

Community Engagement to Tackle Infectious Threats in Bangladesh, Uganda and Ukraine - A Research in Progress on a Social Science Mapping Process

Elena Jirovsky

Medizinische Universität Wien: Medizinische Universität Wien

Paul Grahma (✉ pgrahma@gmail.com)

Medizinische Universität Wien <https://orcid.org/0000-0003-2925-0364>

Nahitun Naher

BRAC University

Roman Rodyna

Ministry of Health

Christine Nabirye

Makerere University Faculty of Medicine: Makerere University College of Health Sciences

Michel Dückers

NIVEL: Nederlands Instituut voor Onderzoek van de Gezondheidszorg

Syed Masud Ahmed

BRAC University

Jacob Osborne

NIVEL: Nederlands Instituut voor Onderzoek van de Gezondheidszorg

David Kaawa-Mafigiri

Makerere University Faculty of Medicine: Makerere University College of Health Sciences

Tamara Giles-Vernick

Institut Pasteur

Ruth Kutalek

Medizinische Universität Wien

Oksana Artemchuk

Ministry of Health

Research in practice

Keywords: Infectious threats, preparedness, community engagement, social sciences

Posted Date: June 29th, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-663918/v1>

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Abstract

Background: Successful epidemic preparedness and response require an understanding of social behaviour: social values, priorities and practices fundamentally shape human engagements with measures to prepare for and to prevent epidemics and antimicrobial resistance. Because of its capacity to document and evaluate health-seeking behaviors, local understandings of disease and explanations of transmission, and local reactions to public health interventions, social science, in particular anthropological research is well positioned to facilitate insight into these priorities and practices.

Method: The SoNAR-Global project (A Social Science Network for Infectious Threats and Antimicrobial Resistance) undertook a mapping and assessment of existing Community Engagement (CE) models that target infectious threats and/or antimicrobial resistance (AMR) Bangladesh, Uganda and Ukraine, which are integrated in the project through partner universities. We compared our findings with the UNICEF Communication for Development (C4D) Minimum Quality Standards for Community Engagement.

Conclusions: On these grounds, we emphasize six critical elements for Community Engagement before and during epidemics. We argue that CE efforts must cooperate and dialogue with people in need and negotiate integrated, localized public health models that improve their lives before and during an epidemic.

Results: We identified and recommend currently available social science tools for Community Engagement, which correspond to the six critical elements and can contribute to enhance preparedness and response activities to infectious threats.

Background

The *SoNAR-Global* project constitutes a *Social Science Network for Infectious Threats and Antimicrobial Resistance* [1] that connects social scientists from 15 partners across Europe, South East Asia as well as West and Central Africa in their research on epidemics and infectious diseases.

Recent Ebola virus disease (EVD) outbreaks in the Democratic Republic of Congo (DRC) and West Africa as well as the current COVID-19 pandemic illustrate how important it is to strive for a better understanding of community reactions to infectious disease outbreaks [2, 3]. Preparedness and response activities must convene to people's demands and their cultural needs. Osborne et al. [4] point out the advantages of integrating social sciences into epidemiological research, as they "fill a gap left by traditional infectious disease science" and "provide not only appropriate methods for working with communities but also the theoretical and experiential knowledge that adds to a fruitful and empowering engagement process." One such social science approach is the concept of *community engagement (CE)*, which will be discussed in this paper based on recently implemented community health projects in three partner countries of the *SoNAR-Global* project.

One pillar of the *SoNAR-Global* project constitutes the development of appropriate models for multi-layered, multi-sectorial, dialogue-based engagement. To this end, a mapping and assessment exercise was initiated in 2019 to gather experiences with *models of community engagement* that target infectious threats and/or antimicrobial resistance (AMR) through active involvement of communities and community feedback. Here we present a definition of ***critical elements for community engagement*** during epidemics and ***recommendations of currently available tools*** to enhance communities' preparedness and response activities.

Exploring existing engagement structures in three countries

The mapping and assessment exercise was developed and coordinated by the Medical University of Vienna[1] which collected data in collaboration with SoNAR-Global partner organizations in three countries: BRAC University of Dhaka, Bangladesh, Makerere University of Kampala, Uganda and the Public Health Centre of the MOH of Ukraine, Kiev.

In the following phase, researchers from each partner country received detailed instructions to map existing engagement structures in their countries, assess local CE manuals and social science modelling, and consider existing structures to address the multi-layered dimensions of governance. The template for data collection was designed to cover a broad range of interventions, programs or projects on AMR or infectious diseases that involve communities and seek community feedback for program interventions[2]. The search included governmental and non-governmental health related community-engagement, -information, -consultation and -participation activities, including those of business enterprises and community-driven initiatives. Template questions collected information about the nature of the intervention, the leader of the initiative, the purpose of the project, which publics were engaged and how, levels of participation, project outcomes, and the ways that monitoring and evaluation were integrated into the project.

Regular online meetings with partners in Bangladesh, Uganda and Ukraine ensured a continuous feedback and reflection process, which allowed gathering and discussing information that was only available through local sources and specific to the local context. Furthermore, compiling information on multiple CE projects targeting infectious threats illustrated the diversity of approaches applied. The mapping results from three countries were compared with UNICEF Communication for Development (C4D) Minimum Quality Standards for Community Engagement [5] to verify whether these projects were sustainable in establishing “an ‘infrastructure’ of participation and communication across social, political and cultural contexts” [5], and that systemisation, resources, and sound policies were considered to ensure quality and accountability. Furthermore, the UNICEF document stresses that CE needs to be specific, localised, responsive, and bidirectional while emphasising that top-down approaches should be avoided. A concluding consultation meeting was held in June 2019, with experts from WHO, GloPID-R - *Global Research Collaboration for Infectious Disease Preparedness*, and SSHAP - *Social Science in Humanitarian Action Platform* framing additional recommendations on how to improve relevant engagement structures.

[1] Department of Social and Preventive Medicine, Unit for Medical Anthropology and Global Health

[2] The template is available at: https://www.sonar-global.eu/wp-content/uploads/2019/12/Task-4.1_Template-Mapping_For-Homepage_031219_JC_EJ.pdf

Methodology

Rationale for the selection of partner countries

Out of 15 SoNAR-Global partner countries we chose Bangladesh, Uganda and Ukraine because they faced multiple health challenges listed among the WHO-identified threats to global health [6]. These challenges could potentially result in epidemic outbreaks during the data collection period. Hence, those countries were most appropriate for mapping and evaluating CE elements that were part of ongoing preparedness and response activities. Our research would thus identify appropriate models for infectious disease preparedness and response in other countries, including for worldwide efforts to combat COVID-19.

In Bangladesh we identified antimicrobial resistance (AMR) as a major health issue resulting from a considerable expansion of the animal farming industry often using antibiotics without following sound environmental practices [7]. In humans, the misuse of antimicrobials is associated with a weak regulatory regime, economic interests of pharmaceutical industry, and the demand by patients to avoid doctor's fees [8]. As elsewhere, antibiotics serve as a substitute for lacking health infrastructure [9]. Our exercise in Uganda focussed on projects tackling regular outbreaks of viral haemorrhagic fevers (VHF) especially the Ebola virus disease (EVD), and AMR inside the country and in the neighbouring Democratic Republic of Congo. Ukraine was struggling with an unprecedented measles outbreak with more than 54,000 cases in 2018. Prevailing challenges are a lack of vaccination coverage for preventable diseases in general, as well as vaccine hesitancy among parents and health workers, fuelled amongst others by anti-vaccination campaigns in the media [10] – a public health issue with a previous history in this country [11].

Challenges / Limitations

The literature provides a great variety of definitions of what community and community engagement is. What is meant by *community* can differ depending on the project's objective and needs to be specified in each case. The scope of this term ranges from geographic contexts to shared interests and common social and political networks. Likewise, the term *engagement* oscillates between "a dynamic multidimensional relational concept featuring psychological and behavioural attributes of connection, interaction, participation, and involvement, designed to achieve or elicit an outcome at individual, organization, or social level" [12] and a "two-way dialogue between crisis-affected communities, humanitarian organizations, and [...] within and between communities (enabling) affected people to meet their different needs, address their vulnerabilities and build on their pre-existing capacities" [13].

The lack of common and uniform definitions of these terms among the projects under investigation was addressed in the data collection template underlining the necessity to scrutinize use and meaning of these concepts in each project of the exercise. As a reference for a common ground we suggest the definitions lined out in the UNICEF Minimum Quality Standards for Community Engagement [5], which allow for framing communities as wider networks that "may have direct local inputs into the transfer of health, educational, social, informational, economic, cultural and political resources" and often include "unequal distributions of authority, access, and power over decision-making and resources" [5]. The same authors define CE as "a foundational action for working with traditional, community, civil society, government, and opinion groups and leaders; [...] CE empowers social groups and social networks, builds upon local strengths and capacities, and improves local participation, ownership, adaptation and communication. Through CE principles and strategies, all stakeholders gain access to processes for assessing, analysing, planning, leading, implementing, monitoring and evaluating actions, programmes and policies that will promote survival, development, protection and participation" [5].

Discussion Of The Mapping Process

Out of total 42 projects mapped, we identified and analysed 11 projects complying with CE standards: 4 in Bangladesh, 4 in Uganda and 3 in Ukraine (see table 1). Here we evaluate in greater detail one key example demonstrating both positive effects of cooperation and dialogue with affected populations to develop integrated, localized public health models and show its limitations and lessons learned. We highlight six critical elements for CE that are crucial for inclusive community health projects and link existing social science tools to each of the critical elements of CE to enhance community preparedness and response activities to infectious threats (see table 2).

Bangladesh

In Bangladesh, the project "Community Dialogue to address antibiotic resistance" explored the potential of the Community Dialogue Approach (CDA) that strongly relied on social and behaviour change theories to improve antibiotics use on a community level [14]. It built on a qualitative study of perceptions and misconceptions relating to antibiotics, as well as on a household knowledge, attitudes and practices (KAP) survey to develop its key messages. Community volunteers trained in appropriate antibiotics use performed 200 community meetings providing community members with an overview of antibiotics and AMR facts and risks. As with other CE initiatives identified in Bangladesh [15], this project sought to understand the local context through the involvement of community members. While other interventions were initiated by external researchers who invited local stakeholders to participate, this project was based on community volunteers to facilitate community meetings and transfer knowledge, thus avoiding a top-down approach. The study also highlighted the need to reinforce key messages in regular feedback meetings with the volunteers and to advocate for the application of evaluation techniques.

Uganda

In Uganda, the “Emergency Plan of Action for EVD preparedness” involved intensified CE through risk communication and sensitization. Community-based surveillance and community feedback mechanisms (including a rumour-tracking system) were established. Community-based volunteers trained in risk communication, social mobilization and EVD psychological first aid carried out interpersonal communication and hygiene promotion at household and community level. Almost 700,000 individuals were reached with critical messages on EVD prevention [16]. Although communities were included in all preparedness- and response pillars, these CE interventions in Uganda provided limited possibilities for a two-way dialogue with communities, instead relying primarily on top-down communication. Moreover, monitoring, evaluation and learning components, as defined in the Minimum Quality Standards for CE [5], played a subordinate role in all projects mapped in Uganda, which might be due to the emergency context of these EVD projects.

Ukraine

In Ukraine, the most promising project to address growing vaccination hesitancy and the resulting measles outbreak through a CE approach was identified in “Public consultations on health policy formation and implementation”, which became legally binding for new legislation since 2010 [17]. Such communication and information procedures can be initiated either by community request or by government and public institutions. The consultations can occur via face-to-face meetings, electronically, or as social research. They are considered transparent and sustainable by the stakeholders as they are statutorily funded by the state. Hence, drafts of public health-related bills need to be published on a government webpage. Consequently, communities have a chance to comment on improvements of these documents and regulations according to their needs. If experts endorse their proposals, the drafts will be modified. Public consultations facilitate national decision-making, collaboration and community participation on multiple levels. Nevertheless, because experts’ approval of public suggestions is required, public opinion is not always adopted or implemented, and systematic, formative evaluation processes are yet to be established.

Conclusions

The mapping process revealed three different, quite distinct models of CE that were applied to tackle infectious threats and AMR in Bangladesh, Uganda and Ukraine. How communities were engaged varied in the three countries, each demonstrating strengths and weaknesses. Weaknesses emerged in limited two-way communication models and the lack of evaluation and transparency concepts. Further research of the SoNAR-Global project will focus on the development of approaches to address these aspects.

The mapping and analysis of CE projects as well as the mutual reflection with our contributors and the consultation with experts resulted in the formulation of **six critical elements for CE**:

1. Knowledge from social science, in particularly anthropology, should inform the engagement process to grasp the complexity of communities and their actual health requirements. Social scientists should facilitate insights such as: What does ‘community’ mean in a given context? How do social groups interact within a community and the health system? How do power relations and cultural aspects within a given context influence the engagement process and the interaction of stakeholders?
2. Any CE project should draw on local infrastructures and reflect the heterogeneity of a community. Relevant stakeholders should be defined and involved across sectors and multiple levels.
3. Engagement structures should incorporate a systems perspective to understand relationships between stakeholders and the flow of communication and collaboration between them.
4. CE projects should cultivate a horizontal dialogue to facilitate inter-sectoral communication and collaboration. Deviation from this approach for a more top-down or bottom-up communication - if considered necessary – should be aligned with local socio-economic and political circumstances.

5. Communities need to be empowered to cooperate with other communities and stakeholders, to find strategies against infectious threats according to their possibilities and needs.
6. There should be a plan for evaluation and monitoring of the CE structures and processes. Goals and objectives must be clearly identified and comprehensible. Ideally, CE is a continuous process that is measured as it unfolds and that is adjustable to process-dependent needs and developments.

Recommendations

Above all, we advocate for the consideration of the named critical elements for CE in the planning, implementation and monitoring of CE projects that pursue inclusive epidemic preparedness and response activities. Following our analysis of specific CE models in our three partner countries, we emphasize the establishment of more dialogic and horizontal forms of communication and a systematic integration of evaluation procedures in CE activities. We also recommend the use of already available social science tools for CE that – if modified accordingly – can enhance preparedness and response activities to infectious threats, both in our three partner countries and elsewhere. The recommended tools are assigned to the above critical elements for CE in the following table 2:

List Of Abbreviations

AMR.....	Antimicrobial resistance
C4D.....	Communication for Development
CDA.....	Community Dialogue Approach
CE.....	Community Engagement
COVID-19.....	Coronavirus Disease of 2019 caused by SARS-CoV2
DRC.....	Democratic Republic of Congo
EVD.....	Ebola virus disease
GloPID-R.....	Global Research Collaboration for Infectious Disease Preparedness
IFRC.....	International Federation of the Red Cross
KAP survey.....	Knowledge, Attitudes and Practices survey
MoH.....	Ministry of Health
OCHA.....	United Nations Office for the Coordination of Humanitarian Affairs
SARS-CoV2.....	Severe Acute Respiratory Syndrome Coronavirus-2
SoNAR.....	Social Science Network for Infectious Threats and Antimicrobial Resistance
SSHAP.....	Social Science in Humanitarian Action Platform
UNICEF.....	United Nations International Children's Emergency Fund

VHF..... Viral Haemorrhagic Fevers

WHO..... World Health Organization

Declarations

Acknowledgements

We would like to thank Asiya Odugleh-Kolev, Jeff Gilbert, Nadia Khelef, Phan Thi Nga, Danny de Vries, and Hayley McGregor for their valuable input.

Availability of data and materials

Data and materials can be made available upon request to the corresponding author.

(paul.grohma@meduniwien.ac.at)

Funding

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825671.

Author information

Affiliation:

Medical University of Vienna, Vienna, Austria

Ruth Kutalek, Elena Jirovsky, Paul Grohma

BRAC University, Dhaka, Bangladesh

Nahitun Naher, Syed Masud Ahmed

Public Health Center of the MOH of Ukraine, Kiev, Ukraine

Oksana Artemchuk, Roman Rodyna

Makerere University, Kampala, Uganda

Christine Nabirye, David Kaawa-Mafigiri

Nederlands instituut voor onderzoek van de gezondheidszorg - NIVEL, Utrecht, The Netherlands

Michel Dükers, Jacob Osborne

Institut Pasteur, Paris, France

Tamara Giles-Vernick

Contributions:

The study was designed and conceptualized by RK, EJ. EJ wrote the first draft and contributed to data analysis and final revisions. PG drafted the final version and organized the review process among contributors. NN, SMA, RR, CN and DKA contributed research data from their respective countries, provided support for data analysis and reviewed the final draft.

RK, TGV, MD and JO reviewed and provided critical comments on the study design and manuscript. All authors reviewed and approved the final version.

Corresponding author:

Correspondence to: [Paul Grohma](#)

Ethics declaration

Ethics approval and consent to participate

As this research aimed at synthesising information from available publications and third party community engagement projects, ethical approval was not required.

Consent for publication

All contributors gave their consent for publication

Competing interests

We declare no conflict of interest.

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Tables

table 1 (overview of 11 reviewed community engagement projects)

Project title / year	Implementing agency	Stakeholders	Community Engagement elements	Lessons Learned / Limitations
BANGLADESH				
Community Dialogue to address antibiotic resistance in Bangladesh; 2018	<ul style="list-style-type: none"> - Nuffield Centre for International Health and Development - ARK Foundation - Malaria Consortium - School of Medicine / University of Leeds 	<ul style="list-style-type: none"> - Community members - Volunteers - Supervisors - Practitioners and policy makers 	<ul style="list-style-type: none"> - Community Dialogue Approach; - Qualitative study of AB perceptions and misconceptions; - Household KAP surveys; - Training of community volunteers; - Community meetings informing on AB and AMR 	<ul style="list-style-type: none"> - Raised awareness on AMR; - Equipped & empowered community; - Influenced behaviour change; - Checked volunteers dominance; - Reinforced key messages; - Followed essential steps as a tested replicable model
AMR in aquatic environment and aquaculture food production; 2018	<ul style="list-style-type: none"> - World Fish - CGIAR research program FISH, Dhaka 	<ul style="list-style-type: none"> - 60 workers of hatcheries - 320 shrimp and prawn farmers - supply shop owners - exporters - government officials from the Department of Fisheries 	<ul style="list-style-type: none"> - Stakeholder cooperation; - Multi sited field work and ethnography (interviews and observations) - Structured surveys; - Participatory modelling exercises - Formation of competency groups 	<ul style="list-style-type: none"> - Need to understand economic and biological drivers of disease; - Need to adapt to disease risks & pathogen free productions; - Competency groups added to consolidate farmers' practice with AMR knowledge; - No information on monitoring & evaluation concepts available
The PAUSE study (Pathways of antibiotic use in Bangladesh); 2019	<ul style="list-style-type: none"> - Loughborough University, Centre for Global Health - International Centre for Diarrhoeal Disease Research, Dhaka - Paul G Allen School for Global Animal Health, Washington State University - Department of Anthropology, Durham University, UK 	<ul style="list-style-type: none"> - Key personnel in the local government medical and veterinary posts at the rural site (Government Livestock Office and <i>Upazila</i> Health Complex) - Households with child<5 years - Households with older family member - Households with a currently ill member - Indigenous ethnic households - Formal and informal providers- qualified, auxiliary, semi 	<ul style="list-style-type: none"> - In-depth interviews on the intra-household use of antibiotics including who obtains the antibiotics, on behalf of which family members or livestock; who consumes the antibiotics; how and when antibiotics are obtained and at what cost; for what purpose/ illness the antibiotics are used - In-depth interviews (with HCPs) on prescribing and the needs / demands of customers, the influence of medical representatives and drug manufacturers and the need of drug sellers and providers to maintain a livelihood in settings where training may be unavailable or the cost of licensing unaffordable 	<ul style="list-style-type: none"> - CE approach proved applicable to identify pathways of antibiotic use - Integrated understanding is needed for inform design and implementations - AMR messages for a wider audience could be developed based on the needs identified in interviews and tested in feedback collections - No information on monitoring & evaluation concepts available

	<ul style="list-style-type: none"> - Department of Primary Care and Public Health, Brighton and Sussex Medical School, Sussex University, Brighton, UK - School for Policy Studies, University of Bristol, UK - BRAC James P Grant School of Public Health, BRAC-University, Dhaka 	<ul style="list-style-type: none"> qualified and unqualified HCPs - Government representatives, pharmaceutical industry and medical representatives, regulatory authority members responsible for licensing and representatives of national or multinational agencies 	<ul style="list-style-type: none"> - Key informant interviews on existing incentives to drug shops, the role of the pharmaceutical industry in preventing antibiotic resistance and what information is needed by government to bring about behavioural change. - Participant observation within retail drug shops 	
<p>Antimicrobial resistance communication activities in South East Asia (analysis of 24 interventions related to AMR awareness from 11 countries); 2017</p>	<p>WHO Regional Office of South East Asia UK government's Fleming Fund</p>	<p><u>Implementing bodies:</u> International agencies, government agencies, medical colleges, NGOs</p> <p><u>Target audience:</u> policy makers, doctors, health workers, pharmacists, media representatives, civil society organisations, the general public, officials of animal husbandry</p>	<p>AMR awareness campaigns <u>should include</u> the following elements:</p> <ul style="list-style-type: none"> - Multi-pronged communication plans involving a mix of media channels; - Audience segmenting and audience-centric messaging; (audience needs to be well defined and messages need to be tailored for different segments of the population) - Timing of campaign; (define frequency of campaigns) - Involvement of key actors and opinion leaders; - Phase-wise evaluation (including formative, process, and summative evaluation) 	<p>AMR awareness campaigns in 11 SEARO countries showed the <u>following deficits</u>:</p> <ul style="list-style-type: none"> - limited evidence of strategic thinking; (need of well defined strategic interventions) - Stand alone, limited and sporadic interventions (instead of continuous, repetitive messaging) - Restricted in terms of their audience, messaging, and intervention design - Do not reflect the degree of prioritisation; (as World Health Assembly and Global Action Plan prioritize AMR awareness communication) - Majority of interventions did not report monitoring activities or evaluate outcomes and impact

UGANDA

<p>Emergency Plan of Action for EVD preparedness; 2018</p>	<p>IFRC (International Federation of the Red Cross) Uganda Red Cross Society</p>	<ul style="list-style-type: none"> - 56,199 households in 7 districts - 180 trained, community based volunteers 	<ul style="list-style-type: none"> - Risk communication and sensitization; - Community-based surveillance and feedback mechanisms; 	<ul style="list-style-type: none"> - Involves work with community volunteers and face to face community feedback/dialogue but practice is characterized by a top-down approach ☺
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	(URCS) Ugandan Ministry of Health UNICEF		- Volunteers trained in risk communication, social mobilization and EVD psychological first aid: - Interpersonal communication and hygiene promotion at household and community level	- No information on monitoring & evaluation concepts available
Uganda National Ebola Virus Contingency Plan; 2019	Ugandan Ministry of Health + Public Health Emergency Operations Centre	- 88.929 Households - 330 community health workers - District task forces (DTF) in all districts of Uganda - Media / social media journalists	- Social science knowledge implemented; - Community involvement through public and social media (EVD prevention messages for households); - Social mobilization through CE campaigns; - Trainings for health workers on EVD case definitions and activating district task forces for EVD prevention and controls.	Measures developed are based on social science knowledge; Project characterized by a top-down approach with information for CE coming from the Ministry of Health - No information on monitoring & evaluation concepts available
Using community based surveillance to improve early detection of Ebola; 2018	Ugandan Red Cross Society / USAID Ugandan Ministry of Health	- Civil society / Communities in 7 districts - 300 trained volunteers - Health care workers - Sectors for animal health, agriculture and environment	- Setup of a real time data collection system to detect epidemic alerts in the community - Participant observation by volunteers and health care workers - Verbal messages given to the community through dialogue and sensitization exercises - Sensitization meetings with communities and radio talk shows on EVD - Use of mobile cinemas, music and drama to get across EVD messages	The use of already popular communication tools (radio talk shows, drama) proved to be an appropriate means for CE; Regular communication between the volunteers and community was mainly to report suspected cases and not an opportunity for dialogue. - No information on monitoring & evaluation concepts available
Ebola Virus Disease Readiness Implementation Progress Report WCO Uganda Key focus; 2019	Ugandan Ministry of Health supported by WHO, UK Government / Department for International Development (DFID) and United States Agency for International Development (USAID)	- Communities in 20 districts bordering DRC - District Task Forces (DTF) - 230 trained health workers - 40 risk communicators - World Customs Organization staff (WCO) - 46 clinicians of the Rapid Response	- Trainings for staff and volunteers expected to work in Ebola response work - Meetings among partners and stakeholders to discuss the EVD preparedness plans - Trainings for health workers on case identification and contact tracking - Face to face exchanges through meetings with partners and trainings for health workers on case identification and contact tracing	- Health workers and volunteers were trained to safely perform risk communication and contact tracing in affected border communities - A joint consensus to comprehensively address the EVD threat was reached - Partners agreed to contribute to and support the MoH in the lead of the preparedness plan implementation

		Teams (RRTs) - 40 laboratory personnel	Limitations: - 2 supervisory visits were held / no information on applied evaluation concepts available - The project was characterized by a top down approach
UKRAINE			
Public consultations on health policy formation and implementation; 2010 - ongoing	Cabinet of Ministries of Ukraine	<ul style="list-style-type: none"> - Public institutions (Ministries and State Institutions) - Public Councils (e.g. National council for TB and AIDS counteraction) - <i>hromada</i> (corporation of several village (rural) administrations) - NGOs - Religious and Charity Organizations - Trade Unions - Media - Citizens 	<p>Consultation formats: community meetings, round table discussions, focus group discussions, surveys, formal and informal interviews, think tank discussions, participant observation, questionnaires, stakeholder consultations, web-based consultations</p> <p>Consultation topics:</p> <ul style="list-style-type: none"> - Decision making (how to implement results of public consultations) - Informing communities about draft laws resulting from the public consultation (via web-sites) - Elaboration of the public consultation plan - Collection of information provided by public institutions - Revising the draft laws according to proposals of public institutions - Providing feedbacks to public institutions about the results of public consultations <p>Limitations:</p> <ul style="list-style-type: none"> - Decisions made at the round table are not binding and only advisory - Experts have the final decision - Invited communities may reject participation in the round table because participation is not mandatory for them - No information on monitoring & evaluation concepts available
Roundtable on vaccination and influenza prevention; 2018	Public Health Centre of the Ministry of Health NGO "Parents for Vaccination"	<p>Representatives of:</p> <ul style="list-style-type: none"> - public institutions (MoH) - NGOs, - patient organizations, - pharmaceutical companies, - distributors of vaccines - WHO, and UNICEF representatives in 	<p>- Possibility for open manifestation of opinions and views on vaccination</p> <p>- group discussions, think tank discussions and stakeholder consultations</p> <p>- Possibility for open dialogue with vaccine suppliers, vaccine distributors, pharmaceutical companies, international organizations, non-governmental organizations, Director General of the Public Health Center and the Deputy Minister of Health</p> <p>Limitations:</p> <ul style="list-style-type: none"> - Best practices for national vaccination strategies were discussed and developed in an open, transparent and inclusive dialogue - the results of the round table were conveyed to the communities via E-mail, TV and open access to information on the website of the Public Health Center

		<p>Ukraine</p> <ul style="list-style-type: none"> - Representatives of identified vulnerable groups (people living with chronic diseases, pregnant women and healthcare workers) - Parents, and School teachers 	<ul style="list-style-type: none"> - Information sharing with all levels of participants (via email) + via media debriefing + roundtable website 	<ul style="list-style-type: none"> - The Ministry of Health and Public Health Center at national level were responsible for making decisions on the processes, the objectives, and the outcomes of round table - The project was not evaluated
Barriers to measles vaccination among children with measles history via the intensified vaccination during the large ongoing outbreak in Ukraine, 2018	Epidemiological Intervention Service, Ukraine / Field Epidemiology Training Program (FETP-UA)	<ul style="list-style-type: none"> - Parents of 301 children who had measles from 7 high incidence regions of Ukraine - Health care facilities workers - Residents of the Field Epidemiology Training Program (FETP-UA) - Regional epidemiologists from laboratory centres in 7 regions 	<p>A survey based on personal interviews or telephone interviews with each parent was conducted in accordance with the developed questionnaire in order to establish the reasons for the lack of appeal for vaccination against measles.</p>	<ul style="list-style-type: none"> - The results of the survey were conveyed to the community via E-mail and via the website of the Public Health Center - According to the results of the survey, recommendations were made to all stakeholders - Survey results and recommendations will be used to plan measures to increase parents' confidence in vaccination and reduce measles incidence <p><u>Limitations:</u></p> <ul style="list-style-type: none"> - Decisions on the process remained with the lead researcher and co-researchers under the guidance of a resident advisor - Monitoring & evaluation concepts could be improved (no impact evaluation)

Table 2: recommended tools to guide community engagement projects

Critical elements for CE	Recommended tools
1 Anthropological knowledge	<ul style="list-style-type: none"> - Involving Communities. Guidance Document for Approaching and Cooperating with Communities [18] - The rapid assessment of vulnerable populations: a 'barefoot' manual [19]
2 Local infrastructures and heterogeneity of a community	<ul style="list-style-type: none"> - Involving Communities. Guidance Document for Approaching and Cooperating with Communities [18]
3 Systems perspective	<ul style="list-style-type: none"> - WHO community engagement framework for quality, people-centred and resilient health services [20]
4 Horizontal dialogue and inter-sectoral communication and collaboration	<ul style="list-style-type: none"> - Red Cross Red Crescent Guide to Community Engagement and Accountability [21]
5 Empowerment and strategies against infectious threats	<ul style="list-style-type: none"> - Bringing the Community Together to Plan for Disease Outbreaks and Other Emergencies [22] - Community-based Approach in UNHCR Operations [23]
6 Evaluation and monitoring of the community engagement structures and process	<ul style="list-style-type: none"> - UNICEF Minimum Quality Standards for Community Engagement [5] - CTSAC Principles of Community Engagement [24]