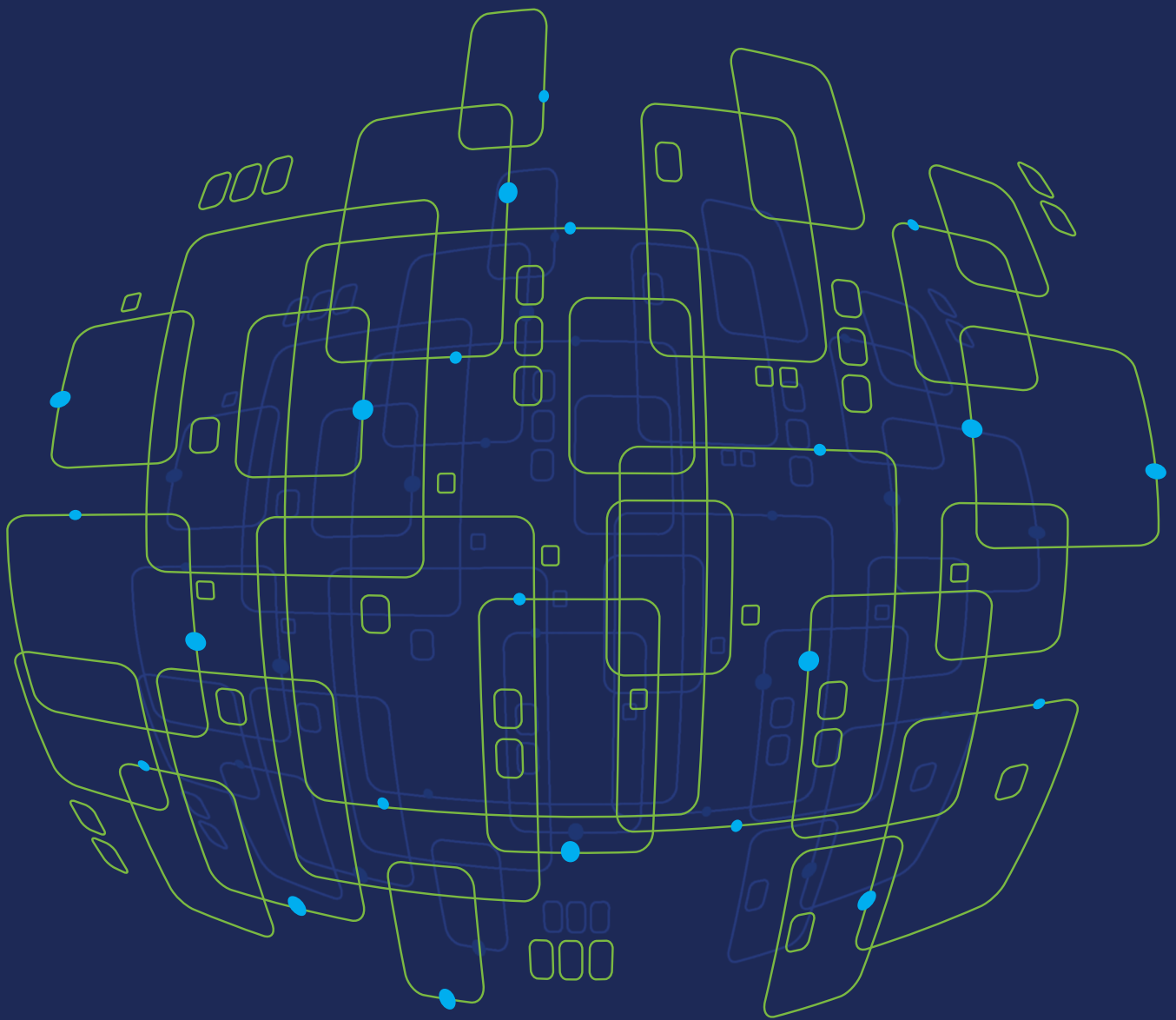


Conducting information environment assessments for health emergencies

An implementation toolkit



World Health
Organization

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Conducting information environment assessments for health emergencies: an implementation toolkit

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Abbreviations

IEA	information environment assessment
JEE	joint external evaluation
RCCE	risk communication and community engagement
RCCE-IM	risk communication and community engagement and infodemic management
RRA	rapid risk assessment
WHO	World Health Organization

1. Introduction

Since the start of the coronavirus disease pandemic in 2020, the changes in the information environment have become more visible in public health, in particular for the response to public health emergencies. As digital technology has become more widespread, there have been significant changes in how communities seek, process, exchange, engage with and share information. There are numerous factors with both positive and negative impacts on how individuals and communities experience and navigate the information environment.

The information environment is defined as the entire space of information that individuals, communities, health systems and societies inhabit, some of which constitutes structures, agents and systems that influence information seeking, access, sharing and usage (1). An information environment assessment (IEA) involves the systematic gathering, analysis and synthesis of data on the various factors that influence information exchange in a particular sector or on a particular issue. An IEA process is essential for understanding the challenges, and opportunities in the information environment to inform strategic planning and decision-making in risk communication, community engagement and infodemic management (RCCE-IM), including social listening, as well as in wider health programming. Various approaches to defining and assessing the information landscape have been described by different organizations, yet a rapid literature review revealed a lack of a standardized, operational approach for health emergencies (1).

1.1 About the IEA implementation toolkit

This implementation toolkit describes the processes involved in conducting an IEA as part of health emergency preparedness and response. The toolkit includes resources, templates and tools to guide teams through the planning stages, including choosing your assessment team, setting your goals and objectives and scoping the data, to producing an IEA report that can be regularly updated and implementing the IEA's recommended actions.

Section 4 outlines a shortened version of the toolkit – the rapid IEA – that has been developed for use during an emergency response using minimum assessment criteria. The rapid IEA can be used as either a standalone assessment or incorporated as part of an established risk assessment activity. It can also be used to build on a previously completed IEA.

This toolkit is intended to be used by local, national and international health authorities, including WHO, and partners who support health emergency management efforts; for example, infodemic managers, risk communication and community engagement (RCCE) experts, epidemiologists, social scientists, public health experts, health promotion experts and policy-makers. The toolkit aims to help the intended audience to coordinate and implement IEA assessments with multidisciplinary and multisector stakeholders.

1.2 How the IEA framework and the implementation process were developed

The IEA framework and the steps for conducting an IEA were developed using an iterative co-design process with stakeholders across several phases of development. A rapid scoping review was conducted to understand the current practice of IEAs and to gain an overview of how approaches to carrying out such assessments have been described in the literature (1). This review informed the overall approach, highlighted what other assessments and processes exist, and confirmed the gaps in provision. A group of experts was convened to guide the toolkit development process. A co-design approach was undertaken for the framework, IEA process and accompanying training modules, with drafts of the materials tested in pilot workshops involving practical training and simulation workshops that were held in Sri Lanka and Thailand in February 2025. The pilot countries were selected in response to the WHO South-East Asia Region prioritization of improving access to health information (2). Feedback and comments from the pilot workshops internal and external experts were incorporated into the final iteration of this document. Revisions included simplifying the language, particularly

important when translation is necessary, and clarifying the description of each activity. These changes improved participant engagement and led to the implementation of an additional pilot in the Philippines.

1.3 How to use this toolkit

An IEA can be useful in different scenarios. It can guide actions and investments to enhance health emergency systems as part of routine public health work or preparedness activities. An IEA can also be carried out during acute events to support the operational response to health emergencies. The method for conducting a full IEA as part of health emergency prevention and preparedness is described in section 3, and section 4 outlines a rapid IEA process designed to be carried out during an emergency response. A rapid IEA can help identify the best channels, stakeholders and methods to use to engage with affected populations during an emergency. In both situations, an IEA will enable a broader look at the information environment than would be achieved with an audience analysis or information source or media analysis and will give an overview of the different factors that are impacting on the information environment to provide a comprehensive picture of where any actions taken may have the most impact.

The toolkit outlines an approach for conducting IEAs to understand the information environment and guide actions during both the preparedness and response phases of an emergency. Although the tools and methods presented have been developed based on the best available evidence and extensive consultation, toolkit users are encouraged to adapt them as needed to fit the local context.

2. Using an IEA in health emergencies

The WHO health emergency prevention, preparedness, response and resilience (HEPR) framework (2) describes five core health emergency components that complement the core capacities required by all Member States, under the International Health Regulations (IHR) (2005), to detect, report and respond to health emergencies (3).

Infodemic management and RCCE are identified in the WHO health emergency prevention, preparedness, response and resilience framework community protection component as critical objectives to actively engage and communicate with communities to prevent, respond and recover from public health threats. An IEA can be a useful approach to guide public health actions and investments to enhance the RCCE-IM capacities of Member States and to guide actions for the prevention, preparedness and response to public health threats. It does so by:

- providing an evidence-based understanding of how information is accessed, shared and acted upon;
- providing a situational awareness of information flows; and
- mapping information vulnerabilities.

2.1 Using an IEA for health emergency prevention and preparedness

An IEA can be used to guide and build upon other health emergency planning, monitoring and evaluation activities, including when carrying out joint external evaluations (JEEs) (4), using the strategic toolkit for assessing risks (5) and producing plans, strategies and guidelines for RCCE-IM. It is recommended that national or hazard / health specific IEAs are reviewed and updated regularly to guide strategic planning and long-term investment.

Using an IEA as part of a JEE

Where relevant, an IEA can be supported by assessing and analysing the documents that were gathered as part of a country JEE. In addition, an IEA assessment report should be considered as part of the baseline data that are assessed during a JEE. If an IEA has yet to be conducted at the national level in a country, it is recommended that an IEA is included as a JEE recommendation as a key baseline activity for infodemic management and RCCE, which will help ensure that an IEA has been committed to, and funded, as part of a country national action plan for health security (6).

Using the strategic toolkit for assessing risks to guide hazard-specific IEAs

Priority public health issues that have been identified as part of a strategic toolkit for assessing risks assessment should be used to guide hazard-specific IEAs for known and predictable public health threats. This will help guide RCCE-IM prevention and preparedness activities for these predictable events.

Using IEAs to guide health system strengthening

An IEA can be an extremely useful baseline assessment activity to help guide health systems, RCCE-IM planning and policy development processes at the national level.

2.2 Using a rapid IEA in a health emergency response

During a health emergency, information to guide the response is needed fast as the situation may be rapidly changing, particularly in the early stages.

A rapid risk assessment (RRA) of acute public health events aims to rapidly characterize the risk to public health during a health emergency and to inform effective public health actions. It is conducted by WHO staff across all three levels (national, regional, global) using a multidisciplinary approach (7,8). RRAs are used to guide decision-making in a timely and robust manner for hazard, exposure and context assessment.

A rapid IEA can support the contextual assessment of an RRA; thus, integrating IEA components into an RRA can provide critical information to streamline assessment activities (7). An IEA can help identify how to reach communities with critical information when they need it most; for example, when contextualizing emergency-related vaccination. If an IEA has been completed as part of a preparedness activity, then a rapid IEA can build on existing knowledge to respond to a specific situation or population group.

Annex 1 provides a minimum set of IEA focus areas needed for a rapid IEA. It is recommended that the RCCE-IM focal point work with the RRA or other impact assessment teams to integrate these into the contextual assessment.

When to use a rapid IEA

There are two situations in which carrying out a rapid IEA would be appropriate: during a health emergency when a complete IEA is not available or when an existing IEA needs to be updated.

Using the rapid IEA in a health emergency when a complete IEA is not available

When a national IEA has not been completed, a rapid IEA can be used in a health emergency. The rapid IEA will not provide as comprehensive a picture of the information environment as a full IEA, but it can provide useful insights during a health emergency.

Using the rapid IEA in a health emergency to update a completed IEA

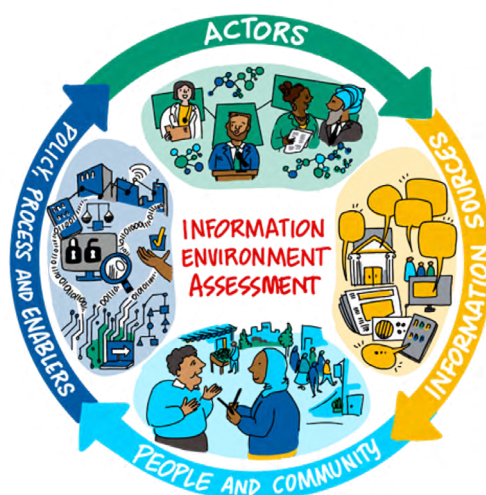
For communities or countries in which an IEA has previously been completed, the assessment may need to be updated during a health emergency. A rapid IEA can be carried out that concentrates on the focus areas that are most likely to have changed, as some of these are more susceptible to change than others.

2.3 The IEA framework

The IEA framework was developed based on the insights that were gathered during the initial review of the various approaches taken to assess the information environment (section 1). The IEA framework identifies a broad range of domains that impact the information environment across four categories (Fig. 1):

- people and community;
- information sources;
- actors;
- policy processes and enablers.

Fig. 1 Four categories in the IEA framework



People and community

The people and community category refers not just to the individuals and groups within society who engage with, interact with, and are affected by information in various ways, but also the community norms, values and wider determinants of health. This category encompasses how people seek, are exposed to, access, create, exchange and respond to information in their daily lives, as well as the external and internal factors that shape these processes.

Information sources

Domains in the information sources category refer to the various origins from which information is generated, disseminated, exchanged and accessed. These sources contribute to shaping public understanding, behaviour and decision-making.

Actors

The actors category refers to the various individuals or groups that play a role in shaping, disseminating and influencing information. This includes those who contribute to the flow, reach and perceived veracity of information, whether intentionally or unintentionally, and actors may vary in their objectives, methods and impacts.

Policy, process and enablers

Policy, process and enablers refers to the frameworks, structures and mechanisms that shape, govern and facilitate the creation, dissemination and consumption of information. This category includes both formal regulations (such as laws and policies) and the tools, systems and processes that enable or hinder information flow and exchange.

Table 1 gives the full list of domains nested under these four categories, and Annex 2 has a full list of domain definitions and examples. Information will cross and overlap between domains, highlighting the interconnected nature of the information environment. As an example, an actor may also be an information source. The impacting factors in a complex environment will change rapidly, and you may wish to review and consider which factors are most likely to be relevant in your context prior to conducting your IEA. A short video outlining the framework is available on the [OpenWHO page](#) for this toolkit (9).

Table 1. IEA domains listed under each of the four categories of the IEA framework

People and community	Information sources	Actors	Policy, process and enablers
• Information seeking • Information exposure • Information access • Information creation and exchange • Health literacy • Values and beliefs (culture) • Trust • Demographics • Psychographics • Behavioural analysis • Social determinants of health	• Media • Government and institutional communications • Public opinion • Communication networks and channels • Digital platforms	• Influencers • Adversaries • Stakeholders • Fact checkers	• Infrastructure • Regulation, policy, governance and legal frameworks • Algorithms • Ethical considerations • Community participation • Fact checking • Freedom of press • Integrity processes • Cybersecurity • Commercial determinants of health

3. IEAs for health emergency prevention and preparedness

Health emergency prevention and preparedness refer to the actions taken to prevent an emergency or to build the core public health and health system capacities that reduce health risks and mitigate the consequences of emergencies. An IEA will help identify the actions that can be implemented over the short, medium and long term as part of health emergency prevention and preparedness.

When planning an IEA, it can be useful to consider a staged approach to ensure enough time for data to be sourced and included, and for colleagues to consult with other people who are not directly involved in the IEA but who may have valuable insights. An IEA can have a broad perspective, e.g. looking at the national level, or can be focussed on a specific health topic. The sample modality in Table 2 shows a hybrid format that maps data to a national approach, which is then contextualized to a health topic.

Table 2. Sample hybrid assessment modality

Virtual: planning the IEA	In-person: conducting the IEA	Virtual: consolidation of the IEA
National data mapping: • Online session or sessions supported by tools to focus on forming appropriate teams • Teams select applicable and reliable data sources (steps 1–3 in section 3.2) and record insights and data comprehensiveness with a national focus	Health topic-specific focus: • Two day in-person workshop builds on the online sessions to apply data and insights to a health topic • Start with national data and the multidisciplinary teams who gathered the data • Mini presentations from national health topic experts to contextualize to the topic • Teams work with experts to contextualize and adapt the national view to the health topic • Steps 4–6, as outlined in section 3.2	IEA report compilation: • Structured support post in-person workshop on the completion of the IEA report and the actions, responsibilities and time frames • Teams work together to confirm priorities and finalize actions
Output: • Collaboratively developed map with insights across all domains. Key insights identified to inform longer term planning and investment	Output: • Collaboratively developed health topic-specific starter report with preliminary actions and findings	Output: • Health topic-specific IEA with agreed actions

3.1 Planning for the IEA and building your team

The planning stage is key to conducting a successful IEA and producing useful insights. You need to ensure that you involve the right people, identify the data that are needed and ensure that team members are prepared.

You will need to identify team members who are best placed to feed information into the IEA and who have insights into the data sources and analysis on the population you are focused on. You will need to decide which people are able to source published and unpublished data. These may be people with access to existing data in a health authority, people who work directly with community members or people who conduct research on communication pathways and infrastructure.

You should aim to have a small planning team who will oversee the preparation of the IEA, and then a wider group of people who are involved in the actual IEA. Due to the breadth of the domains covered in the IEA, it is important to engage people from a variety of government departments, institutions and external organizations. You should consider who is best placed to *own* the IEA process, which will include following

up on the identified actions and coordinating the review. The output of the assessment is the report, but the outcomes depend on uptake of the actions and the recommendations identified.

These are some suggestions of who to include in the wider group of people involved in the IEA.

Ministry of Public Health staff, i.e. staff working on health emergency management, national crisis communication, health promotion, media and communication, risk communication, community engagement, primary health care and data management.

Other government and nongovernment stakeholders, including representatives from government ministries, for example, the Ministry of Information, the Ministry of Communication, the Ministry of Interior Affairs; national disaster management offices; and local- and regional-level authorities (municipalities, towns, etc.). Nongovernment stakeholders may include representatives from the media, fact-checking networks, social influencers, or nongovernmental organizations/civil society organizations who are connected to, or work with, communities directly.

Key partners who are engaged in RCCE-IM activities, including the Red Cross, the United Nations Children's Fund and others.

3.2 Step-by-step guide to completing an IEA

Step 1: Setting the goals and objectives for your IEA

Understanding and agreeing what the goals and objectives of your IEA are, and why you are conducting it, is an important starting point. Facilitate a discussion in your small planning group to agree on a goal. In some circumstances, agreeing on a goal might be straightforward, although in other situations it may need a bit more discussion. The goal and objectives of the IEA can be refined with the larger group during the assessment, but understanding the broad goals and objectives can help guide who should be involved.

Your goal will set the general direction or intention of the IEA. This might include improving information distribution, raising public awareness of a certain disease, informing policy decisions or identifying areas for future research to improve public health outcomes. You should also define your objectives, or the specific outcomes the IEA aims to achieve. These should include measurable activities that will help you fulfil your goal (Fig. 2). For instance, if your goal is “Identify areas for enhancing information exchange, flow and dissemination with actionable insights for teams”, your IEA objectives may include mapping information flow in a community, or an inventory of Ministry of Health dissemination processes. See Table 3 for examples of IEA goals and objectives.

Finally, establish the scope of your IEA by deciding if you have a national focus or whether you are focusing on a more specific health topic or population (for example, populations distinguished by gender, disability, ethnic minority status or language). This will help define the themes, geographical boundaries (national or subnational) and time frames for the IEA. A well-defined scope ensures that the IEA remains practical, relevant and aligned with the intended objectives.

Fig. 2 Setting IEA goals, objectives, scope and time frame

Health issue of interest:
Vulnerable or priority groups:
IEA goals:
Objectives:
Scope:

Time frame for initial completion of IEA _____

Agreed follow-up date: _____

Table 3. Examples of IEA goals and objectives

Goals	Objectives
Identify areas for enhancing information exchange, flow and dissemination with actionable insights for teams	Map and analyse key actors and institutions shaping the information environment in the country
Understand the effectiveness and efficiency of the country's information systems processes and policies in supporting communities and health information seeking, exchange and engagement	Identify cost-effective strategies for a healthy information environment to be accessed by a particular population about a particular health topic
Understand the barriers and facilitators to a particular population engaging with accurate health information about a particular health topic	Formulate strategies to increase trust and limit the impact of misinformation on a particular population about a particular health topic
	Understand how social media platforms amplify or mitigate disinformation during an event in a country
	Identify opportunities for enhancing collaboration between civil society, the media and the Ministry of Health to improve the dissemination of reliable information about a particular health topic
	Identify potential collaboration opportunities and actions to strengthen information exchange systems in a country

Setting the scene for each IEA

Once you have identified your team for the IEA, you will need to introduce them to the project and create time and space for team members to come together and conduct the IEA. This can be done face-to-face, or via digital channels if needed.

To help orient your colleagues to the assessment process you can circulate the framework and domain descriptions to your members before the introductory meeting to allow them to familiarize themselves with the framework and the associated domains and to think about potential data sources.

You may consider creating some example personas of people in your priority population groups at this stage to orient team members who may have limited experience or direct engagement with the health sector and health hazards to help them better understand how their work feeds into the process. Further background on what an IEA is, including the wide range of components, how they are conducted and their benefits, can also be useful.

Creating personas to help frame the IEA

Developing personas can help to contextualize the data to an individual or community, adding context and relevance for participants. The socio-ecological model (10) is one model that could be used to frame the IEA and help people to understand the interconnected layers of influence (Fig. 3). Applying the socio-ecological model to developing personas for an IEA allows for a structured analysis of how information is produced, accessed, shared and influenced by different levels of social and environmental factors.

When assessing an information environment using the socio-ecological model, some example questions for consideration for each level could include the following.

- **Individual:** What personal skills or biases affect information perception? How skilled are people at identifying accurate information?
- **Interpersonal:** How does peer influence validate or challenge information? How do family norms influence information amplification?
- **Organizational:** How do formal policies impact information dissemination and integrity? Do organizations have the capacity to produce and share timely, accurate information?
- **Community:** What resources or collective attitudes influence information access? How does community cohesion and social capital influence information access and trust?
- **Societal/ policy:** What broader media and regulatory influences shape the information environment? How do commercial incentives influence what information is amplified, suppressed or monetized?

Fig. 3. Socio-ecological model



Persona journey mapping

The socio-ecological model can be used to imagine a journey an individual makes in a quest to find accurate, locally relevant health information to help them make good decisions about their health and that of their family and community (Box 1 and Fig. 4).

There are many factors from the IEA, across the socio-ecological levels, that impact on this journey, in both positive and negative ways. Understanding some of these factors can help you pinpoint where interventions might be most useful.

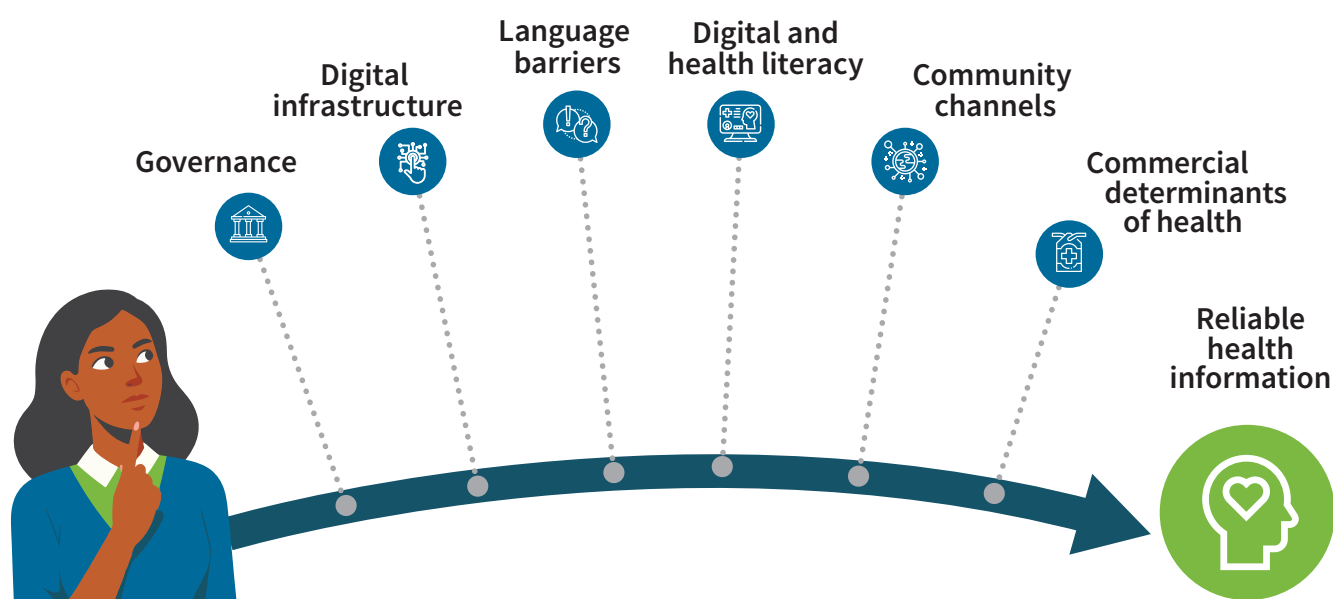
In the case described in Box 1 and visualized in Fig. 4, multiple factors – governance, digital infrastructure, language, health literacy, trust in government, community support and commercial influences – interact to both hinder and help the individual's ability to access, understand and act on reliable health information. Better understanding these factors can help tailoring responses.

Box 1. Asmita's journey^a

- Asmita lives in a community where Ministry of Health governance is marked by fragmented policies, which makes it difficult for her to access consistent care and know where to go to find health information on different topics (**society / policy**).
- Despite the availability of digital infrastructure, such as health portals and online resources, Asmita struggles to use them due to limited Internet access in her rural area (**societal**) and her lack of digital literacy (**individual**).
- Asmita faces a significant language barrier, as most health information is only available in English, and Asmita is most comfortable speaking her native language. This makes it hard for her to understand complex medical terms or navigate health information, leading to frustration and anxiety (**individual**).
- Asmita's low health literacy compounds the issue – Asmita knows very little about how the health system works and, even when she seeks information, it is often too technical or difficult to comprehend. Furthermore, her low trust in government, which stems from historical injustices (**societal**), makes her wary of official health messages, particularly after hearing negative stories in her community about government failures in serving minority groups (**interpersonal / community**).
- However, Asmita does find a sense of safety and support in community channels (**community**), and local churches and immigrant support groups in her area provide trusted health advice, often from people who understand her language and cultural context (**community / organizational**). These groups help translate information and give her a sense of belonging, but they struggle to keep up with the latest, evidence-based health guidance (**organizational**).
- Meanwhile, the commercial determinants of health also play a role (**societal**). Asmita is bombarded with ads for miracle cures on social media that prey on her desire for a quick fix to her health concerns. These products often promise easy solutions, but are not backed by science, contributing to her confusion and uncertainty about what is best for her health.
- Despite these barriers, Asmita continues to seek out information, relying on trusted community channels and doing her best to make sense of her health needs in an environment where official resources often feel distant and out of reach.

^a Bold type denotes information levels from the socio-ecological model.

Fig. 4. Mapping Asmita's journey to reliable health information

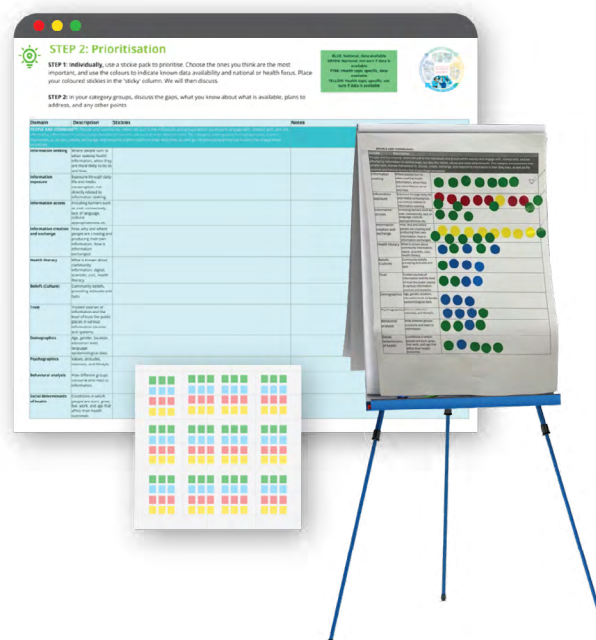


Step 2: Framing domain data priorities

An important step is thinking about what data you need, considering where you may need to source data from and encouraging people to think outside of their usual scope of work. Ask participants to consider each of the domains and identify which domains may have data that are more easily accessed. This will help you to understand where extra effort may be needed and where you need to reach out to other colleagues. Annex 2 has a list of IEA domains with descriptions and example data sources.

This prioritization exercise can be done face-to-face or online and enables participants to start thinking about what data may be available and where the gaps may be (Fig. 5). This is an important step as other people may have ideas about different data sources that you might not have thought of. The exercise can also help to identify where the gaps in data may be, and where extra effort may be needed to contact colleagues to find information. Depending on the focus of your IEA (national or health topic-specific), you can change the labels of the colours.

Fig. 5 Online or in-person exercise for framing domain data priorities



Key: blue: national – data available; green: national – uncertain if data are available; red: health topic-specific – data available; yellow: health topic-specific – uncertain if data are available.

Image: People and Community domain © WHO

Note: Frame domain data priorities by giving each person a limited number of coloured stickers (real or virtual). After a short period of reflection, ask everyone to place their stickers on the chart. After all the stickers have been placed on the chart, the data gaps will become obvious. In a national IEA, two colours of stickers may be enough to prompt people to think where the data are available; if you have focused on a health topic, you may include stickers for that as well.

Step 3: Mapping your data insights to domains

The core of the IEA involves identifying data sources and synthesizing insights. The length of time needed to complete this activity will differ depending on other assessments that have already completed, and the existing oversight of available data and staff capacity, but you should expect that this data collection phase could take a few weeks to complete. Where relevant, an IEA can be supported by assessing and analysing the documents that were gathered as part of a country JEE.

During the planning stage, you will have considered the domains for each category – people and community; information sources; actors; policy processes and enablers – and started identifying which potential data sources to use, where these data sources may be, how to access them and where the gaps in the data are. At this stage, focus on the data that are already available. You might realize that there are data gaps and a need to rapidly generate some new data, but these data gaps will also be identified when you create your action planning framework (Step 5). Annex 2 has some examples of potential data sources you may be able to access.

Once you have identified the data sources, you will need to synthesize, or identify, individual insights into your data, and then map these onto the domains to build a picture of the information environment across the categories. You will find a template data collection tool in the digital library on the OpenWHO page for this toolkit (9).

How to map data insights to the IEA domains

Table 4 shows examples of the kind of data you can include in your data mapping exercise.

- **Column 1 – Domain:** Select the relevant domain from the drop-down menu in the data collection tool.
- **Column 2 – Insight:** Write in the key insight taken from the data source you are using. If one data source contains multiple insights on the same domain, record each insight on a new line.
- **Column 3 – Data scope:** Select the scope of the data from the drop-down menu. The choices are: “national”, “topic specific” or “both”.
- **Column 4 – Source:** Note down the data source that you are using in this column.
- **Column 5 – Notes:** Record any notes about the data that you think might be relevant to the IEA.

Box 2 has more tips on how to map your data insights.

Table 4. Mapping data insights to your IEA domains^a

Category: people and community				
Domain	Insight	Data scope	Source	Notes
Health literacy	Good digital literacy at national level (86%), lower levels in people aged over 65 years and living in remote areas	National	Annual literacy survey	Data available from 2021
Trust	Trust in news media has decreased since 2022 (65–32%), but trust in scientists has increased (45–63%)	National	Think-tank data	Low sample size across all age groups (n=1000)

^a Data in this table are fictional and are for demonstration purposes only.

Box 2. Tips for mapping data insights to your IEA domains

- Use the output of Step 2 to understand where you may need to allow more time for data searching. For example, it may be very apparent where to get data about information seeking, but less about information exposure. Consider who you may need to approach.
- You do not need to include everything. Use the most recent and relevant data. For example, there is no need to include census data from 2021 if census data from 2024 are available, unless you are comparing data over time. If there is no national health literacy metric, you do not need to include multiple population-specific studies, pick the ones that are most relevant to your project.
- It is normal to find that the same data will cross over categories and domains. If you find it difficult to decide where some data fits, add it into multiple domains.
- Data do not need to be published to be included. You just need to include enough information into the “Source” column to allow someone to look up those data if they need to. For example, if you know there is an ongoing policy review on health emergency communications, note that as an insight, and in the source column you can add “Contact Health emergency team, Ministry of Health”, or something similar.
- Focus on national and subnational data. What data are already being produced in the country by various agencies. What data can you access that are relevant?
- Remember that data that have been published online may be less recent than data that are being generated as a work-in-progress at the national level. This is particularly true for journal articles, and it is a good idea to look at the methods and understand when the data were collected rather than using the date of publication.

Once you have generated your data insights, you can create a narrative summary of your key findings in the form of a short, written summary. This type of short summary is useful to include in a report and to be given to partners so that they can quickly identify the points that are important to you. This summary can be reviewed with the team as you work further through the assessment. If you have colleagues from areas outside of health working with you on the IEA, you may need to do some additional work contextualizing the findings to the specific health topics (Box 3).

You can use the information gathered from this exercise to map the information flow in your country or community. See Annex 3 for more details.

Box 3. Tips for contextualizing the findings

- Colleagues who do not work in public health on a day-to-day basis have important contributions and may need some additional context to understand how their work relates to the health topic. For example, if colleagues work in digital infrastructure planning, how does that relate to vaccination programmes?
- Schedule some World Café style sessions, through small group discussions and rapid expert presentations, to provide this context to colleagues who need it.
- Ask colleagues to deliver rapid presentations on a health topic, including the priority groups, topic-specific considerations and the geographical settings. Then, you can discuss in small groups how the findings can be contextualized to the topic, with input from all colleagues. This should help to identify if more information is needed, and also which information may be relevant to others.

Step 4: Category assessment

Once you have finished Step 3 you will have mapped your data insights to the IEA domains to give you an overview of your data, and you will have produced a narrative summary of the information environment. It is now time to start putting the components together to identify the opportunities for action and where the gaps may exist in your insights and data sources.

Identifying these opportunities for action can be achieved by assessing the insights across each domain. Each domain will have multiple entries. You need to look at all the entries listed under each domain and decide on key findings. Table 5 provides an example of multiple entries on health literacy that need to be synthesized into one key insight.

Table 5. Assessing the information listed under each domain to generate key findings^a

Category: people and community				
Domain	Insight	Data scope	Source	Notes
Health literacy	Good digital literacy at national level (86%), lower levels in people aged over 65 years and living in remote areas	National	Annual literacy survey	Data available from 2021. Approx 10% of population
Health literacy	Digital literacy in those aged 65 years and over is low, but critically low for those aged 80 years and over	Topic specific	Academic research	Targeted survey for people aged 65 years and over. Good sample size

^a Data in this table are fictional and are for demonstration purposes only.

Key finding

Although health literacy rates overall are good, there are significant gaps in priority groups with little understanding of the gaps and potential solutions.

Box 4 gives examples of the type of key findings that can be elicited from assessing the information listed under each domain.

Box 4. Examples of key findings elicited from assessing the information in the domains

- Accurate information is available but needs to be better targeted to reach priority groups through trusted channels, appropriate languages and targeted content.
- Information seeking by a particular population does not match the information being disseminated by the Ministry of Health.
- Low health/media literacy in a particular population hinders the understanding of public health advisories, contributing to poor adherence to health guidelines.
- Myths and misinformation are common, promoting negative health behaviours.
- A particular population is experiencing confusion and difficulty discerning accurate public health guidance from unreliable health information as they are receiving confusing messages from multiple sources.
- Constant flow of health information and advisories has led to disengagement and apathy towards following public health guidance.

Once you have decided on your key insights, you then need to assess each one quantitatively, using a rating scale, and qualitatively, noting the strengths, weaknesses, opportunities and challenges in each subcategory.

Box 5 gives an example of the type of rating scales that could be used, but these can be adjusted depending on the goals of your IEA.

Box 5. Quantitative and qualitative rating scales for IEA insights

Quantitative rating using a 1–5 scale
1. Major weakness: urgent need for action
2. Weak: targeted action required
3. Moderate: some areas require action
4. Good: minor actions needed
5. Strong: no significant action needed
Qualitative assessment
In the notes section, include the strengths, weaknesses, opportunities and challenges for each subcategory. Also indicate if more data or further assessments are needed, and any other relevant data to help to guide the actions needed to strengthen the category

Table 6 gives an example of how each of the key findings is rated using the health literacy example that was shown in Table 5. The templates for each step of this process are available in the [digital library](#) on the OpenWHO page for this toolkit (9).

Table 6. Example of rating an insight in the People and community category under the health literacy domain

	Notes	Rating
People and community		
Health literacy	Although health literacy rates overall are good, there are significant gaps in priority groups with little understanding of the gaps and potential solutions. More information is needed on older adults.	2

Step 5: Creating a framework for your action plan

In Step 4 you identified key findings to help guide your actions and responses. Working with your team, you should now be able to identify the actions needed to address gaps or strengthen areas based on these key findings. These actions should be based on the information gaps and could include the need for acquiring more data or carrying out investigations in particular population groups.

The types of recommendations you make will be heavily shaped by your institutional capacity and objectives, and the strengths of your partnerships. For example, very often in an emergency response you would work closely with the communications team, the data team, the health operations team, the health information team and external stakeholders, such as civil society, the media, fact checkers, professional organizations, online

self-organized communities and technology platforms. You need to consider how the actions you define can be taken up and implemented by these teams and the other stakeholders.

The template provided in Table 7 gives an example of how an insight can prompt an action and how the action planning framework available in the [digital library \(9\)](#) will help you to map your actions, allocate responsibilities and provide a timeline for when these actions will be completed. It is important to include metrics that will enable you to assess if an action has been implemented properly and is having an impact.

Table 7. Action planning framework

Insight	Action	Priority	Responsibility	Timeline	Evaluation
Although health literacy rates overall are good, there are significant gaps in priority groups, with little understanding of the gaps and potential solutions	Increase the sample size of the national survey to include quotas for priority groups. Engage with priority group members and stakeholders and work with them to understand barriers and identify strategies	Medium	Health literacy and national census teams	12 months	Adequate quotas agreed and deployed in next national survey. Mapping of stakeholders and community contacts to start developing strategy

Step 6: Communicating your findings

Documenting and communicating your process and findings is an important part of the IEA. A report will synthesize your findings and provide reference for stakeholders and colleagues on the actions that are needed and the strengths and challenges in your information environment. It is important to communicate the information succinctly, and in a way that enables people to easily understand your key findings and the actions needed to be taken. Providing the methods and data sources you used is also important so that people can understand how you reached the conclusions you did and can have confidence in your findings, while understanding the limitations of your assessment.

Producing a report

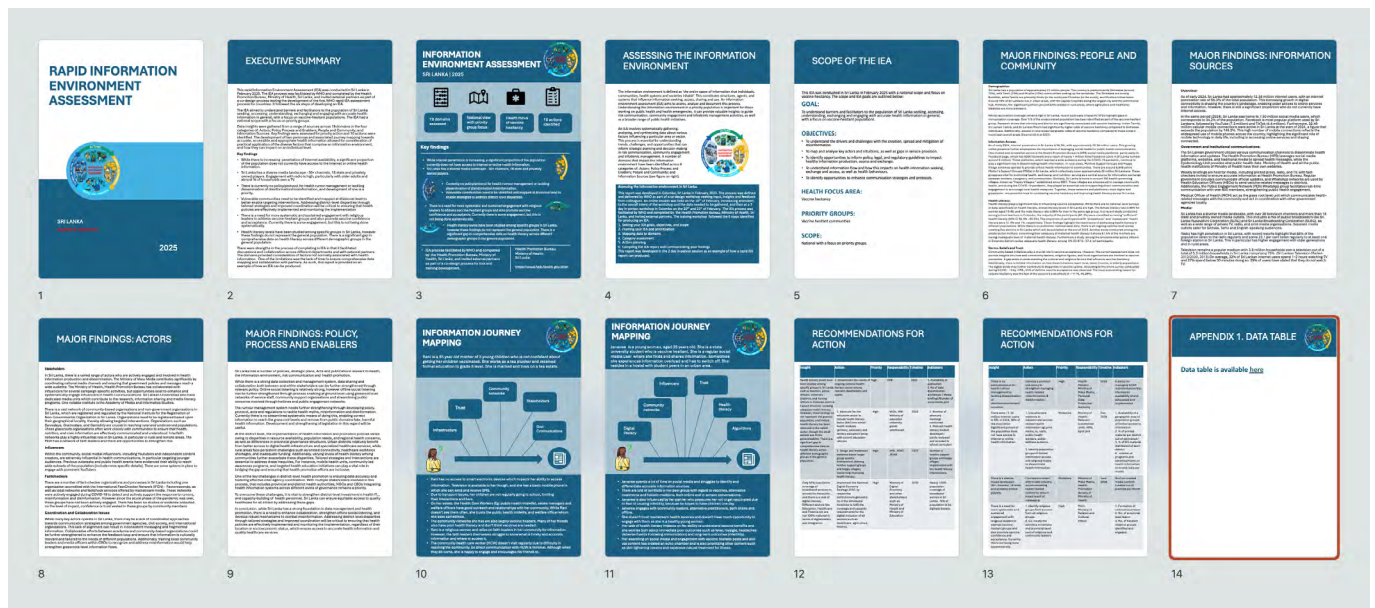
You can decide what is the best way to communicate your findings as what works for one audience may not work for another. A report could take the form of a formal written document, a visual display such as an infographic or a poster, a PowerPoint presentation or a one-page summary. Fig. 6 gives an example of a report template, and the template is provided in the [digital library](#) on the OpenWHO page for this toolkit (9).

Here is a list of the key components that can be included in the report, which have been adapted from the WHO/United Nations Children's Fund publication *How to develop an infodemic insights report in 6 steps* (11).

- **Executive summary:** Provide a brief one-page summary of the major findings of the IEA, the strengths and weaknesses in the information environment and the key actions that need to be prioritized.
- **Explanation of the purpose of the IEA:** Share the goal of your IEA, a brief explanation of the domains that have been covered and a visual map of the assessment.
- **Major findings and strengths and weaknesses:** Include short narrative summaries for each of the category areas, explaining the key findings and the strengths and weaknesses in each.
- **Recommendations for action:** Include a summary of the key actions as well as the action planning framework.

Methods: Include several sentences briefly describing the methods you have followed, including data sourcing, an explanation of the rating assessment and a statement of limitations.

Fig. 6. Example of an IEA report



Disseminating your report

Once you have produced your report, it is vital to consider who should receive it, and, also, where the recommended actions may fit in with your work. If you have included key recipients or intended users of your report into any of the collaborative processes that are part of the IEA process, such as prioritizing and identifying solutions, this will not only help to circulate your report, but will also help build buy-in for the results among stakeholders and will help to provide a sense of urgency for addressing the issues identified.

You can integrate the IEA's recommended actions into your country's health emergency prevention and preparedness documents via your country national action plan for health security (6), or as part of the JEE reporting (4). Section 2.1 has more information about how these actions can be integrated.

To disseminate the IEA's recommended actions, it is useful to consider the people in your organization, your key stakeholders and partners, and anyone else, who has the scope to respond to the recommendations you have identified. An IEA will contain key findings that may not be modifiable in the short term but will be vital information for those working in the field. Consider who in your network would benefit from receiving the report you have prepared and how they would like to receive it.

3.3 Monitoring and tracking the actions resulting from your IEA

Once completed, an IEA can be reviewed regularly to ensure it stays up to date and relevant. As some domains are more subject to change than others (Annex 4), you will not need to regularly review entire set of domains. It can be useful to decide on a schedule for monitoring each action point and to develop a tracking sheet (or simply add a column to your action planning framework) to indicate the actions that have been taken. Regular communication and rapid response mechanisms can help ensure that insights lead to immediate adjustments and useful outcomes for communities. Remember, the IEA report is the output, but the outcome of a healthier information environment depends on the integration and uptake of actions and recommendations.

4. Using a rapid IEA for a health emergency response

During a health emergency, information to guide the response is needed fast. Often, particularly in the early stages, a situation may be rapidly changing. An IEA can help understand how to reach communities with critical information when they need it the most. A rapid IEA should be conducted to build upon existing documentation and assessments of the information environment, such as a national IEA conducted for preparedness, to help provide specific insight on the information environment influencing and impacting a health issue or specific population. Annex 4 contains an assessment of domain susceptibility to change – how likely information within the domains is to change rapidly. This is context specific and an indication only which will need to be assessed on emergency circumstances and the country specific context. For example, during a Cholera outbreak, digital infrastructure is not likely to change significantly, but in the aftermath of an earthquake, this domain would need to be re-assessed as a higher priority. In addition, the capacity of different workers and organizations to participate in initiatives will also differ depending on the context of the emergency.

Where an IEA has not been completed as part of preparedness, a rapid IEA can be integrated into an RRA (7,8). This assessment was developed in response to requests from Member States to guide RRAs of acute public health risks from any type of hazard to guide decision-making in a rapid and robust manner for hazard, exposure and context assessment.

To support the assessment and integration of information environment factors into an event RRA, it is recommended to incorporate a subset of key IEA domains into this RRA. Table 8 gives an example showing how these IEA domains can be integrated into an event RRA, but assessors can review the full list of domains in Annex 2 to ensure that the domains included in the assessment are most relevant to the situation.

Table 8. Characteristics being assessed and information sources

Domain	Characteristics being assessed	Potential Information sources
People and community	• Information seeking patterns of population, including priority population groups • Literacy of population groups (including health and digital literacy) • Beliefs (culture) community beliefs, prevailing attitudes and faith	• Health system data (hotline call logs, email/chat queries). • Digital environment (website analytics, search trends, social media monitoring). • Community assessments and stakeholder feedback. • National census data • Academic publications • Community assessments
Information sources	• Media landscape including penetration in priority groups. • Digital platforms including uptake and usage of social media, websites and apps. • Govt and institutional communications including ways these sources are directed to priority populations	• Social media update data • Data on digital searches • Website specific analytics • Information provided by official health bodies and government agencies
Actors	• Stakeholders working in country and with population groups, including community networks and groups	• Stakeholder mapping documents • National and subnational working groups
Policy, process and enablers	• Infrastructure including penetration of Internet, uptake of technology, access to devices. • Policy and processes for information sharing, infodemic management and communication in an emergency	• Telecommunications, digital, radio and other infrastructure and uptake reports • Emergency Telecommunications Cluster • National Disaster Management Office • Information provided by official health bodies and government agencies

4.1 Context assessment as part of an RRA

Context assessment is a core component of an RRA that allows health responders to understand the environment in which an event has occurred. Annex 2 lists the characteristics to assess in each domain of the information environment, and the potential related data sources, in addition to the existing RRA components that are identified by the RRA tool. Assessors can seek to answer the following questions to better understand the information environment for the specific event or hazard.

- How are people in our priority populations looking for information?
- Who are the trusted sources of information provision for priority populations?
- What are the media landscape and digital infrastructure like?
- What are the barriers to information access and uptake?
- Who is working with communities to provide information?
- How should information be structured to be disseminated rapidly (considering formats, branding, framing, etc.)?
- What policies and processes exist for information sharing, infodemic management and communication in an emergency?

4.2 How assessments in each IEA category can help guide the emergency response

People and community – domains: information seeking, beliefs, literacy

These domains focus on how people actively search for health information, who they trust as sources of information (both digital and non-digital) and how they understand and engage with information based on their literacy levels. They can help identify any gaps that need to be addressed to ensure effective communication with the public during the emergency. This can also help inform understanding of information consumption and how information can be developed and disseminated during an emergency.

Information sources – domains: media, digital platforms, government and institutional communications

These domains focus on the penetration and role of media, digital channels and official institutions, particularly government health agencies and public health systems. The assessment identifies the reliability and timeliness of these sources, emphasizing the need for coordination across channels to avoid mixed messages. This can help inform where information can be targeted for dissemination to reach different groups.

Actors – domain: stakeholders

These domains highlight which organizations and services are operating, who they are working with and how stakeholder groups can be mobilized to reach priority populations with information. This can help inform who to work with to reach different groups through existing channels in ways community want to review information.

Policy, process and enablers – domains: infrastructure, policy

This focuses on the digital infrastructure in a country and any gaps in provision or barriers to access, as well as what policy and processes exist for information sharing, infodemic management and communication in an emergency. This can help inform processes for developing, disseminating and reviewing information to avoid duplication and maximize reach and resources.

5. Conclusion

This document outlines a process for assessing the information environment as part of health emergency preparedness and response. This is a critical step in identifying and understanding barriers and facilitators that impact different populations. An assessment can help guide actions and recommendations to work with communities and stakeholders to better strengthen responses. The toolkit provides a guide, but it is designed to be agile and should be tailored to the needs of the community and the situation. As the impact of complex information environments on public health becomes increasingly apparent, tools to help identify and contextualize the range of factors are an important part of health emergency preparedness and response planning.

References

1. White BK, Talamayan F, Aynsley TR, Riziki RB, Bertrand-Ferrandis C, Von Harbou K et al. Current approaches to and implementation of information environment assessments in the context of public health: rapid review. *JMIR Infodemiology*. 2025;5:e72165. (<https://doi.org/10.2196/72165>).
2. Strengthening the global architecture for health emergency prevention, preparedness, response and resilience. Geneva: World Health Organization; 2023 (<https://www.who.int/publications/m/item/strengthening-the-global-architecture-for-health-emergency-prevention--preparedness--response-and-resilience>).
3. International Health regulations (2005) as amended 2014, 2022 and 2024; 2025 (https://www.who.int/health-topics/international-health-regulations#tab=tab_1).
4. Joint external evaluation platform [website]. Geneva: World Health Organization; 2025 (<https://www.who.int/emergencies/operations/international-health-regulations-monitoring-evaluation-framework/joint-external-evaluations>).
5. Strategic toolkit for assessing risks: a comprehensive toolkit for all-hazards health emergency risk assessment. Geneva: World Health Organization; 2021 (<https://iris.who.int/handle/10665/348763>). Licence: CC BY-NC-SA 3.0 IGO.
6. NAPHS for all: a country implementation guide for national action plan for health security (NAPHS). Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/380231>).
7. Rapid risk assessment of acute public health events. Geneva: World Health Organization; 2012 (<https://iris.who.int/handle/10665/70810>).
8. WHO Rapid Risk Assessment Guidance v.2.1. Geneva: World Health Organization; 2018 (<https://www.who.int/publications/m/item/who-rapid-risk-assessment-guidance-v.2.1>).
9. OpenWHO. Defining an information environment assessment framework [video]. WHO; 3 November 2025. (https://openwho.org/playlist/dedicated/499738/0_fpv6zcpi/0_eodu8xbe).
10. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Educ Q*. 1988;15(4):351–77. (<https://doi.org/10.1177/109019818801500401>).
11. How to build an infodemic insights report in six steps. Geneva: World Health Organization and United Nations Children’s Fund; 2023 (<https://iris.who.int/handle/10665/370317>). Licence: CC BY-NC-SA 3.0 IGO.

Annex 1. IEA domain subset

If the list of domains looks daunting, you can start with a subset of domains and add more as you need. The list in Table A1.1 provides a subset of domains that should be adjusted to the local context and capacity. This is the recommended list that should be included as part of an RRA for a health emergency response, but the list should be contextualized to the local setting and the current emergency.

Table A1.1 Subset of domains to include in your rapid IEA

Domain	Characteristics being assessed	Information sources
People and community	- Information seeking patterns of population, including priority population groups - Literacy of population groups (including health and digital literacy) - Beliefs (culture) community beliefs, prevailing attitudes and faith	- Health system data (hotline call logs, email/chat queries). - Digital environment (website analytics, search trends, social media monitoring). - Community assessments and stakeholder feedback. - National census data - Academic publications - Community assessments
Information sources	- Media landscape including penetration in priority groups. - Digital platforms including uptake and usage of social media, websites and apps. - Govt and institutional communications including ways these sources are directed to priority populations	- Social media update data - Data on digital searches - Website specific analytics - Information provided by official health bodies and government agencies
Actors	Stakeholders working in country and with population groups, including community networks and groups	- Stakeholder mapping documents - National and subnational working groups
Policy, process and enablers	- Infrastructure including penetration of Internet, uptake of technology, access to devices. - Policy and processes for information sharing, infodemic management and communication in an emergency	- Telecommunications, digital, radio and other infrastructure and uptake reports - Emergency Telecommunications Cluster - National Disaster Management Office - Information provided by official health bodies and government agencies

Annex 2. IEA domains, descriptions and example data sources

Sources are included for illustrative purposes only; inclusion does not indicate endorsement.

Domain	Description	Example data sources
People and community refers not just to the individuals and groups within society who engage with, interact with and are affected by information in various ways, but also the norms, values and wider determinants of health. This category encompasses how people seek, expose themselves to, access, create, exchange and respond to information in their daily lives, as well as the external and internal factors that shape these processes.		
Information seeking	Where people turn to when seeking health information, when they are more likely to do so and how they do so.	• Health system data (hotline call logs, email/chat queries). • Digital environment (website analytics, search trends, social media monitoring) • Community assessments and stakeholder feedback • Hotline call-log, email/chat queries, press enquiries • Website analytics, search trends
Information exposure	Exposure through daily life and media consumption, not directly related to information seeking. For example, advertising, public announcers	• Social, news and media reports • Information exposure reports • Google trends • Data on advertising, public announcers, etc. • Mobility and location data • Rumour tracking • Field reports
Information access	How people have access to information including barriers such as cost, disability, connectivity, lack of language, cultural appropriateness, etc.	• Hotline call-log, email/chat queries • Digital environment (website analytics, search trends, social media monitoring) • Field reports • Digital penetration reports • Equity mapping resources
Information creation and exchange	How, why and where people are creating and producing their own information. How is information exchanged within and between communities	• Social, news and media reports • Information exposure reports • Infodemic insights report • Media monitoring • Social media analysis
Health literacy	What is known about community information, digital, scientific, civic, health literacy	• National census data • Academic publications • Community assessments
Beliefs (culture)	Community beliefs that impact information pathways and processing, such as prevailing community norms, religious beliefs and moral values	• Sociobehavioural studies, including ethnographic studies, community assessments, knowledge, attitude, practice and belief studies, etc.
Trust	What are the trusted sources of information and what level of trust does the public have in information sources and systems	• Trust surveys, national and global • Intergovernmental and international nongovernmental organizations reports (World Bank, International Telecommunication Union, United Nations Educational, Scientific and Cultural Organization, Research centres, Organisation for Economic Co-operation and Development., Edelman trust Barometer, Digital Divide Index)
Demographics	General demographic data that impacts information pathways including age, gender, location, education level, language, epidemiological data. This is particularly important when focusing on health topics and priority populations	• National census, epidemiological or health data sets • Equity mapping resources • Population-based surveys such as multiple indicator cluster surveys, demographic health surveys, health interview surveys, etc.

Domain	Description	Example data sources
Psychographics	Characteristics including community values, attitudes, interests and lifestyle	Sociobehavioural studies, including ethnographic studies, community assessments, knowledge, attitude, practice and belief studies, etc.
Behavioural analysis	What is known about how different groups consume and react to information	Sociobehavioural studies, including ethnographic studies, community assessments, knowledge, attitude, practice and belief studies, etc.
Social determinants of health	Conditions in which people are born, grow, live, work, and age that affect their health outcomes e.g. education, built environment, social status or social capital	- National census, epidemiological or health data sets - Equity mapping resources - Population-based surveys such as multiple indicator cluster surveys, demographic health surveys, health interview surveys, etc.
Information sources refers to the various origins from which information is generated, disseminated, exchanged and accessed. These sources contribute to shaping public understanding, behaviour and decision-making.		
Media	Traditional media (television, newspapers, radio) and digital media (social media, blogs, online news)	Media penetration and landscape reports
Government and institutional communications	Official statements, press releases, public service announcements	Information provided by official health bodies and government agencies
Public opinion	Surveys, polls and grass-roots communications (forums, community meetings)	- Society and community: - media monitoring - feedback from community events - opinion polls - community assessments and stakeholder feedback
Digital platforms	Social media, websites and apps	- Social media update data - Data on digital searches. Website specific analytics - Digital environment and user behaviour: - website analytics; search trends - social media monitoring - digital infodemic insights analysis (external reports)
Communication networks and channels	How information flows within a society, including both formal and informal networks	- Discussion forums - Customer feedback/review sites - Other digital data sources
Actors refers to the various individuals or groups that play a role in shaping, disseminating and influencing information. This includes those who contribute to the flow, reach and perceived veracity of information, whether intentionally or unintentionally and may vary in their objectives, methods and impacts		
Influencers	Individuals or organizations that shape public opinion or information flow	- Infodemic insights report - Media monitoring - Social media analysis
Adversaries	Entities that spread misinformation or engage in information warfare	- Infodemic insights report - Media monitoring - Social media analysis
Stakeholders	Governments, corporations, nongovernmental organizations and other entities with vested interests	- Stakeholder mapping documents - National and subnational working groups - Local knowledge (key health actors, organizational stakeholders and partners, key community leaders – faith, education, community, etc.) - Interviews, surveys, focus group discussions - Informal feedback

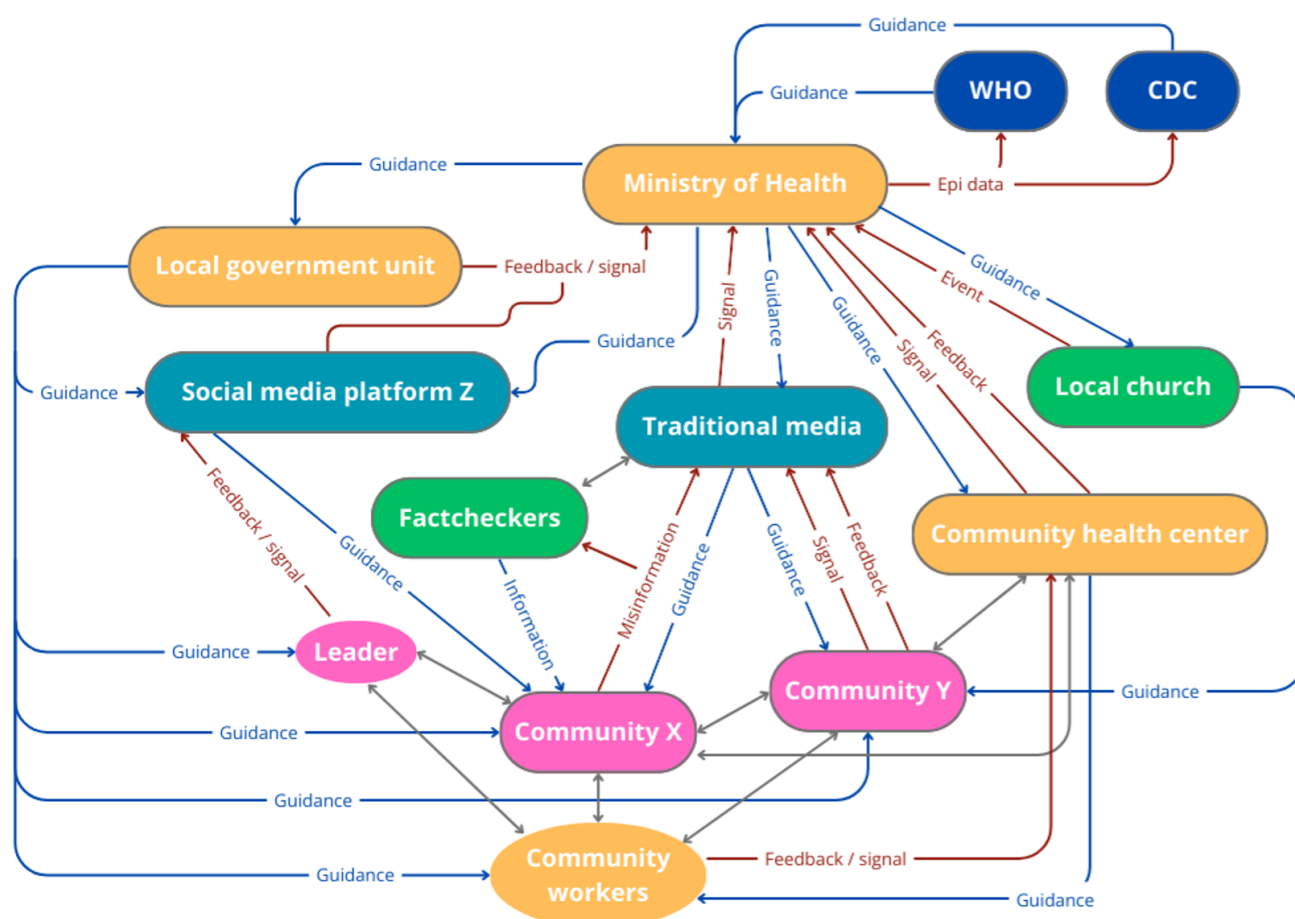
Domain	Description	Example data sources
Fact checkers	Verifiers of information	- Local knowledge (key health actors, organizational stakeholders and partners, key community leaders – faith, education, community, etc.) - Accredited Fact-Checking Network members
Policy, process and enablers refers to the frameworks, structures and mechanisms that shape, govern and facilitate the creation, dissemination and consumption of information. This category includes both formal regulations (such as laws and policies) and the tools, systems and processes that enable or hinder information flow and exchange. These components are vital for maintaining an environment that promotes responsible information use, ensures security, supports innovation and fosters public trust		
Infrastructure	Internet penetration, access to devices and technology adoption rates, stability of Internet connections	- Digital infrastructure and uptake reports. - National digital readiness assessments. - World Bank reports - Emergency Telecommunications Cluster
Cybersecurity	Vulnerabilities, threats and protective measures	- National cyber security assessments - World Bank reports
Algorithms	Influence of algorithms on information flow, especially on social media	- Social media landscape analysis - Platform specific transparency reports.
Regulation, policy, governance and legal frameworks	Policy and laws governing freedom of speech, censorship, data privacy and information sharing	- Information provided by official health bodies and government agencies. - National regulatory, data privacy, governance and legal frameworks - National Disaster Management Office
Community participation	Opportunities for communities to participate in the creation, moderation, dissemination and evaluation of information	- Rapid qualitative assessments - Field reports - Community feedback mechanisms - Formal and informal co-design processes - Community assessments and stakeholder feedback
Fact checking	Networks of fact checkers and processes for verifying information	- Networks (international and national) - Processes for collaborative work
Freedom of press	Government ownership or censorship	International reports and organizations (International Telecommunication Union, United Nations Educational, Scientific and Cultural Organization, human rights organizations, Media Watch and monitoring organizations)
Ethical considerations	Ethical considerations on issues such as fake news, manipulation and the impact on democratic processes	International reports and organizations (International Telecommunication Union, United Nations Educational, Scientific and Cultural Organization, human rights organizations, Media Watch and monitoring organizations)
Integrity processes	Media watchdogs, media integrity advocacy organizations	International reports and organizations (International Telecommunication Union, United Nations Educational, Scientific and Cultural Organization, human rights organizations, Media Watch and monitoring organizations)
Commercial determinants of health	Ways in which businesses, industries and market practices influence health outcomes	- World Bank reports - Product regular reports

Annex 3. Mapping information flows in communities

You can consider mapping information flows as an additional step to help visualize how information moves within a community as you identify data sources, actors and other factors. Mapping information flows involves plotting sources on a map to illustrate information directionality and its circulation routes within communities, institutions, media networks and social networking sites. This process can help detect key issues or patterns, such as where there are information bottlenecks, or gaps within the information environment where critical guidance or health messages fail to reach intended audiences. This visualization can also help identify key amplifiers of accurate health information, such as community leaders, health care providers or trusted media outlets, or pinpoint the usual actors or networks that are responsible for spreading misinformation and disinformation (Fig. A3.1).

It is important to remember the impact that some of the other wider domains, such as the commercial determinants of health, the stability of the Internet infrastructure, regulatory systems and digital literacy for example, can have on the flow of information. These factors can be annotated on the map or sit alongside the analysis.

Fig. A3.1. Example information flow mapping



Annex 4. Susceptibility of the IEA domains to change

This annex provides an indication of how susceptible each of the domains may be to change during an emergency, although this is highly influenced by local context. This can help with determining which domains may need to be reviewed as a priority at certain points to adapt to a changing or complex situation. This framework considers three broad types of emergencies: health emergencies, humanitarian crises, and environmental emergencies and natural disasters (Box A4.1). Although these types of emergencies are conceptually distinct, they often overlap significantly in real-world contexts. For example, a natural disaster, such as a major flood or earthquake, can quickly escalate into a humanitarian crisis due to displacement, infrastructure breakdown and resource shortages, and may trigger a public health emergency through the outbreak of a disease. Therefore, although each domain is listed under individual emergency types, it is important to understand these as interconnected rather than siloed categories.

Box A4.1. Health emergency and disaster terminology

- **Health emergencies** are a type of event or imminent threat that produces or has the potential to produce a range of health consequences, and which requires coordinated action, usually urgent and often non-routine.¹
- **Humanitarian emergencies** and crises are large-scale events that affect populations or societies causing a variety of difficult and distressing consequences that may include massive loss of life, disruption of livelihoods, breakdown of society, forced displacement, and other severe political, economic, social, psychological and spiritual effects. Such events can exceed a society's ability to care for its own people.²
- **Environmental emergencies and natural disasters** include both sudden-onset events (e.g. earthquakes, hurricanes, floods, wildfires) and slower-moving crises (e.g. droughts, environmental degradation) that pose immediate or long-term threats to populations and ecosystems.³

The susceptibility ratings provided in Table A4.1 represent an estimated assessment of how vulnerable each domain may be to change during each emergency type. These ratings are based on observed patterns, documented case studies and theoretical understanding of risk dynamics across these emergencies. For instance, digital platforms may be particularly susceptible to misinformation during a health emergency, and trust in institutions may be especially fragile during a humanitarian crisis. It is critical to emphasize that these ratings are indicative and not definitive, and the descriptions are examples only. Each emergency is unique, shaped by local context and resilience of communities, the speed of onset, the capacity of systems in place, and the nature of the threat itself. Susceptibility to change can also be dynamic, for example some may be more changeable in the early stages, while others may be more likely to change over time. As such, although the framework provides a useful guide for understanding and anticipating vulnerabilities, it should not be seen as a one-size-fits-all model. Rather, it should serve as a starting point for more nuanced, context-specific analysis.

When conducting a rapid IEA or leveraging existing IEAs to support an emergency response, it is important to consider the susceptibility of the domain to change, and thus whether the information available is still relevant and applicable, and how much it may be likely to change.

1 Glossary of health emergency and disaster risk management terminology. Geneva: World Health Organization; 2020 (<https://iris.who.int/handle/10665/331716>).

2 Integrating palliative care and symptom relief into the response to humanitarian emergencies and crises – Chapter 2. Geneva: World Health Organization; 2018 (<https://iris.who.int/server/api/core/bitstreams/75a499d3-bf99-456b-a48e-6d5e5043e81f/content>).

3 Environmental health in emergencies [website]. World Health Organization; 2025 (<https://www.who.int/teams/environment-climate-change-and-health/emergencies>).

Table A4.1 Susceptibility ratings for domains vulnerable to change

How to read this table	Low Domain may have lower likelihood to change.	Medium Domain may have a medium likelihood to change, which may impact the information environment	High Domain may be highly likely to change and will likely impact the information environment.
Domain	Health emergency	Humanitarian emergency	Environmental emergencies and natural disasters
People and community			
Information seeking	High: Outbreaks drive urgent and rapidly shifting demand for health information (i.e. symptoms, vaccines, protective actions).	Medium: Needs are high but may be fragmented around aid, safety and survival.	High: Sudden disasters trigger surges in searching for warning, safety and aid information.
Information exposure	High: Media saturation and misinformation rapidly alter what information people see.	Medium: Exposure is intense early but can wane as global attention shifts.	High: Disaster alerts and community messaging spike during acute events.
Information access	Medium: Digital divides, censorship and trust issues shape uneven access to information.	High: Displacement, conflict and infrastructure collapse can severely restrict information access.	Medium: Infrastructure damage can disrupt access, but restoration is generally prioritized.
Information creation and exchange	High: Communities and institutions can flood channels with both accurate and misleading content.	Medium: Peer-to-peer exchange adapts, but conflict and instability constrain it.	High: Eyewitness reports, local coordination and mutual aid emerge quickly; outdated or conflicting information may be a challenge.
Health literacy	Medium: Campaigns can raise literacy, but complexity and misinformation may overwhelm its penetration and absorption.	Low: Literacy gains are minimal under trauma and survival pressures.	Medium: Awareness may increase in crises, but sustained literacy depends on education.
Beliefs (culture)	Low: Cultural frameworks strongly influence health behaviours but shift slowly even during crises.	Medium: Beliefs may harden under stress, though displacement can alter norms.	Low: Cultural worldviews on environment change gradually, not suddenly.
Trust	High: Trust in institutions and science can shift quickly, either strengthening or collapsing.	High: Trust in authorities is often low; reliance shifts to local/community leaders.	Medium: Trust can fluctuate around official disaster response.
Demographics	Low: Demographic structures do not change during crises.	Medium: Household composition may change due to displacement and conflict.	Low: Population make-up does not shift, though vulnerability differs by group and displacement may cause changes.
Psychographics	Medium: Attitudes, motivations and fears shift with perceived risk and exposure to misinformation.	High: Trauma, insecurity and uncertainty rapidly reshape values and risk perceptions.	Medium: Risk perception increases, but broader attitudes shift more gradually.
Behavioural analysis	High: Behaviours (mask wearing, distancing, vaccine uptake) can change dramatically and quickly.	High: Survival behaviours dominate, with rapid adaptation to resource constraints.	High: Protective actions (evacuation, sheltering) shift immediately during disasters.
Social determinants of health	Medium: Inequalities become more visible and may worsen, but structural change is slow.	High: Determinants (housing, income, education, safety) are profoundly disrupted in conflict/displacement.	Medium: Disasters exacerbate inequities, but determinants shift over longer timelines.

Domain	Health emergency	Humanitarian emergency	Environmental emergencies and natural disasters
Information sources			
Media	High: Constant 24/7 coverage and narrative framing shift rapidly with outbreak developments.	Medium: Coverage may spike at onset but can decline unless tied to geopolitical interest.	High: Disasters generate immediate, intense media attention, though interest may fade quickly after acute event has passed.
Government and institutional communications	High: Guidance changes frequently with evolving evidence and can swing trust levels.	Medium: Communications are often disrupted, contested or distrusted in conflict zones.	High: Central to disaster alerts and recovery, with fast shifts in tone and frequency.
Public opinion	High: Perceptions of risk, compliance and trust change dramatically as outbreaks unfold.	High: Public sentiment is volatile in crises, influenced by trauma, politics and misinformation.	Medium: Opinions shift around immediate disaster response but stabilize more quickly than in protracted crises.
Digital platforms	High: Social media reacts instantly, amplifying both accurate information and misinformation.	High: Platforms can become vital tools for displaced people but can be vulnerable to manipulation.	High: Crucial for real-time alerts, solidarity campaigns and disaster updates.
Communication networks and channels	Medium: Established systems (hotlines, messaging systems, websites) can scale but may be limited by digital divides.	High: Infrastructure breakdowns and censorship make networks highly unstable.	High: Networks are disrupted in disasters, but restoration and adaptation are often immediate priorities.
Actors			
Influencers	High: Health professionals, influencers and community leaders can rapidly shift narratives and behaviours.	High: Local community leaders and trusted voices are critical where official channels fail.	High: Eyewitnesses, local leaders and community figures can strongly shape response behaviours.
Adversaries	High: Misinformation actors can exploit outbreaks for attention, profit or political gain.	High: Disinformation and propaganda are common in conflict settings to control narratives.	Medium: Less systematic than in conflicts, but rumours and opportunistic misinformation still emerge.
Stakeholders	Medium: Governments, nongovernmental organizations, community and private sector actors adjust roles quickly, but structures remain.	High: Humanitarian actors, states and armed groups strongly influence communication dynamics.	Medium: Disaster response stakeholders adapt quickly, but overall structures are relatively stable.
Fact checkers	High: Rapid response fact-checking expands during outbreaks to counter misinformation.	High: Fact-checking is harder to sustain in conflict zones due to access and safety limits, but demand can be high.	High: Verification increases during disasters but may have less sustained intensity. Demand may be high.

Domain	Health emergency	Humanitarian emergency	Environmental emergencies and natural disasters
Policy, process and enablers			
Infrastructure	Low: Digital health systems can be stretched, but communications infrastructure is often prioritized.	High: Conflict and displacement frequently destroy or fragment infrastructure.	High: Disasters cause immediate disruption to infrastructure, though repair is often a top priority.
Cybersecurity	Medium: Health data and systems can become targets during outbreaks.	High: Cyber attacks and information warfare are common in conflict settings.	Medium: Cyber risks exist but are less central compared to physical infrastructure threats.
Algorithms	High: Platform algorithms can rapidly amplify (or suppress) outbreak information and misinformation.	High: Algorithms can distort narratives, especially when manipulated by adversaries.	Medium: Algorithms shape disaster information flows, but less intensely than in health/ conflict.
Regulation, policy, governance and legal frameworks	Medium: Emergency laws and public health mandates can shift information flows rapidly.	Medium: Governance can be weak or contested, limiting regulatory impact.	Medium: Disaster declarations can trigger rapid shifts in communication policy and coordination.
Community participation	Medium: Engagement varies depending on trust and inclusion in response planning and can be inconsistent.	High: Community-driven information networks can replace formal systems when institutions fail.	High: Local community-led recovery and mutual aid are critical to response.
Fact checking	High: Intensifies quickly to counter misinformation in outbreaks.	Medium: Can be difficult to sustain where access and safety are limited.	Medium: Verification increases during acute disasters may be short-lived.
Freedom of press	Medium: Can be restricted under emergency laws, but also expands in democracies.	High: Often curtailed in conflict zones to control narratives.	Medium: Press freedom can fluctuate depending on response to disasters.
Ethical considerations	Medium: Health data standards may be challenged under time pressure.	High: Integrity processes often collapse amid conflict or authoritarian control.	Medium: Processes may be bypassed during urgent disaster response.
Integrity processes	Medium: Tension between individual rights and public health measures.	Medium: Ethics often deprioritized when survival and security dominate.	Medium: Ethical debates arise (e.g. relocation, resource allocation) but evolve slowly.
Commercial determinants of health	High: Pharma, media and tech companies can influence information access, flow and misinformation.	High: Commercial actors may withdraw or operate unevenly in fragile settings.	High: Companies can shape recovery and infrastructure. Tech companies can influence information flows.

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