understand the efficacy of different readiness approaches?	<ul style="list-style-type: none"> • What is the effectiveness of the various mechanisms that are currently used to improve social accountability (e.g. community scoring), for improving services and equity in health services? • Across the different political, social, economic and health systems contexts, what are the enabling or inhibiting factors for readiness and how has this impacted various community-centred approaches? • Where are barriers related to governance, socio-economic factors, environmental factors? • Where these are systemic issues (e.g. related to governance, socio-economic or environmental factors) and have been overcome, what are the mechanisms and community-centred approaches that have effectively overcome these barriers? 	<ul style="list-style-type: none"> • Consultation with communities (household surveys, questionnaires to assess their health facility, care experiences and health indicators) • Qualitative analytic approaches such as content or thematic analysis to interpret focus group or interview discussions • Systems analysis of humanitarian frameworks

Research priority	Questions and areas of focus – operational focus	Types of studies
How can we integrate community readiness into broader readiness strategies?	<ul style="list-style-type: none"> • How can we use social science research to inform health (and especially community health) financing models and better make the financial investment case for community health preparedness and readiness? • What are the policy options and governance mechanisms for legitimising the role of communities in local health governance for greater community and civil society involvement around community readiness and resilience? • What are the priority areas for governments at all levels (e.g. planning and actions, political commitments, resource allocation, relevant policies and rules and regulations) to improve community readiness and resilience to ensure inclusive, people-centred, and community-led emergency preparedness and response? • How are better connections between formal response-level and community-level activities facilitated and what are the factors that have or have not enabled these? 	<ul style="list-style-type: none"> • Consultation with government, public health actors and communities (key informant interviews, focus groups, workshops) • Multidisciplinary research methods consisting of teams including social scientists, political scientists, and economists
Response		
How can we improve implementation and efficacy of response activities by utilising community-centred approaches?	<ul style="list-style-type: none"> • What methodological approaches and metrics are required for understanding where local-level responses have been ‘successful’ and where they have not from the perspective of communities? • For any given response intervention – from biomedical to communications and governance – how can social science research data be tailored into concrete recommendations? How can qualitative insights be transformed into recommendations for developing community-centred approaches? • What are the barriers to ensuring that locally specific information is systematically integrated into effective response plans and actions? • How are better connections between formal response-level and community-level activities facilitated and what are the factors that have or can enable these? • How can we encourage a process of iterative learning regarding community-centred approaches by drawing on currently existing archival and humanitarian documentation on community responses to past epidemics? 	<ul style="list-style-type: none"> • Consultation with communities, public health actors, government and NGOs using qualitative and quantitative methods • Participatory practice and intervention co-design • Implementation science • Systematic review of existing tools and approaches • Systematic review of archival documentation (explanatory studies, evaluations)

Research priority	Questions and areas of focus – operational focus	Types of studies
How can community-centred approaches improve contact tracing?	<ul style="list-style-type: none"> • What are the implications for effective contact tracing for disease where herd immunity is the end goal? • How does combining activities such as contact tracing, surveillance, quarantine, burials with community engagement increase their effectiveness and/or uptake? 	<ul style="list-style-type: none"> • Operational research • Implementation science • Consultation with communities, public health actors, government and NGOs using qualitative and quantitative methods
What are some of the research priorities related to community behaviour in response settings?	<ul style="list-style-type: none"> • To what degree will communities and individuals comply with stringent NPIs (e.g. quarantine) when the individual and environmental risk is low? • What sub-groups and sectors within communities have higher or lower thresholds of tolerance for NPIs as societies move closer to levels of herd immunity? • How do we consider/collect data on individual, family and social suffering related to death and dying during an epidemic, and how can we use them to reduce suffering, increase quality of care for the end of life, and community trust in the response? • How can we better understand care needs and their community responses in contexts of uncertainty about clinical aspects of an emerging infectious disease, to build better care with communities and increase mutual trust with health workers and within the response? • How do we continue to gain a better understanding of the effects of crisis and response on trust, networks and social capacity? • How can these commonly recognised aspects of epidemics (such as stigma, anxieties, fears) and their responses be anticipated and mitigated using community-centred approaches? 	
Recovery		
What are the primary issues for targeted research during recovery?	<ul style="list-style-type: none"> • How can a community-centred lens be applied to a range of health emergency impacts (e.g. health services; mental health, psychological wellbeing and recovery; the use of vaccines, disaster risk communication; public trust in science, economic recovery, strengthening of the education systems; community engagement systems, gender equality and environmental sustainability) and how should this be applied to recovery strategies? • What are the impacts on children, teachers, and the overall education system of lengthy school closures and how does this impact future planning and mitigation? 	<ul style="list-style-type: none"> • Consultation with communities, public health actors, government and NGOs using qualitative and quantitative methods • Participatory practice and intervention co-design • Multidisciplinary research approaches

Research priority	Questions and areas of focus – operational focus	Types of studies
	<ul style="list-style-type: none"> What has been learned from the range of innovations and alternatives developed during the COVID-19 outbreak (e.g. uses of technology, restructuring of work and education) and how might these be best be adopted and sustained? 	
What is the role of community-based approaches during the recovery phase?	<ul style="list-style-type: none"> What resources (capacity-building, funding, policy, research) are required to strengthen community-based approaches in their own right? How does research into the legacy and impacts of health emergencies – including structural, socio-cultural, political, environmental and economic impacts – guide strategies associated with future health emergencies? What can be understood about how communities and the structures they engage with recovered from previous crisis and what does it tell us about potential future coping mechanisms? What is the value of investing in recovery initiatives as a means of building resilience and preparing for future shocks? 	<ul style="list-style-type: none"> Consultation with communities, public health actors, government and NGOs using qualitative and quantitative methods Systematic review of archival documentation (explanatory studies, evaluations) Operational research Multidisciplinary research methods consisting of teams including social scientists, political scientists, and economists
What are the links between Member State capacity for recovery and the emergence of 'bottom-up' approaches?	<ul style="list-style-type: none"> To what degree and in what ways do community-centred recovery initiatives compensate for a lack of state capacity in any given context, and under what circumstances are community-centred approaches most likely to emerge? What frameworks are required for establishing the links between deficiencies in state capacity and the kinds of community approaches that are employed? By identifying in what sectors these state-level recovery failures are most noticeable, can recommendations be made in terms of public policy, funding and capacity-building? 	<ul style="list-style-type: none"> Meta-analyses of governance contexts Consultation with communities, public health actors, government and NGOs using qualitative and quantitative methods

WHO Headquarters in Geneva

Avenue Appia 20

1211 Geneva

Telephone: +41-22-7912111



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