PREPSHIELD

Deliverable D3.2 – Training programme

WP3 – T Pilot set-up / ST 3.1.2 Participant recruitment and training for the TTE

Version:	0.2
Partner responsible:	Freie und Hansestadt Hamburg (FHH)
Work package No.:	3
Task No.:	3.1.
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Date:	26.08.2025

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Nature of the Deliverable		
R	Document, report (excluding the periodic and final reports)	**x**
DEM	Demonstrator, pilot, prototype, plan designs	
DEC	Websites, patents filing, press & media actions, videos, etc.	
OTHER	Software, technical diagram, etc.	

Dissemination Level		
PU	Public, fully open, e.g. web	**x**
CO	Confidential, only for members of the consortium (including the	

Quality procedure			
	Name	Partner	Date
Checked by	Landsberg, Lennart ; Tschäschke, Niklas ; Schneider, Christoph	THK	14.08.2025
Checked by WP-leader	Yvonne Siegmund	FHH	26.08.2025
Approved by	Luca Ragazzoni	UPO	29/08/2025

Acknowledgments

The work presented is part of the PREPSHIELD project (https://prepshield-project.eu/), which is funded through the European Union's Horizon Europe research and innovation programme under grant agreement no 101168124. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or REA. Neither the European Union nor the granting authority can be held responsible for them.

Project Summary

PREPSHIELD aims to foster a more holistic and citizen-centric approach to health crisis preparedness and management, by co-creating policy recommendations, methods and an AI-powered platform for crisis management to better prepare for and address health emergencies from a social and societal perspective. To reach this objective, PREPSHIELD will rely on the participation of public authorities, citizens (specifically from vulnerable and non-compliant groups), CSOs, DROs and healthcare institutions. Based on the needs of these groups, PREPSHIELD will develop recommendations for health crisis preparedness, management and communication as well as tools to simulate future crises through an iterative process, involving various pilots for their evaluation. Tabletop exercises, communication pilots, and an online exercises will include all these stakeholders and take place at different scales in different countries: local (Hamburg, DE), regional (Piedmont, IT) and national (Romania). The online exercise will rely on a PREPSHIELD platform and app (built on the proven CRIMSON platform) to reproduce real-life crisis communication conditions and provide decision-makers with simulations and feedback on the behaviour, wellbeing, capacities, and resources of the other stakeholders. The project brings together a complementary consortium of five universities, two public authorities, one Research and Technology Organisation (RTO), two non-profit organizations, one Small and Medium-Sized Enterprise (SME) and two large enterprises from seven European Union countries (and Switzerland).

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Document Objective and Executive Summary

This Deliverable (D3.2) presents the PREPSHIELD **training programme** (Task 3.1.2), which provides the overall framework for preparing participants for the exercises (tabletop exercises and online pilots). The programme translates insights from WP1 into actionable training strategies and ensures coherence across the three pilot sites: Hamburg-Steilshoop, Piedmont, and Romania.

A key distinction is made between three related but **different terms and concepts** (see introduction for detailed definitions): **training programme, training, and preparation**.

The programme builds on **Best Practices** identified in WP1, particularly in the areas of crisis management, communication, health literacy, and healthcare governance. These insights form the evidence base for training design and ensure that institutional and community perspectives are both addressed.

The **objectives** of the training programme are to:

- Equip institutional actors with skills for inclusive and coordinated crisis response.
- Support vulnerable groups in engaging with the simulation formats.
- Strengthen collaboration and trust between institutions and communities.

Ultimately, the training programme provides the foundation for **Tabletop Exercises (T3.3) and online simulations (T3.4)**, enabling participants from diverse backgrounds to actively contribute to testing and improving crisis preparedness strategies.

The trainings are implemented in an iterative manner, allowing for adaptation to local needs and refinement based on participant feedback.

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List Of Partners

N°	Participant organisation name	Acronym	Country
1	UNIVERSITA DEGLI STUDI DEL PIEMONTE ORIENTALE AMEDEO AVOGADRO	UPO	IT
2	RIJKSUNIVERSITEIT GRONINGEN	UG	NL
3	UNIVERSITETET I OSLO	UiO	NO
4	TECHNISCHE HOCHSCHULE KOELN	THK	DE
5	CS GROUP-FRANCE	CSG	FR
6	SOPRA STERIA GROUP	SSG	FR
7	EREVNITIKO PANEPISTIMIAKO INSTITOUTO SYSTIMATON EPIKOINONION KAI YPOLOGISTON	ICCS	EL
8	MINISTERUL AFACERILOR INTERNE	DSU	RO
9	SOCIETATEA NATIONALA DE CRUCE ROSIE DIN ROMANIA	RRC	RO
10	FREIE UND HANSESTADT HAMBURG	FHH	DE
11	EV.-LUTH. MARTIN LUTHER KING- KIRCHENGEMEINDE STEILSHOOP	MLKS	DE
12	EUROQUALITY SAS	EQY	FR
13	UNIVERSITAT ZURICH	UZH	CH

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Contents

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Glossary

CMT	Crisis Management Team
CSO	Civil Society Organisation
EC	European Commission
DRO	Disaster Response Organisation
MG	Market Group
NGO	Non-Governmental Organisation
RTO	Research and Technology Organisation
ST	Subtask
SME	Small and Medium-Sized Enterprise
T	Task
TTE	Tabletop Exercise
WP	Work Package

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Introduction

The **PREPSHIELD training programme** (T3.1) is a central element of Work Package 3. It provides the overall framework that prepares diverse participants for simulation-based pilot activities. Within this framework, it is important to distinguish between three related but distinct terms (see also fig.1):

- **Training programme**: the overarching framework that brings together all activities, methods, and materials to support participants across different pilot sites. It defines objectives, ensures comparability, and guides both strands of capacity-building.
- **Training**: the strand directed at institutional actors involved in implementing and communicating crisis management strategies. The training builds professional knowledge and practical skills for crisis management, inter-institutional coordination, and decision-making during health emergencies.
- **Preparation**: the strand directed at vulnerable and non-compliant groups and their representatives. It focuses on building trust, providing accessible knowledge, and strengthening the confidence and ability of community members to participate in crisis simulations.

Non-Governmental Organisations (NGOs) and Professionals in social and health care may, depending on their function, be involved either in the training (when taking on operational crisis management tasks) or in the preparation (when representing or supporting vulnerable groups).

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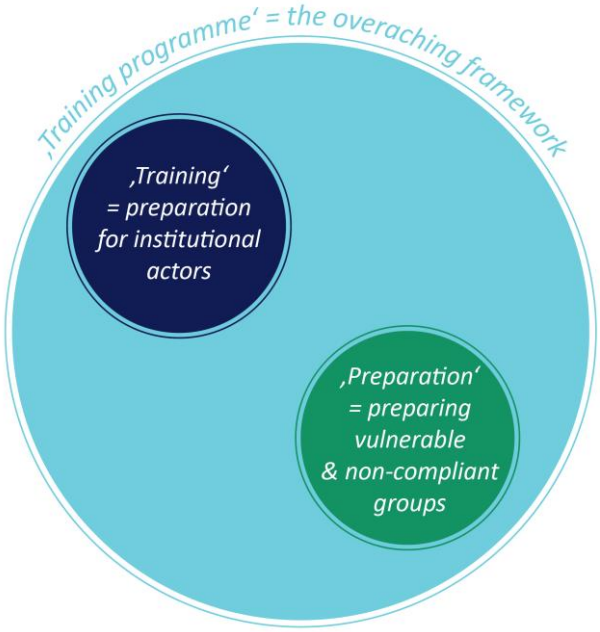

Figure 1: This illustration shows the differences between the terms 'training programme', 'training' and 'preparation'. While the training programme describes the overall framework, 'training' refers to the preparation sessions for the institutional actors (crisis management team). The term 'preparation' refers to the preparation of vulnerable and non-compliant groups and their representatives (market group).

The training programme is tailored to the specific needs and contexts of the three pilot sites—Hamburg-Steilshoop, Piedmont, and Romania—and will be iteratively refined based on participant feedback. By fostering crisis-related competencies and strengthening collaboration between institutions and communities, the programme lays the groundwork for effective and inclusive participation in tabletop exercises (T3.3) and online simulation (T3.4).

Table 1 briefly outlines and graphically summarizes the work packages in the context of project phases and activities in the three-year project between September 2024 and August 2027. (see also fig. 2) The Training programme and the exercises are part of Work Package 3.

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Work Package	Title	Main Objectives
WP1	Individual, Communal, Societal and Institutional Needs and Barriers for Health Crises	Develop a deeper understanding of the needs and perceptions of vulnerable and non-compliant groups, as well as institutional needs, to provide preliminary recommendations for improved crisis preparedness, management, and communication.
WP2	Tools for Crisis Preparedness and Management	Develop collaborative crisis management tools, including forward-looking scenarios and an AI-powered PREPSHIELD platform with a mobile app.
WP3	Pilots and Iterative Evaluation	Recruit and train participants, conduct pandemic response pilots, simulate disease spread, evaluate communication strategies, and represent diverse societal responses, including those of vulnerable subgroups.
WP4	Recommendations and Tools for Inclusive Crisis Preparedness and Management	Translate project research into actionable recommendations and tools for policymakers, public authorities, disaster response organisations (DROs), healthcare institutions, civil society organisations (CSOs), and citizens.
WP5	Communication, Dissemination and Exploitation	Inform stakeholders about the project, raise awareness, and disseminate results to targeted audiences for practical use and impact.
WP6	Project Management, Data Management and Ethics	Ensure smooth project coordination, timely delivery of results, and compliance with ethical and data management standards.

Table 1: PREPSHIELD work packages and their main objectives.

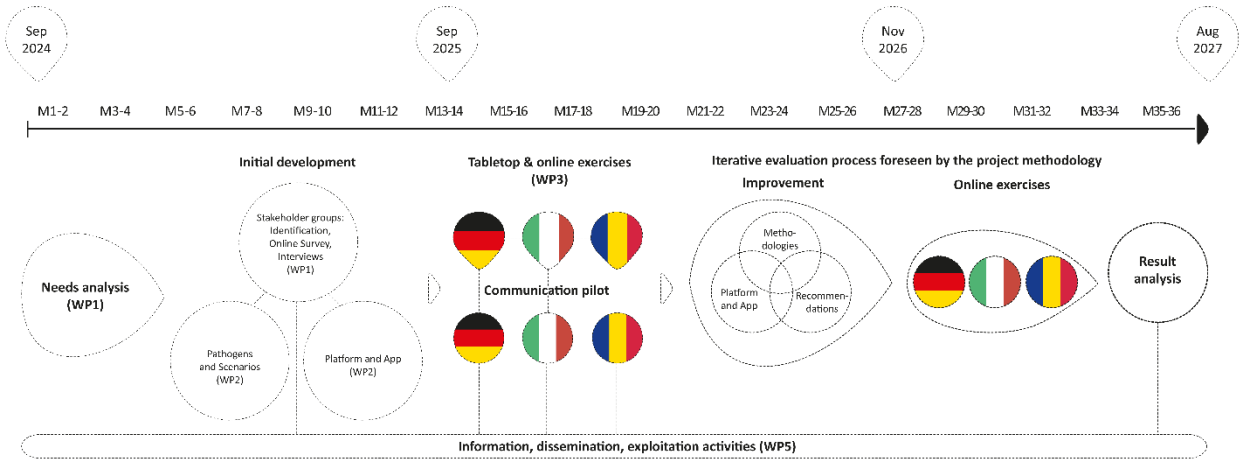

Figure 2: A simplified overview of the PREPSHIELD project with its work packages.

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1. Objectives and Structure of the Training Programme

As part of its overarching goal to strengthen health crisis preparedness across Europe, the PREPSHIELD project has developed a targeted training programme (T3.1) to equip key actors with the knowledge and skills needed to act effectively in crisis situations. The training is a preparatory step for a series of simulation-based exercises—including TTE (T3.3) and online simulations (T3.4)—involving public authorities, healthcare institutions, NGO's like civil society organisations (CSOs), disaster relief organisations (DROs), and citizens, with a specific focus on vulnerable or non-compliant groups identified in T1.1.

The **training programme** refers to the overarching conceptual and operational framework for enhancing knowledge and practical competencies throughout the project. It draws on the insights gathered in Work package 1—including Best Practices (T1.3–T1.5), stakeholder mapping, and the identification of vulnerable groups—and translates them into training strategies tailored to different types of actors. In contrast, the **trainings** and **preparations** are the locally adapted sessions delivered in each pilot site—Hamburg-Steilshoop, the Piedmont region, and Romania. These concrete activities prepare participants for the simulation exercises and vary in format and content according to local needs and feedback gathered during the pilot phase. Both formats aim to foster communicative, cooperative, and confident responses to health crises. It promotes essential skills, perspective-shifting experiences, and practical knowledge required in real emergencies. They also seek to clarify institutional roles, encourage inclusive participation, and build trust between authorities and communities.

Participants include both professionals and members of the local population, particularly from the following groups (detailed list and characteristics in Chapter 2.1):

- Vulnerable or non-compliant groups and their representatives
- Professionals in social or health care
- NGO's like Civil society organisations (CSOs) or Disaster relief organisations (DROs)
- Authorities at local, regional, and national levels

Thus, the PREPSHIELD training does not constitute a single, uniform programme but an iterative approach composed of multiple, context-specific training programmes adapted to the needs, capacities, and crisis response conditions in each pilot.

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2. Foundations for Training Design

This chapter provides an overview of the key foundations for training design, including the characteristics of relevant stakeholder groups (2.1.), the pilot settings and simulation formats (2.2), and insights from WP1 that inform the training content and methods (2.3).

2.1. Impacted groups and stakeholder characteristics

The following sections focus on the stakeholders, and/or the people involved in the project who support it with their experience and knowledge and could be impacted by disaster scenario development. For the purposes of this Deliverable, the term "stakeholder" is used as a collective label for all relevant individuals and groups, regardless of the nature or degree of their involvement.

Health crises affect society at multiple levels. To design inclusive and context-sensitive trainings, it is essential to understand which groups are typically impacted and how they interact with institutions. This classification builds on Deliverable D3.1 (Engagement Strategy) and the findings from WP1. It provides a broad picture of potentially affected groups, while the **training activities in WP3 deliberately focus on two main categories: institutional actors and vulnerable and non-compliant groups**.

Broad classification

- **Institutions**: Governmental authorities, healthcare providers, and civil society organisations that plan, coordinate, and implement crisis measures.
- **General public**: Citizens who are both recipients of health interventions and active in shaping societal responses. Within this group, *vulnerable populations* (e.g. elderly, migrants, low-income households, people with disabilities) face disproportionate risks due to socioeconomic or health-related factors.

Detailed focus for WP3 trainings is on institutional actors and vulnerable or non-compliant groups and their representatives. Other stakeholder groups (e.g. private sector, employers, communication channels) are important in the broader landscape of crisis preparedness, but they are not the main focus of the training formats in WP3.

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Understanding the characteristics of different stakeholder groups is essential for tailoring the training programme and ensuring their meaningful inclusion in the exercises. The following summary is based on WP1 results and the Engagement Strategy (D3.1). A full account of groups and references is provided in Annex 2 and D3.1.

Vulnerable Groups. Health crises disproportionately affect vulnerable groups. They often encounter barriers to information, care, and compliance, and vary in beliefs, knowledge, trust, and adherence.

The key vulnerable groups include:

- **Older adults**
- **Women**
- **People living in poverty**
- **People with chronic illnesses or underlying health conditions**
- **Minorities and marginalized groups**
- **Migrants and refugees**
- **Individuals with disabilities**

Non-compliant individuals are often found among vulnerable groups, including those with cognitive-behavioral disorders, pregnant women, panic-prone individuals, and individuals with intellectual disabilities. Non-compliant features include:

- **Individual Health Conditions:** People living with dementia, bipolar disorder, Dark Triad traits, psychopathic traits
- **Sociodemographic factors:** Elderly unafraid of virus, lower education, migrants
- **Social and Economic Context:** Rural populations, low-income groups
- **Information access and social trust:** Limited access and low trust

Government and Public Authorities. They are responsible for policymaking, funding, coordination, and enforcement of public health measures at local, regional, national, and international levels.

Professionals in social or health care. These frontline responders work in hospitals, clinics,

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primary care, and emergency services, facing resource limitations, burnout, and high exposure risk. They play a key role in detection, treatment, and communication, including:

- Physicians
- Nursing Professionals
- Allied health professionals (physiotherapists, dieticians, paramedics, language therapists)
- Public health and administration professionals

Non-Governmental Organizations (NGOs). NGOs work directly with vulnerable communities, mediating between authorities and communities, and fostering trust. They tailor messages, facilitate behavioural interventions, and provide feedback to authorities, promoting compliance with public health recommendations.

2.2. Pilot Settings and Simulation Formats: Tabletop Exercises and Online Pilots

As the training programme is designed to prepare participants for simulated health crisis scenarios, and for enhancing knowledge and practical competencies, it is essential to understand the implementation of contexts and methods through which this training will be applied. This section introduces the three pilot settings and outlines the two key simulation formats—Tabletop Exercises (TTEs) and Online Pilots—that serve as the practical arenas for testing and applying the training content.

The goal of the TTE is to simulate a realistic environment in which key decisions must be made and communicated to contain a pandemic event, while ensuring that diverse vulnerable groups are included in the decision-making process.

Each TTE involves participants—including citizens from vulnerable and non-compliant groups, CSOs, DROs, healthcare organisations, and public authorities—who are given a limited time to respond to a health crisis based on a pre-developed storybook scenario. The exercise is structured in rounds: some in which participants use a resource map to decide on their course of action, and others in which experts and/or the PREPSHIELD software provide

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feedback on the effects of these decisions. Once the allocated time has elapsed, the scenario ends.

The exercises will be carried out successively across three pilots—each at a different scale:

- **TTE 1** will take place in Steilshoop, Hamburg (Month 13 – September 16, 2025). This first exercise will involve experts from the consortium—who will simulate the role that artificial intelligence will play in the platform at a later stage—as well as healthcare authorities, crisis managers, communication experts, and representatives of vulnerable and non-compliant groups. It serves as a testing ground to optimise processes and gather feedback for refining the storybook, training components, software platform, recommendations, and guidelines.
- **TTE 2** will be conducted in the Piedmont region (Month 16 – December 2025). A hybrid approach will be used: the PREPSHIELD software will simulate pandemic dynamics and behavioural patterns, while human experts will still monitor and validate the software's outputs.
- **TTE 3** will take place in Romania (Month 19 – March 2026). Here, the scenario will be modeled exclusively through agent-based simulation. Participants will provide real-time inputs, but the simulation itself will operate independently without expert correction.

To support learning and development across the three sites, a few months between each TTE are foreseen for iterative improvement. This interval makes it possible not only to continuously refine the software and training content, but also to further develop the design and implementation of the TTEs themselves. Each exercise thus builds on the insights and lessons learned from the previous one, ensuring a cumulative learning process across all pilot sites.

During TTEs, participants will be divided into distinct groups based on their roles and responsibilities. This structure ensures that each perspective is effectively integrated into the simulation. The groups are organised as follows:

Market Group (MG): Includes vulnerable and non-compliant individuals, representatives from the social and health care sectors, and NGOs (when supporting vulnerable groups).

This group reflects the everyday experiences and needs of the population, particularly those at greater risk during a health crisis.

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The Market Group is a designated set of participants within the exercise who act as a representation of civil society. They simulate how different parts of the population might respond to the evolving health crisis and to the Crisis Management Team (CMT) decisions. They function as a societal feedback mechanism, providing emotional, cultural, and practical reactions to official measures. They also contribute to the didactic and strategic value:

- adds realism to the exercise,
- challenges the CMT to think beyond technical execution and perhaps also
- enhances reflection in the debriefing phase by highlighting social blind spots or unmet needs.

Crisis Management Team (CMT): Comprises participants from public authorities and institutions responsible for crisis management including NGO's (when taking on operational crisis management tasks). They simulate decision-making processes and the implementation of response measures. The CMT or its leader handles moderation.

Directors Team (TH Köln): A team of 3–4 individuals who are responsible for the overall organisation, facilitation, and technical supervision of the TTE process.

Building upon the insights and refinements made during the three TTEs, the project will conclude with a series of online simulations—one in each pilot site. These online pilots (Task 3.4) will serve both as a final validation phase and a dissemination-oriented demonstration of the PREPSHIELD platform's capabilities. Each online exercise will simulate a health crisis scenario under realistic conditions, allowing participants to interact remotely with the software in real time.

The online pilots will take place in Hamburg (Month 26), the Piedmont region (Month 27), and Romania (Month 28). A brief refresher training on Best practices in preparedness, response, and communication will be delivered in advance to each site to ensure all participants (CMT, MG) are aligned. These simulations will be accessible to local and European stakeholders and will also involve observers from the European Commission.

In contrast to the TTEs, where decisions were discussed in physical or hybrid settings, the online pilots will test how PREPSHIELD's digital tools perform in remote and distributed environments. The focus lies on autonomous decision support, inclusive communication pathways, and the platform's scalability under real-time conditions.

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2.3. Key Lessons from WP1 (Best Practices) for Training Design

The training and preparation formats (see Chapter 3.2) build on evidence from Work Package 1, which analyzed institutional and community experiences during past health crises and developed **preliminary recommendations (Best Practices)** for preparedness and management. These recommendations will be introduced to TTE participants (Tasks 3.1, 3.3), evaluated, refined in WP4 (Task 4.1), and re-tested in the online exercise (Task 3.5) before informing final policy and communication outputs (Tasks 4.2–4.4).

This knowledge base supports the design of evidence-informed training that addresses diverse needs: institutional stakeholders require orientation on coordination, governance, communication protocols, and logistics, while vulnerable groups benefit from trust-building, inclusive messaging, digital literacy support, and opportunities to reflect on lived experiences.

The recommendations, derived from expert interviews and focus groups, represent practical, experience-based guidance rather than standardised procedures. They are structured along the timeline of a health crisis (preparedness and response) and grouped into four thematic areas (see figure also 3):

1. **Crisis Management**
2. **Communication**
3. **Health Literacy**
4. **Healthcare Governance**

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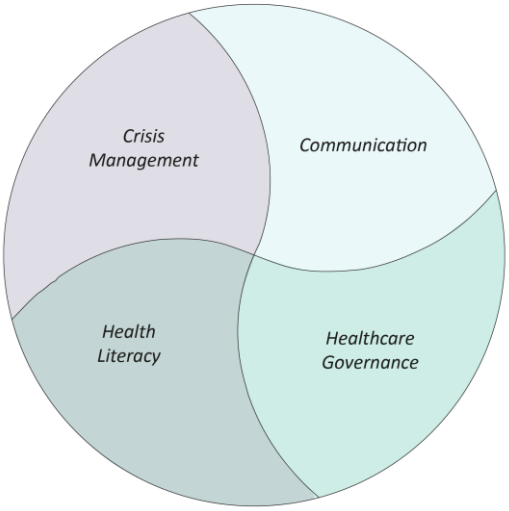

Figure 3: Four macro areas: Crisis Management, Communication, Health Literacy, Healthcare Governance.

These areas serve as the foundation for the preparatory training formats across the pilot sites. For training purposes, each macro area is operationalised into key action fields and competencies relevant for effective crisis preparedness and response. The following section provides an overview of core insights from each macro area and their relevance for the design and implementation of training activities.

Preliminary Recommendations for Crisis Preparedness

Crisis Management

Effective crisis management requires centralized coordination paired with inclusive, transparent processes.

PR1: Center-led and coordinated approach. The first recommendation stresses a center-led approach, creating clear chains of command and coordination mechanisms that ensure a “whole-of-government” response while allowing local adaptation.

PR2: Digitalization of the information and dissemination system. This measure calls for centralized digital platforms to share official health guidelines quickly and clearly, ensuring updates reach all relevant actors.

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PR3: Inclusive coordination. This recommendation highlights the value of involving civil society and vulnerable groups in coordination bodies to strengthen feasibility and trust.

PR4: Data collection digitalization. This proposal underlines the importance of harmonized, automated data reporting across local, regional, and national levels to support timely decision-making.

PR5: Data protection and security. This requirement emphasizes compliance with EU regulations such as GDPR to protect sensitive health data and maintain public trust.

Communication

Communication is a cornerstone of preparedness, requiring clarity, consistency, and inclusivity.

PR6: Clear and coordinated risk communication. This recommendation calls for pre-tested communication protocols, message templates, and trained spokespersons to deliver accurate information during crises.

PR7: Communication facilitators. This proposal stresses the importance of engaging CSOs and local leaders to co-develop strategies and build trust with vulnerable populations.

PR8: Audience-centered and multi-channel messaging. This measure promotes tailored communication through diverse channels and formats to ensure accessibility and relevance.

PR9: Positive and transparent communication. This principle recommends transparent, empathetic, and positively framed messages to encourage compliance and reduce anxiety.

PR10: Multilingual and multicultural communication. This strategy calls for culturally sensitive translations and partnerships with community-based organizations to ensure inclusive crisis messaging.

Health Literacy

Health literacy is vital for ensuring that all citizens can understand and act on health information.

PR11: Use of visual aids. This recommendation proposes the development of infographics and visual tools to support comprehension across literacy levels and language barriers.

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PR12: Simple and people-centered language. This measure stresses the use of plain language and clear structures to ensure health information is understandable for all.

PR13: Support for low-literacy populations. This action highlights the need to identify at-risk groups and provide targeted outreach through CSOs and trained community actors.

PR14: Digital health literacy and equitable access to technology. This proposal underlines the importance of strengthening digital skills and ensuring access to devices and connectivity for vulnerable groups.

PR15: Training of emergency responders. This recommendation calls for integrating plain language, inclusive design, and visual communication training into the curricula of healthcare staff and communicators.

Healthcare Governance

Healthcare governance during crises requires flexible capacity, resilient infrastructures, and strong workforce strategies.

PR16: Adaptive healthcare capacity and service repurposing. This priority highlights the need for scalable infrastructures and flexible surge plans to respond to crises.

PR17: Infection control through spatial separation. This measure emphasizes designated clean and contaminated zones and adapted facility layouts to minimize transmission.

PR18: Continuity of care. This recommendation focuses on safeguarding chronic and preventive care, including telemedicine solutions, during emergencies.

PR19: Quality of care. This proposal calls for structured systems that enable secure patient-family-staff communication when in-person visits are restricted.

PR20: Clear protocols for health staff organization and working conditions. This measure underlines the need for flexible yet structured staffing frameworks to reduce stress and maintain efficiency.

PR21: Staff availability and redeployment. This action recommends competence-based pools, registries, and simulation training to prepare staff for role transitions.

PR22: Staff psychological support. This recommendation proposes peer-support networks and professional services to strengthen staff resilience.

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PR23: Staff training. This principle highlights regular simulation exercises and ethics-focused training to support decision-making under pressure.

PR24: Availability of resources. This measure emphasizes coordinated policies for national and regional reserves of critical supplies.

PR25: Distribution of supplies. This recommendation calls for clear protocols and logistics to allocate resources effectively within and across regions.

PR26: Resource procurement. This final provision stresses legally compliant, pre-approved procurement mechanisms to enable rapid purchasing during crises.

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3. From Best Practices to Action: Training and Preparation

This Chapter builds directly on the findings presented in Chapter 2.3, which summarised key recommendations from WP1 activities (Tasks 1.3, 1.4, and 1.5). These Best Practices—developed through a synthesis of mixed-methods research (e.g. survey, literature reviews, interviews, focus group discussions) across all pilot sites—serve as the foundation for the training programme. They provide evidence-based guidance on health crisis preparedness, management, and communication, with particular emphasis on addressing the needs of vulnerable (non-compliant groups included).

In particular, the training design strongly incorporates the principles of health literacy as a cross-cutting enabler of effective crisis preparedness and response. Whether in the context of institutional communication, patient navigation, or public guidance, health literacy is embedded both as a learning objective and as a methodological principle. The training approach promotes the use of plain language, visual tools, and culturally adapted materials, and includes targeted support strategies for low-literacy populations and digitally excluded groups.

The training presented here offers a standardised framework applicable across all pilot sites. While individual training sessions will be locally adapted to reflect cultural and linguistic context, the underlying structure, objectives, and methodological approach remain consistent.

With this foundation in place, the following sections outline the general learning objectives (3.1) and the overall training design (3.2.), followed by separate descriptions of the training formats developed for institutional actors/CMT (3.2.1.), the preparation for vulnerable communities and their representatives/MG (3.2.2.), and the adaption of the training template across all pilot sites (3.2.3.).

3.1. Learning objectives

The trainings for the Crisis Management Team (CMT) are designed to operationalise these Best Practices. In line with the whole-of-society approach promoted by the project, they aim to enable institutional actors to engage with and apply the recommendations in a practical,

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context-sensitive manner. In doing so, the training activities serve a dual purpose: first, to foster awareness and competence among participants, and second, to test whether the proposed measures are comprehensible, actionable, and responsive to the realities of diverse population groups.

Participants will:

- Understand the structure of crisis governance and their own roles within it
- Recognize the needs and perspectives of other groups
- Practice inclusive and clear communication under crisis conditions
- Be encouraged to share, explain, and defend their own views
- Learn to respond effectively to evolving health crisis scenarios
- Build the capacity for constructive feedback and community engagement.

3.2. Shaping the Training and Preparation: Formats, Content, and Adaptation

This chapter focuses on the trainings and preparation session conducted at the pilot sites, distinguishing them from the overarching training programme introduced in Chapter 1. **The trainings consist of locally adapted preparatory sessions designed to equip participants in Hamburg-Steilshoop, Piedmont, and Romania for upcoming simulation exercises.**

While the Crisis Management Team (CMT) receives structured trainings to apply the WP1-derived Best Practices, vulnerable groups do not undergo formal training but instead take part in low-threshold preparatory sessions—held in trusted settings and developed with local multipliers—to foster familiarity and introduce the purpose, structure, and methods of the TTE or online pilot in an accessible way.

A key distinction regarding the preparation sessions must be made between two participant groups:

1. **Institutional actors**—such as authorities, healthcare professionals, and emergency services—who form the Central Management Team (CMT), and

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2. **Members of vulnerable populations, including their representatives,** who constitute the Market Group (MG).

NGOs and Professionals in social or health care may, depending on their function, be involved either in the training as institutions (when taking on operational crisis management tasks) or as representatives (when supporting vulnerable groups) in the preparation.

The training approach, formats, and tools differ significantly for these two groups, reflecting their distinct roles, responsibilities, and levels of prior knowledge. Institutional actors typically bring professional expertise and are expected to lead crisis response, communicate public health measures, and coordinate implementation. For this group, the primary objective of the training is to reflect on and engage with the Best Practices identified in WP1—particularly those related to preparedness, inclusive communication, and crisis management. Familiarisation with the simulation format, roles, and procedural expectations can be addressed separately. In addition, a separate session will be provided on how to use the PREPSHIELD platform, ensuring participants are comfortable with its technical features and interaction flow.

By contrast, members of vulnerable populations do not have formal crisis management expertise but often possess valuable lived experience from past health emergencies. Their involvement is essential, as the effectiveness and legitimacy of crisis responses depend on how well these responses meet the needs of affected communities. Preparations for this group therefore require a more participatory and sensitive design.

The content developed for vulnerable and non-compliant groups differs focus more generally on topics related to pandemic preparedness, including the types of pandemics that may occur, and the essential information associated with them. These sessions will be held in person, in trusted, low-threshold environments, and developed in close cooperation with local multipliers. The goal is to foster familiarity and trust, while introducing the purpose, structure, and methods of the TTE in an accessible way. Planned activities include informal welcoming formats, icebreakers, a site walk-through, a guided test exercise to explore the scenario framework, and role reflection exercises based on participants' own experiences—particularly during the COVID-19 pandemic.

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The following sections provide more detailed descriptions of the **training formats for institutional actors (Chapter 3.2.1)** and the **preparation for vulnerable groups and their representatives (Chapter 3.2.2)**.

3.2.1. Tailored Training for Institutional Stakeholders / CMT

The institutional stakeholders form the **Central Management Team**.

Pre-training activities (recommended):

Before the formal training sessions, introductory meetings can serve as a valuable first step in engaging institutional stakeholders. While not mandatory, such early interactions—conducted, for example, via short video calls or informal briefings—are strongly recommended across all pilot sites. As outlined in the engagement methodology of the PREPSHIELD Engagement Strategy (Deliverable 3.1), this approach supports early trust-building and aligns with the project's commitment to participatory, inclusive stakeholder engagement. They offer an opportunity to present the project, explain the purpose and format of the TTE, and begin building a foundation of mutual trust between the research team and participants.

These early touchpoints can be especially helpful in clarifying expectations and addressing potential questions well in advance, they create a more open and constructive atmosphere for the later training phase.

The actual training sessions for institutional stakeholders are designed to be concise and efficient, reflecting participants' existing expertise in health crisis management. Their primary function is to familiarise actors with the structure and goals of the tabletop exercises, clarify roles and procedures, and ensure alignment with the training framework and agreed Best Practices. Depending on the pilot site's context, the sessions may be delivered in online, in-person, or hybrid formats.

Training:

Location & time frame

- 1-2 hours preparation online, 1-2 weeks before the TTE or online pilot

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Format & tools

- PowerPoint slides

Procedure and contents:

The PowerPoint training (see Annex 3) serves as a structured **template for the preparation of the Crisis Management Team (CMT)** prior to the TTE (and later revised for the online pilot). It provides a consistent framework in terms of objectives, structure, and content, and ensures all participants are familiar with the PREPSHIELD project, relevant best practices, and the simulation procedure.

The **template is designed to be used across all three pilot sites**, but **should be adapted by the respective pilot site leaders** to reflect local contexts, stakeholders, languages, and specific crisis scenarios. This flexibility allows for the inclusion of locally relevant examples and for the training to be tailored to the knowledge levels, roles, and needs of participating actors.

The **training covers** (see also fig. 4):

- **An introduction to the PREPSHIELD project and its goals,**
- **Key recommendations based on best practices** in crisis management, communication, health literacy, and healthcare governance.
- **Practical preparation for participation in the exercises** (TTE, online pilot) including roles, procedures, and the simulation process,
- **An introduction to using the PREPSHIELD platform**:
  - Users, roles and functionalities
  - Interface layout and basic navigation
  - CMT: how to access information and enter decision
  - MG: how to edit situation and evaluate decisions
- In addition, a short familiarization session with the PREPSHIELD mobile app is recommended, as it will be used in later pilots.
- **A shared terminology basis:** It is recommended to define key terms in advance to ensure that all participants use a common language and share a mutual

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understanding of core concepts throughout the exercise and simulation. This Deliverable includes the training template as a PDF (see Annex 3).

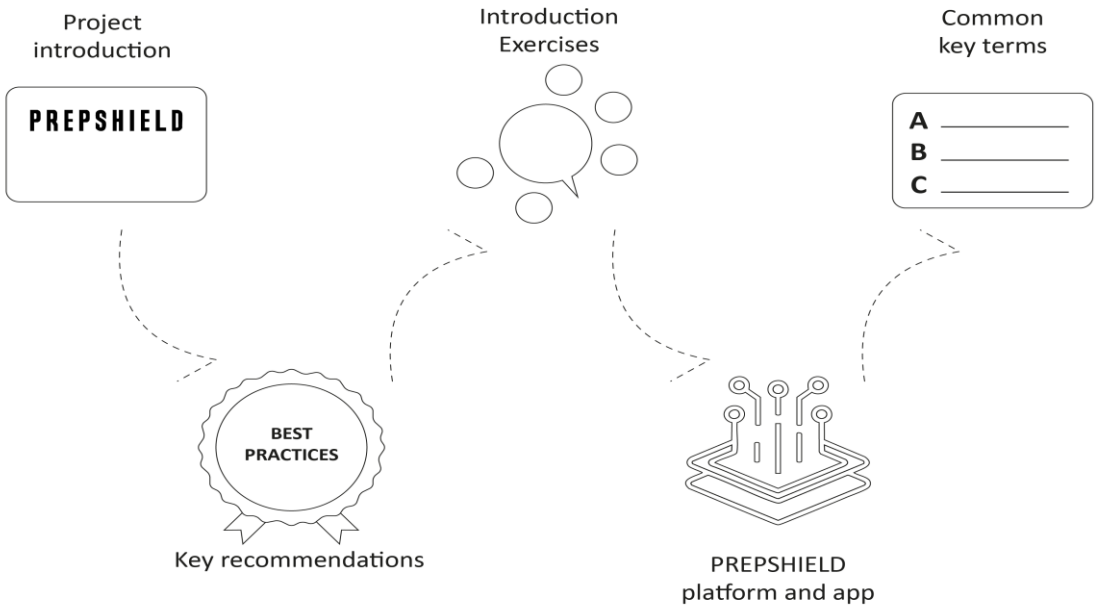

Figure 4: Possible structure and content outline for trainings for institutional actors.

3.2.2. Inclusive Preparation for Vulnerable Groups / MG

The vulnerable groups (along with their representatives) form the **Market Group (MG)**.

Early informal orientation activities (optional but highly recommended):

While institutional stakeholders may benefit from brief, information-oriented meetings, preparatory activities for vulnerable individuals and their representatives should focus more on **creating a sense of trust, familiarity, and psychological safety**. These early interactions are not merely informative but relational: they help build rapport with facilitators, clarify the purpose of the training in accessible terms, and lower emotional or cognitive barriers to participation.

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Depending on the context, such activities may include:

- **Informal meet-and-greet sessions** in familiar settings (e.g. community centres, local initiatives)
- **Short personal phone calls** or home visits by trusted intermediaries (e.g. social workers, community leaders)
- **On-site walkthroughs** to reduce spatial unfamiliarity
- **Visual or narrative materials** (e.g. illustrated flyers or short videos) explaining the training purpose and what to expect
- **Group conversations** to gather expectations, concerns, and lived experiences that can inform the training design.

These low-threshold encounters are especially valuable when working with individuals who may have experienced institutional distrust, marginalisation, or crisis-related trauma. They help create a shared understanding of the training as a collaborative, respectful space.

Ideally, these activities are co-organised with local multipliers or representatives who already have strong ties to the target group. While optional, such early engagement is strongly recommended as part of a participatory and inclusive training approach.

Preparation:

Location & time frame

- 1-2 hours preparation onsite, 1-2 weeks before the TTE or online pilot

Format & tools:

- Printed materials (accessible and sensitive language, clear layout, large font, explanatory images and graphics)
- Additional PowerPoint slides

Procedure and contents

To ensure that vulnerable participants are well-prepared for the unfamiliar conditions they may encounter during the exercise and are able to engage meaningfully with the scenario

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and other participants, the following sequence is proposed as a suggested structure for training activities (see also fig. 5):

- **Welcome:** A casual arrival with coffee and a brief round of introductions to create a relaxed and open atmosphere.
- **Icebreaker:** A warm-up activity at the beginning of each session to lower barriers and strengthen group cohesion.
- **Site Tour:** A guided walk-through the pilot site or the TTE/online pilot venue to build familiarity with the physical space and logistical setup.
- **Pandemic Preparedness Overview:** Or 'Pandemics in simple words.' When working with vulnerable groups, this part should provide only a very short and simple orientation. The aim is not to teach detailed content, but to ensure that all participants feel comfortable with the basic ideas. In just a few minutes participants are introduced to what a pandemic is in very general terms (e.g., influenza, COVID-19), and what people need most in such situations (clear information, support, exchange). This short overview then naturally leads to the next part, the TTE Introduction, with the guiding question: 'Why are we doing this exercise?'.
- **Introduction in the exercises** (TTE, online pilot)**:** Agenda and maybe a test scenario or simplified exercise to introduce the format, basic procedures, and overarching objectives. Short demonstration of the mobile app (if relevant for participation). The roles (MG/CMT) are explained as a transition to the next point.
- **Group Formation / Role Reflection:** Participants are invited to reflect on possible roles they might take during the exercise—for example, based on personal experiences from the COVID-19 pandemic ("What role did you play back then?").
- **Q&A and Clarification:** A dedicated space for participants to ask questions, voice concerns, or share expectations.

When working with vulnerable groups, it is particularly important to adopt a **sensitive and participatory approach**. These sessions should ideally be held **in person**, in **trusted and accessible environments**, and in **close collaboration with local multipliers** who have established relationships with the community. It is important to always allow enough time for breaks.

While this structure provides a general orientation, it is intended to be **adapted to local contexts and participant needs** across the pilot sites.

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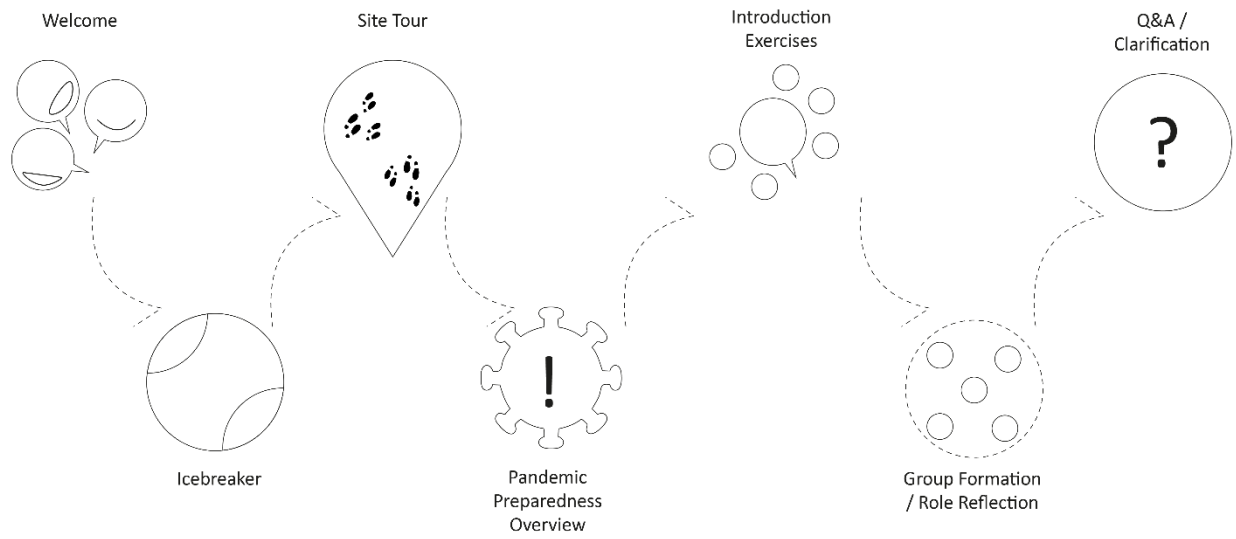

Figure 5: Possible content outline for preparation for vulnerable individuals and their representatives.

Didactic approach

The proposed activities are not only preparatory in a logistical sense, but follow didactic principles that are crucial when working with vulnerable groups. They are subject to conscious didactic decisions regarding inclusion, trust and participation: **Icebreakers and informal exchanges** reduce entry barriers and promote group cohesion (social learning). **Walk-throughs and visual materials** support experiential and multimodal learning, lowering cognitive load and enhancing comprehension. **Test scenarios** allow for learning-by-doing, giving participants a safe space to explore and ask questions (experiential learning). **Reflection on personal roles** draws on participants' lived experience, validating their knowledge and fostering empowerment (participatory learning). Finally, **Q&A sessions** ensure dialogical learning by creating space for participants' voices and questions.

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These didactic approaches aim to balance **information transfer** with **relationship-building and empowerment**, which are key to enabling meaningful participation of vulnerable groups in exercises.

3.2.3. Application and Adaptation of the Training Templates Across Pilot Sites

Although the training and preparation formats outlined above serve as templates in terms of structure, content, and objectives, their successful implementation depends on thoughtful adaptation to the specific local context. Each pilot site is therefore encouraged to tailor the trainings by adjusting key elements such as:

- **the scenario design**—meaning the storyline, roles, and crisis dynamics used in the simulation—to ensure local relevance and resonance with participants lived experiences (What is being simulated?),
- **the level, format, and intensity of the training content** to match the participants' prior knowledge, skills, and learning needs (Who is participating, and what do they need to meaningfully engage?),
- **the language and communication level**, considering literacy, cultural nuances, and accessibility (How is information being communicated?),
- **and the choice of community facilitators**, based on existing trust networks and relationships (Who facilitates and connects the process?).

This flexible template approach ensures consistency across pilot sites while allowing for meaningful local ownership and responsiveness.

These adaptations ensure that the training programme remains both consistent across sites and responsive to the specific needs of diverse communities—a balance that is further reflected in the concluding remarks.

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Conclusion

With a focus on inclusive crisis preparedness, the Training Programme (D3.2) sets out a structured approach to providing targeted training for institutional actors and preparations for vulnerable community members across the pilot sites. Grounded in the Best Practices developed under WP1, it provides a common foundation for training design, implementation, and adaptation.

This document is to be regarded as a reference framework for training activities within the PREPSHIELD project, ensuring coherence across pilots while allowing flexibility for local needs and contexts.

References

Y. Siegmund, E. Teng Li; P. Maffi, M. Trentin, E. Rubini, M. Pirvuletu, B. Iamandei, J. Neu. (Report pending publication). Deliverable D3.1 – Engagement strategy.

M. Trentin, E. Rubini, P. Maffi, B. Aammar. (Report pending publication). Deliverable D1.2 – Lessons learned for crisis preparedness including health literacy.

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Illustrations and tables

All illustrations were developed as part of the PREPSHIELD project.

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Annex 1: Best Practices / Preliminary recommendations for crisis preparedness (D.1.2)

The following text is an excerpt from Deliverable D1.2 – Lessons learned for crisis preparedness including health literacy and formulates Preliminary recommendations for crisis preparedness.

Development and validation of the PREPSHIELD Best Practices/Preliminary recommendations

The development of all preliminary recommendations followed a multi-method, iterative, and collaborative process, informed by the findings of the various WP1 activities previously outlined.

The first draft of the preliminary recommendations was collaboratively developed by researchers from UG, UPO, and UiO involved in *Tasks 1.1*, *1.2*, and *1.3*, drawing directly on the findings generated through these activities. Specifically, the results of these Tasks – and their translation into initial preliminary recommendations – were presented and discussed by each partner during the physical meeting held in June at UPO's headquarters in Novara. This process ensured that the perspectives and needs of all societal actors, including emergency responders, policymakers, vulnerable and non-compliant groups, were considered in the formulation of the preliminary recommendations. During the meeting, partners discussed the proposed preliminary recommendations in an open and collaborative environment. This exchange enabled a thorough comparison of findings and identification of overlapping, divergent, and complementary elements. The outcomes of this participatory discussion were consolidated into a single document that was circulated to a larger team within the Consortium for feedback. Subsequently, the preliminary recommendations were refined and evaluated through the FGD, during which strategies to

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overcome identified challenges were further explored. This session involved experts from the three pilot sites as well as members of the Consortium Advisory Board and was followed by a consultation with the Consortium's Advisory Board, as outlined in *Task 1.4*. This multi-phase collaborative approach ensures that the preliminary recommendations presented here are grounded both in scientific evidence and in practical insights derived from contextualized field experiences. Moreover, this co-creative approach supports PREPSHIELD's citizen-centric lens, which emphasizes the essential inclusion of the needs of various societal actors, especially those vulnerable and non-compliant, in accordance with the whole of society approach.

How are preliminary recommendations structured and presented in this Deliverable?

This Deliverable presents preliminary recommendations related to crisis preparedness (*T1.4*), including health literacy – specifically, the preliminary PREPSHIELD crisis recommendations which are detailed in the following section. They span different areas, namely crisis management, communication, health literacy, and healthcare governance. Table 2 reports a summary of the macro areas, as well as the corresponding preliminary recommendations.

Table 2. Macro areas and preliminary recommendations identified during the activities of WP1.

Macro areas	**Preliminary recommendations**
Crisis management	1. Center-led and coordination approach 2. Digitalization of the information and dissemination system 3. Inclusive coordination 4. Data collection digitalization 5. Data protection and security standards

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Communication	6. Clear and coordinated risk communication 7. Communication facilitators 8. Audience-centered messages and delivery 9. Positive and transparent communication 10. Multilingual and multicultural communication
Health literacy	11. Use of visual aids 12. Simple and people-centered language 13. Support for low-literacy populations 14. Digital health literacy and equitable access to technology 15. Training for emergency responders
Healthcare governance	16. Adaptive Healthcare Capacity and Services Repurposing 17. Infection control through spatial separation 18. Continuity of care 19. Quality of care 20. Clear protocols for health staff organization and working conditions 21. Staff availability and redeployment 22. Staff psychological support 23. Staff training 24. Availability of resources 25. Distribution of supplies 26. Resource procurement

As previously mentioned, preliminary recommendations focused on inclusive crisis management and communication will be covered in detail in the UiO deliverable (D1.3). However, it is essential to highlight the continuity between preparedness and response, which cannot be viewed as isolated phases within the broader disaster management cycle (84). In the context of PREPSHIELD, health crisis management is interpreted as the response to the crisis itself and, for this reason, distinct from preparedness on which this deliverable

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focuses. Nevertheless, as preparedness and response are deeply interconnected and response is directly influenced by the level of preparedness, the preliminary recommendations on the response strategies explored in Deliverable 1.3 (D1.3) build on the foundation laid during the preparedness phase, reflecting the continuity of the disaster management cycle (84). Thus, D1.3 should be viewed as an essential complement to D1.2, with both providing a more detailed account of how best practices evolve and adapt during a crisis.

Each preliminary recommendation is presented alongside its key lessons learned and intended target audience. These lessons reflect critical insights gained from previous health emergencies, highlighting both successes and challenges that inform more effective preparedness and response strategies. By integrating these lessons, this Deliverable ensures that recommendations are firmly grounded in real-world experience and evidence. The lessons learned derive primarily from the findings of activities conducted within WP1 and may also include reflections on their alignment or divergence from existing literature. On the other hand, specifying the target audience not only provides focused guidance but also identifies which stakeholders — such as policymakers, public health authorities, community organizations, or healthcare professionals — are responsible for implementation. Defining these roles and responsibilities fosters accountability and a more targeted approach, increasing the likelihood that the recommendations will be effectively translated into concrete actions and that the lessons learned will drive continuous improvement in crisis preparedness and management.

Importantly, these preliminary recommendations are not intended as "one-size fits all" solutions; instead, they reflect evidence-informed models that are meant to be tailored to the specific local needs, capacities, and different sociopolitical contexts within Europe. While they are primarily informed by the challenges experienced by the actors within the

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three main pilot sites — Hamburg, Piedmont, and Romania — their structure and the inclusion of actors outside these pilot sites in the need analysis phase of WP1 ensure their broader applicability across diverse European settings.

Preliminary crisis preparedness recommendations – next steps

In a later phase of the PREPSHIELD project, these best practices will be shared as part of the training with participants in the Tabletop Exercises (TTE) at each of the three pilot sites (*Task 3.1*, *Task 3.3*) prior to their participation. This will enable them to apply preliminary recommendations during the exercises and to evaluate their feasibility and impact. In a later stage, as part of the activities of WP4, the preliminary recommendations and the results of their evaluation will serve to plan improvements (*Task 4.1*). The improved preliminary recommendations will be shared again with participants (*Task 3.1*) before they take part in an online exercise using the PREPSHIELD platform and App, enabling for a final evaluation of the preliminary recommendations and their impacts in the scenarios (*Task 3.5*), ultimately feeding into WP4, where policy recommendations for health crisis preparedness and response (*Task 4.2*), inclusive communication in crisis (*Task 4.3*) and recommendations for knowledge transfer to other disasters (*Task 4.4*) will be produced.

When it comes to communication-related preliminary recommendations, these will be also tested in online survey experiments in different regions and focusing on high/low trust contexts as well as minority/majority population groups (*Task 3.2*). The findings of these experiments will be analyzed together with the qualitative oriented ones of the TTE and crisis simulation, evaluating message strategies and identifying problematic communicative aspects (*Task 3.2*). The analysis of the results will serve to plan improvements for the next evaluation phase (*Task 3.5*). The identified communication strategies will be shared before the online exercises with public authorities. During the exercises they will communicate with

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citizens, CSOs, DROs, and healthcare institutions through the PREPSHIELD platform and app.

Preliminary recommendations (PR) for crisis preparedness- Theme: Crisis management

PR1: Center-led and coordinated approach

Establish a centralized coordination mechanism (e.g., national or regional crisis unit) to oversee health emergency planning through a whole-of-government approach. This body should facilitate pre-crisis agreements on roles, responsibilities, and shared protocols across national, regional, and local actors. It must also ensure that local health authorities are equipped and empowered to adapt plans to their specific contexts, including mechanisms for resource-sharing, information exchange, and joint simulation exercises. Establish a clear chain of command to define who leads coordination during a health crisis.

Lessons learned

Interviews conducted under *Subtask 1.2.2 revealed* that past health crises, especially COVID-19, were marked by coordination challenges, largely due to the absence of an effective crisis management approach. In federal or decentralized systems (e.g., Germany or Spain) the feasibility of implementing a coordinated and centralized approach is hindered by the way in which the system itself is organized. For instance, during the COVID-19 pandemic, as emerged from the FGD, Germany experienced significant challenges in providing a unified response because of its federal system, for instance, when establishing public health restriction rules. In contrast, some examples of a centralized approach demonstrated that clear direction and accountability, including a "whole-of-government" strategy that breaks down silos, enable comprehensive resource mobilization and coordinated action, making it an effective strategy. The Piedmont region in Italy offers a

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positive example, as it demonstrated an effective centralized coordination at the regional level, while maintaining operational ties with local authorities, enabling a contextualized response. Thus, a key lesson learned emerged from the PREPSHIELD project is the importance of establishing a predefined coordination framework, tailored to the type of crisis (e.g., pandemic or epidemic or specific outbreak such as dengue or influenza) that clearly identify and designates leadership roles. In addition, the type of centralized coordinated approach should be tailored to governance structures (e.g., centralized, decentralized, or federal system). Lastly, past examples highlighted the need to empower local health authorities to ensure that responses are tailored to specific community needs and realities, leveraging on-the-ground expertise and enabling more effective and context-sensitive interventions.

Target audience

National, regional and local health authorities, crisis response coordination bodies, Ministry of Health

Implementation tier: immediate to short-term implementation – High priority

This recommendation is a prerequisite for enabling effective implementation of downstream actions such as PR2, PR3, PR4, PR5, PR6-PR10, PR16-17, PR20-PR26. In this case, PR1 is a foundation and enabling recommendation that directly supports at least 18 out of 26 especially those related to digital system and data governance, inclusive management, communication, human resource adaptation, and resource allocation.

PR2: Digitalization of the information and dissemination system

Establish a centralized and digital platform to host all official health guidelines and protocols that need to be shared, with built-in features for rapid communication of updates, when

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guidelines are not yet available. Conduct regular briefings and training to build familiarity with how the platform will be implemented during a crisis. Create designated focal points (e.g. medical directors, senior nurses) responsible for managing the system within each facility and offering support in case of need.

Lessons learned

The COVID-19 pandemic created significant uncertainty due to rapidly evolving knowledge about virus transmission, safety protocols, and public health policies. This left many healthcare workers unsure about how to manage patients and how best to protect themselves from infection, as reported in many articles included in the literature review conducted within *Subtask 1.2.1* (14,15,18,85–89). The pandemic also underscored the urgent need for digitalization to enhance the speed and clarity of information dissemination. For example, in Romania, a strong dependence on phone calls and paper-based systems hindered real-time coordination during the pandemic. However, the effective rollout of digital infrastructure is often obstructed by limitations in procurement procedures. In some settings, procurement decisions have resulted in the purchase of low-quality products or failed to incentivize investment in durable, high-performing systems. Thus, EU-level investment and technical guidance can play a critical role in supporting member states' digital transitions as part of broader health crisis preparedness strategies.

Target audience

National, regional and local health authorities, Crisis response coordination bodies, Ministry of Health

Implementation tier: short-term and long-term implementation - High priority

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This recommendation is a prerequisite for enabling effective implementation of downstream actions, mainly for PR4 and PR5, and it is dependent on the implementation of PR1.

PR3: Inclusive coordination

Establish inclusive coordination structures that include advisory committees composed of civil society, local actors, and representatives of vulnerable groups to establish feedback mechanisms regarding health measures for clarity and feasibility.

Lesson learned

An effective crisis response necessitates a bidirectional flow of information and influence – top-down for strategic guidance and bottom-up for contextual understanding and tailored implementation. Conversely, past crises, especially from the results emerged from the interviews within *Subtask 1.1.2,* highlighted a significant deficit in citizen consideration. As emerged from the FGD *(Subtask 1.2.3)*, in some contexts, depending on the government structure and political setting (e.g., more hierarchical), there are significant barriers to collaboration with CSOs and faith-based organizations, deeply rooted in political cultures that resist shared decision-making. For instance, a German faith-based organization reported difficulties in this type of collaboration. However, given the well-known advantages of involving CSOs in crisis management efforts, it is worthwhile to invest in building partnerships during the preparedness phase as representatives can also serve as intermediaries to communicate the rationale behind decisions and foster trust at the community level. Lastly, this approach aligns with WHO public health best practices, which emphasize community engagement as essential for effective preparedness and response (90).

Target audience

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Policy makers, government leaders, national, local, regional health authorities, CSOs representatives, local leaders

Implementation tier: short-term implementation – medium priority

This recommendation, while not strictly foundational, significantly improves the quality and inclusiveness of response measures once coordination structures are in place. It is a prerequisite mainly for communication, so for PR6 to PR10, and it is dependent on the implementation of PR1.

PR4: Data collection digitalization

In the preparedness phase, invest in the development of a unified reporting system that links local, regional, and national health authorities for data collection and sharing (e.g., vaccination rate, positive cases, ICU occupancy bed rate) to support decision-making and resource allocation. Create a standardized data reporting format—such as a pre-configured online spreadsheet—to harmonize data categories, formats, and reporting intervals (e.g., hourly or daily), enabling consistent and efficient data analysis. The system should remain active beyond crisis time, and system monitoring during ordinary times could ensure it stays functional and up to date, avoiding the risk of it becoming outdated or failing when most needed.

Lessons learned

Insights from practitioners during the FGD (*Subtask 1.2.3*) emphasized that establishing a new data entry system during an emergency is not feasible. This highlights the importance of investing during the preparedness phase in an automated data collection system integrated with electronic health records (EHRs). A centralized reporting system ensures consistency and enables standardized analysis of data, which can support comparability across levels. In addition, the availability of timely data can facilitate the decision-making process for the

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distribution of resources. A consistent reporting system is useful to ensure the usability of data sets over time and guarantee continuous updates of reporting system mechanisms. This is in accordance with the WHO Public Health Information Services (PHIS) Toolkit (91), which suggests the use of Early Warning Alert and Response Systems (EWARS), that could be viewed as a complement to the HMIS (Health Management Information System). However, minimal overlap between EWARS and PHIS has been encouraged. Beyond crisis situations, a HMIS should function as the routine health information system collecting comprehensive and ongoing health data on a monthly or quarterly basis, including service delivery, morbidity, mortality, and health workforce statistics.

Target audience

National and regional health authorities, Disaster response coordination bodies, Ministry of Health

Implementation tier: short to medium term – high priority

It is a foundational structure that should be built and piloted in non-crisis time to be operational when needed. It is mainly dependent on the implementation of PR1, and PR4.

PR5: Data protection and security

Establish clear data protection protocols and cybersecurity standards for all digital tools used in health crisis management (e.g. surveillance systems, contact tracing, vaccination databases, data collection systems), and ensure that national regulations are in line with EU data protection regulations (e.g., The General Data Protection Regulation (GDPR) - Regulation (EU) 2016/679).

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Lessons learned

When implementing data collection mechanisms, as happened in the past COVID-19 crisis, it is essential to uphold individuals' fundamental rights in the digital age. In accordance with the GDPR (92), data should be collected ethically, only when necessary, and in line with data protection principles to ensure privacy and security. However, insights from the FGD (Subtask 1.2.3) revealed that in some countries, such as Romania, data literacy remains low, particularly within public administration. Additionally, in certain contexts, national regulations are even more restrictive than the GDPR (e.g., Italy), which can lead to inconsistencies or implementation challenges. Therefore, during the preparedness phase, it is crucial to develop national data governance frameworks that are both aligned with EU legislation and transparent in their application, even when stricter national rules are pursued.

Target audience

Hospital managers, ministry of health, local, regional and national health authorities, Central government.

Implementation ties: Immediate to Short-Term | Foundational Prerequisite

This is a non-negotiable foundational requirement for any digital solution handling personal or health-related data. It should be in place before any digital system (see PR2 or PR4) is created.

PREPSHIELD Preliminary recommendations for crisis preparedness – Theme: Communication

PR6: Clear and coordinated risk communication

Develop and pre-test communication protocols and message templates for timely communication that prioritize clarity, avoiding technical language, and establish a clear

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chain of command that designates official spokespersons and provides training in communication for them.

Lessons learned

Preparedness requires communication strategies to be in place before a health crisis occurs. This includes having ready-to-use templates, clearly defined roles, and trained spokespersons equipped to deliver key health messages to the public. However, findings from the FGD (*Subtask 1.2.3*) revealed that in some contexts, communication is undervalued and often regarded as an afterthought, rather than being embedded as a core pillar of the preparedness phase. The review conducted by UiO (*Subtask 1.3.1*) further underscored that contradictory or unclear information led to non-compliance. To address this, establishing a coordination framework that defines roles (e.g., spokesperson) and responsibilities could improve communication flows across all relevant stakeholders. Moreover, communication should be institutionalized and seen as a strategic competency rather than a support function for the delivery of timely information during preparedness and response.

Target audience

Local health, regional and national authorities, crisis communication units, crisis response coordinator, civil protection

Implementation ties: Immediate to Short-Term - High Priority

This recommendation is actionable during the preparedness phase and is critical for timely and coordinated communication during crises. Its implementation is relatively low in resource intensity but high in strategic value. It is a prerequisite for PR7, PR8, PR9, and PR10, and it is dependent on the implementation of PR1.

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PR7: Communication facilitators

Establish and maintain partnerships between public authorities and community-based facilitators and local CSOs that have long-standing relationships and established trust within the communities they serve to co-develop communication strategies, build trust, and ensure inclusive preparedness planning, particularly for vulnerable populations.

Promote cross-sector collaboration among governmental institutions, health authorities, and civil society well before a crisis occurs. Support this process through the systematic mapping and regular updating of community actors and networks, ensuring information remains accurate and reflects evolving local dynamics.

Lessons learned

It is well-known in the literature that delivering communication through familiar and accountable local actors ensures that messages are more likely to be trusted, understood, and accepted, especially by hard-to-reach or marginalized communities. This approach also plays a key role in limiting the spread of misinformation.

In addition, the literature review suggested that sustained trust in the government and other public entities increased compliance (93,94). For instance, research conducted within WP1 highlighted that in many contexts, trusted local actors – such as parish staff in Hamburg – played crucial roles during past crises, being already recognized as trustworthy by their communities. However, they often operated independently of formal authorities due to a lack of established links or official recognition. However, to make communication more effective and co-develop information strategies, formal collaboration protocols should be established between organizations identified at the local level and local authorities. This aligns also with WHO guidelines which identify community engagement as a core component of risk communication and recommends its activation within 24 to 72 hours of an emergency (90,95).

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Target audience

Local health, regional and national authorities, crisis communication units, crisis response coordinator, civil protection

Implementation ties: Immediate to Short-Term - High Priority

This recommendation is a prerequisite for PR8 and PR10; it should be initiated in the preparedness phase and maintained with ongoing relationship building. It is essential to promote trust-building and effective communication with vulnerable groups, and it is also dependent on the implementation of PR1, and PR6.

PR8: Audience-centered messages and delivery

Identify and use a variety of communication channels to effectively reach diverse audiences with different preferences (e.g., channels, formats) and information needs. Map the local communication landscape to identify the most appropriate channels for different population groups. Develop customized message formats (e.g., posters, short videos) that are suited to these specific audiences. Additionally, establish partnerships with local media outlets to broaden message dissemination, and leverage digital media, including through the potential involvement of trusted influencers, to enhance visibility and engagement.

Lessons learned

Interviews conducted under *Subtask 1.3.2* have shown that different audiences build trust through different communication channels, as each group shows different types of (mis)trust in media, and has also been related to specific beliefs and levels of compliance. Using multiple communication channels can ensure a broader and more equitable reach. However, in some contexts, such as Romania, the use of informal tools, such as a WhatsApp group managed by the Ministry of Health to communicate with the media, proved ineffective and exclusionary. Therefore, preparedness strategies should reinforce the mapping of local

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communication channels and the establishment of clear standards for collaboration, particularly between local authorities and media outlets, including local media.

Target audience

Local health, regional and national authorities, crisis communication units, crisis response coordinator, civil protection

Implementation ties: immediate to short-term implementation- High priority

This should be activated in the preparedness phase as it ensures broad, inclusive, and effective communication during a crisis. This recommendation depends on the implementation of PR1 and PR7.

PR9: Positive and transparent communication

Design communication strategies that combine transparency with positive and empathetic framing by developing message templates and communication guidelines that emphasize positive and collective action. Communication strategies should also avoid excessive or overwhelming messaging (e.g., "media bombing") that may lead to public fatigue or anxiety. Engage psychologists, mental health professionals, and community leaders in advance to ensure messaging is emotionally sensitive and grounded in trust.

Lessons learned

Evidence from the interviews conducted under *Subtask 1.3.1* revealed that communication strategies centered on fear, blame, and individual responsibility, often framed in punitive or guilt-inducing terms, contributed to heightened anxiety and emotional distress among the public. Findings from our interviews are also supported by the literature (96,97). In contrast, avoidance of fear-based tones and transparency about the real situation can improve trust and compliance. However, as it emerged from the FGD (*Subtask 1.2.3*), in some contexts, such as Romania, transparent and empathetic messaging were described as effective due

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to cultural preferences for authority or fear-based communication, which is often associated with credibility and respect. Compounding this, politicians prioritizing visibility over accuracy undermine public trust and the clarity of health messaging. Therefore, transparency should be balanced with messaging styles that resonate locally.

Target audience

Local health, regional and national authorities, crisis communication units, crisis response coordinator, civil protection

Implementation ties: immediate to short-term implementation- High priority

This should be activated in the preparedness phase and refined over time. It depends on the implementation of PR1, and PR6.

PR10: Multilingual and multicultural communication

Identify the most commonly spoken languages and cultural groups within the local population and establish partnerships with CBOs to support culturally relevant message development and dissemination, as well as ensuring co-development of communications protocols and templates.

Lessons learned

According to most of the interviews conducted within WP1 and to WHO guidelines for Emergency Risk Communication Policy and Practice (90), culturally sensitive and multilingual communication can improve trust, comprehension, and reduce misinformation and non-compliance. In addition, effective communication does not imply only simple translation, but also cultural adaptation to ensure relevance and clarity within different communities.

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The example of multilingual outreach in Romania that emerged from the FGD (*Subtask 1.2.3*) was highly effective when led by trusted individuals within cultural and minority groups. This highlights the importance of identifying and activating trusted messengers in the preparedness phase and establishing partnerships with CBOs that already have the trust of those they serve. In addition, this communication strategy supports health literacy, as, while it is delivered through communication systems, the goal is to improve people's ability to understand and act on health information - a key aspect of health literacy - by trying to remove systemic barriers such as language and cultural barriers.

Target audience

Local health, regional and national authorities, crisis communication units, emergency response coordinator, civil protection

Implementation ties: immediate to short-term implementation- High priority

This should be activated in the preparedness phase to ensure that crisis communication is equitable, inclusive, and trusted across diverse population groups. This recommendation depends on PR1, PR6, and PR7.

Preliminary recommendations - Theme: Health literacy

PR11: Use of visual aids

Develop and pre-test culturally appropriate visual aids (e.g., illustrated instructions, infographics) as part of emergency preparedness materials, ensuring they are accessible to individuals with low literacy or limited language proficiency.

Lessons learned

It is well known that visual aids are a viable option for improving comprehension of health information, especially for vulnerable populations with low health literacy as well as

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language or cognitive barriers. Visual aids could be considered excellent tools to bridge the gap between communication and comprehension. Interviews conducted under *Subtask 1.3.2* with members of the Red Cross in all three pilot sites highlighted how their brand image generated trust among the public, and how posters and graphics were used to effectively communicate in public spaces. These findings align with research showing that infographics are especially successful in simplifying data and generating engagement, when compared to other types of social media posts (98).

Target audience

Local health, regional and national authorities, crisis communication units, emergency response coordinator, civil protection

Implementation ties: immediate to short-term implementation - High priority

This recommendation is a prerequisite for PR10, PR12 and PR13, as it ensures that critical information reaches everyone, including low-literacy people and non-native speakers.

PR12: Simple and people-centered language

Integrate the "universal precautions" approach into health communication planning by assuming that all people have limited health literacy. Develop protocols for communication that envision using plain language and simple structures to ensure that messages are understandable to all.

Lessons learned

An inclusive approach to the design of communication messages ensures that everyone, regardless of their level of education, language proficiency, and background can understand and act according to the emergency health measures, increasing compliance to health measures, and reducing confusion and misinformation.

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Supporting this, the findings of the survey conducted by UG (*Subtask 1.1.2*) demonstrated that up to half of participants in the three pilot sites (i.e., Hamburg, Piedmont region, and Romania) faced limitations in health literacy, underscoring the urgent need for communication strategies that are accessible and easy to understand.

When it comes to information sharing, it is also important to not overload the general population with information, especially of a technical nature. As emerged from the interviews conducted under *Subtask 1.2.2*, overloading the public with information can confuse them and reduce trust. During the preparedness phase, it is essential to establish communication protocols to preselect and prioritize essential information for public dissemination, especially for people with low literacy.

Target audience

Local health, regional and national authorities, crisis communication units, emergency response coordinator, civil protection

Implementation ties: immediate to short-term implementation- High priority

This recommendation is a prerequisite for PR13 and PR15, as clarity and audience-centered communication is essential, and it is part of the protocols in which emergency responders must be trained.

PR13: Support for low-literacy population

Identify communities or population groups with high prevalence of low health literacy using indicators such as education level, language barriers, or past service access difficulties, and establish partnerships with local CSOs or religious institutions to develop targeted outreach strategies. Establish collaboration between public authorities and community actors and train local community actors, healthcare workers, or volunteers to assist individuals in understanding medical information, and completing health-related forms.

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Lessons learned

Overall, the survey results (*Subtask 1.1.2*) demonstrated that up to half of participants in the three pilot sites had difficulties in reading health documents, required assistance, and showed reduced confidence when in need of completing health records and medical documentation.

In contexts such as Romania, as it emerged from the FGD (S*ubtask 1.2.3*), low systemic health literacy limits the public's ability to understand and act on preparedness guidance. Meanwhile, in Hamburg, government reluctance to collaborate with civil society due to the decision to have more "centralized" and "controlled" messaging undermined the potential of trusted community actors to support outreach.

By identifying at-risk populations during the preparedness phase and providing training to community health care workers, targeted support could be provided during the response phase, increasing trust and decreasing the risk of excluding individuals from participating in emergency measures and services. Therefore, governments should invest in health literacy of the population by establishing education campaigns in the preparedness phase, together with collaboration protocols with CSOs that could act as a support during the response phase.

Target audience

Local health, regional and national authorities, crisis communication units, emergency response coordinator, civil protection

Implementation ties: immediate to short-term implementation- High priority

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This recommendation is dependent on PR11, PR12, and support for PR15. Visual aids (PR11) and simple language (PR12) are prerequisites for the support of low literacy populations, and emergency responders must be trained in this (PR15).

PR14: Digital health literacy and equitable access to technology

Promote digital literacy (also called 'digital alphabetization') among patients and their caregivers through training programs focused on basic digital skills, including how to use video call platforms, and how to search for online information (e.g. regulations). Ensure equitable access to digital tools by providing or subsidizing devices (e.g., tablets, smartphones) and internet connectivity, especially for vulnerable populations (e.g., elderly, rural communities).

Lessons learned

Findings from WP1 showed that people with strong digital health literacy skills can find, evaluate, and understand health information online, reducing misinformation and confusion (99). Navigating digital health tools is essential, as a lot of health services now rely on apps, portals, or online systems for appointments, medication refills, or remote consultations. Without digital skills, people may miss care or misinterpret guidance. In addition to enabling access to care, the use of online platforms can create virtual support networks, peer groups, and encourage regular check-ins to promote social connection and mental well-being during isolation or crises.

A key lesson learned is that bridging the digital divide must be a priority in the preparation phase. This includes investing in subsidized digital devices and offering targeted digital

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literacy training to ensure that all segments of the population can benefit from digital health tools and remain informed and connected during emergencies.

Target audience

Local health, regional and national authorities, crisis communication units, emergency response coordinator, civil protection

Implementation ties: immediate to short-term implementation - Medium to high priority

This recommendation is dependent on the context, in some context digital literacy might be more needed than in others, depending on whether telehealth is a major mode of delivery care or if communication is done through digital means, hence the medium to high priority. This is also a prerequisite for PR18.

PR15: Training for emergency responders

Include training emergency responders such as health care staff and public communicators on health literacy principles such as the use of plain language, visual communication and inclusive design into their curricula. Involve community leaders in the co-design phase of health literacy principles for communication to make them more contextually based.

Lessons learned

Many professionals are unaware of the barriers to health literacy and how they impact understanding and compliance. Embedding health literacy in their educational paths can provide consistency and clarity when translating health measures into a plainer language.

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This aligns with WHO recommendations (100), as health literacy is essential for health promotion and for reducing health inequalities. Therefore, incorporating training in health literacy into the curricula of emergency responders and healthcare professionals ensures that those responsible for delivering health information are equipped with skills to make the delivery of information more inclusive and clearer.

However, as it emerged from the FGD (*Subtask 1.2.3*), in some context, such as in Romania, there is resistance at institutional level against having any type of health literacy educational initiative (e.g., sex ed and other health literacy). This highlights the importance of framing health literacy not as a political or ideological issue, but as a core competency for improving crisis preparedness and equitable access to care.

Target audience

Local health, regional and national authorities, crisis communication units, emergency response coordinator, civil protection

Implementation ties: immediate to short-term implementation - High priority

Training frontline communicators and responders is a critical priority in both routine and emergency health contexts; however, this must be implemented during the preparedness phase. This recommendation is dependent on PR12 and PR13, as the training content should focus on the use of simple, people-centered language and strategies to support low-literacy populations, in collaboration with civil society organizations and religious leaders.

Preliminary recommendations for crisis preparedness - Theme: Healthcare Governance

PR16: Adaptive Healthcare Capacity & Services Repurposing

Establish and maintain a flexible system for scaling healthcare capacity by pre-identifying and building an inventory of convertible spaces (e.g., recovery rooms, outpatient units) at the national, regional, and local levels despite infrastructure limitations, maintaining a catalogue of critical resources (e.g., ventilators, oxygen supply), contextually defining

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standard operating capacity and setting clear surge thresholds (e.g., nurse-to-patient ratios, ICU bed occupancy, availability of trained staff) and developing a flexible surge response plan adaptable to the crisis type (e.g., pandemic vs. civil epidemic). Develop a national inventory of potential surge spaces and critical care assets across regions.

Lessons learned

According to the findings of the literature review conducted within *Subtask 1.2.1*, during the COVID-19 pandemic, high patient volumes, limited supplies, and constrained space demanded adaptive strategies to optimize critical care capacity. Health systems responded with resource reallocation (101) and spatial reorganization (15,102), often employing creative solutions (89) to overcome acute shortages. For instance, neonatal and portable ventilators were designated for pediatric patients, preserving standard ventilators for adult use (15). Several pediatric intensive care units restructured their layouts to manage both pediatric and adult patients within the same space, while others shifted entirely to adult care (15,102).

However, as emerged from the FGD (*Subtask 1.2.3*), in some cases, aging hospital buildings and unconvertible spaces might limit effective surge response. Therefore, in the preparedness phase, it is essential to assess the physical infrastructures to check for physical spaces which could accommodate surges. This highlights the necessity of flexible, context-driven approaches to managing surges during large-scale public health emergencies, as also emphasized by reports from the WHO (103,104) and the ECDC (105).

Target audience

Ministry of health, local, regional and national authorities, and hospital management

Implementation ties: immediate to short-term implementation - High priority

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This is a very high priority recommendation, as it constitutes the backbone of every emergency, and this should be already planned in the preparedness phase. It is dependent on PR1, hence a clear coordination mechanism, and it is the prerequisite for PR17, PR18, PR21, PR24 and PR25.

PR17: Infection control through spatial separation

Identify and designate clean and contaminated zones in all relevant clinical and non-clinical areas in advance. Develop detailed layout plans tailored to specific transmission routes of pathogens (e.g., for airborne diseases this means dedicated negative pressure rooms and advanced air filtration; for bloodborne pathogens, rigorous sharps handling and immediate disinfection are key; for oro-fecal infections stringent hand hygiene protocols and thorough environmental cleaning are essential) that allow for physical separation of patients based on infection risk levels and distinct transmission routes. Develop plans and adapt them to the specific transmission routes for the potential set up of infrastructures for donning and doffing stations at key transition points, and map infection control workflows to repurpose shared areas that minimize staff cross-traffic between contaminated and non-contaminated areas.

Lessons learned

The ECDC (72,74,82) emphasized that the separation of suspected patient cases by infection risk level into distinct zones, supported by dedicated Personal Protective Equipements (PPE) stations, was pivotal in preventing nosocomial transmission during outbreaks. Real-world experiences during the COVID-19 pandemic further reinforce the urgency of these infections spatial control measures. For instance, as it emerged from the literature review conducted within *Subtask 1.2.1*, in Türkiye and Italy, the inadequate separation of patients with different risk profiles significantly contributed to operational confusion and transmission risks in EDs (87). Moreover, many facilities struggled with

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unclear boundaries between clean and contaminated areas, undermining both patient and staff safety (87). As a result, many healthcare systems are now institutionalizing spatial separation, donning and doffing infrastructures, and workflow zoning as integral components of facility preparedness and surge response planning. However, as emerged from the FGD (*Subtask 1.2.3*), infrastructure constraints can limit the capacity for spatial separation. Therefore, identifying in advance the limitations and opportunities for space adaptation together with a detailed implementation roadmap, outlining the specific roles and action for the actuation of the spatial separation, is essential.

Target audience

Ministry of Health, Local, regional and national authorities, and hospital management

Implementation ties: immediate to short-term implementation - High priority

This preliminary recommendation is of extremely high priority when health emergencies are caused by infectious agents, in order to prevent health-facility based transmission. It is dependent on PR1 and PR16 to guarantee the proper use of surge spaces.

PR18: Continuity of care

Develop and implement clear standards and protocols to ensure the continuity of essential health services during a crisis, focusing on preventive care and chronic disease management. Support primary care teams by embedding the use of telemedicine, training staff in digital health tools (e.g., teleconsultations and digital prescriptions), and preparing systems for remote service delivery – particularly in underserved areas – to support chronically ill patients at high risk of infection and to alleviate hospital burden.

Lesson learned

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Disruption of non-COVID care revealed the importance of safeguarding chronic and preventive care, and technological tools were efficient for ensuring the continuity of care (107). Therefore, telemedicine is a viable tool to support the continuity of care, especially when used in primary care to shift away burden from hospitals. However, according to what has emerged from the FGD (*Subtask 1.2.3*), some vulnerable groups, such as the elderly, might face some digital barriers. Therefore, by incorporating telemedicine into preparedness plans to decentralize care, it is essential to consider also more accessible alternatives, like phone-based consultations or home visits, when possible, to overcome potential digital barriers.

Target audience

Ministry of health, local, regional and national authorities, and hospital management

Implementation ties: immediate to short-term implementation - High priority

Ensuring the continuity of essential services is a high priority. However, the effective use of digital health solutions depends on the population's level of digital health literacy. Therefore, PR14 (promoting digital health literacy) is a prerequisite for the successful implementation of this recommendation. Additionally, this recommendation serves as a prerequisite for PR19, as maintaining service continuity directly contributes to the overall quality of care.

PR19: Quality of care

Establish and maintain a robust digital communication system that enables real-time, secure interaction between patients, families, and healthcare staff during a health crisis. Ensure that hospital-issued devices, such as tablets and portable phones, are available across all departments, particularly in critical care areas, end of life care, and isolation rooms under visitation restrictions. Develop hospital policies for scheduling and

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documenting remote communications to ensure regular and meaningful virtual access between patients and their families, and families with care teams.

Lessons learned

Maintaining communication between patients and their families during a health crisis is essential for preserving patient dignity, supporting staff morale, and sustaining trust. During emergencies such as the COVID-19 pandemic, strict infection control protocols often limit or eliminate in-person visits, isolating patients and placing a heavy emotional burden on both families and healthcare providers. Literature review findings (*Subtask 1.2.1*) revealed that health staff expressed concern that patient isolation could hinder care (20), particularly in critical care and end-of-life scenarios. To address this, establishing meaningful and effective virtual interactions—especially for those in high-risk or isolation settings—was consistently identified as a best practice (87,89,102). Structured digital communication platforms not only ensured patients could stay connected with loved ones, but also helped reduce staff stress by facilitating transparent, compassionate care delivery under restricted conditions. While maintaining communication among families, patients, and staff is crucial, the FGD (*Subtask 1.2.3*) highlighted that without clear organization and protocols this can add extra pressure to already burdened staff. Therefore, in the preparedness phase, it is essential to establish a structured communication system, with hospital-issued tablets, portable phones, and clear scheduling protocols.

Target audience

Ministry of health, Local, regional and national authorities, and hospital management

Implementation ties: short-term to medium-term implementation - Medium to High priority

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Depending on the type of crisis the priority is medium to high. For instance, when visitation restrictions are required because of an infectious disease outbreak, it is more of a priority over situations where physical access is not restricted. It is also dependent on the continuity of care (PR19).

PR20: Clear protocols for health staff organization and working conditions

Establish clear and flexible staffing protocol frameworks for emergencies that outline role assignments, shift rotations, breaks, and on-call duties. Rather than fixed schedules, these adaptable frameworks can be quickly adjusted to the crisis's scale, nature, and duration, with clear communication ensuring real-time updates and staff coordination. This approach speeds up response, reduces confusion, and minimizes staff fatigue. When possible, establish policies that envision extra financial compensation and social welfare support (e.g., childcare or elderly care) for staff to prevent frontline workers from being burnt out due to increased work.

Lessons learned

As emerged from the interviews (*Subtask 1.2.2*), a lack of structure and disorganized working conditions were key contributors to emotional distress and burnout among health workers during the COVID-19 pandemic. Clearly defined roles and predictable schedules provide staff with a sense of direction and control, reduce uncertainty, and support psychological safety, as stressed by several scholars (108,109). In addition, the findings from the interviews emphasize the importance of structured staffing systems to maintain both operational efficiency and staff well-being during health emergencies.

Target audience

National and regional health authorities, emergency response coordination bodies, Ministry of Health

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Implementation ties: short-term to medium-term implementation - High priority

In any crisis situation efficient and flexible staff mobilization is of high priority, and it is dependent on a clear coordination structure (PR1). At the same time, clear protocols are a prerequisite for staff availability and redeployment (PR21), and staff psychological support (PR22).

PR21: Staff availability and redeployment

Clearly define the essential competencies required for surge response roles, such as providing critical care, managing ventilators or triaging patients, and maintaining a dynamic competence-based pool of certified staff personnel across departments. Provide regular simulation-based training to assess adaptability and readiness for new role transitions. Designate emergency preparedness officers to oversee readiness efforts. Create a registry of specialized personnel which could train staff during emergencies.

Lessons Learned

Certain hospital departments and regions were disproportionately affected by the pandemic. Therefore, redeploying staff both within hospitals and among different hospitals may be an effective strategy, as underscored by WHO and other scholars (110,111). However, the COVID-19 crisis also highlighted that redeployment, that is the reassignment of staff alone, is not sufficient. As discussed in the FGD (*Subtask 1.2.3*), ensuring the effectiveness of redeployment necessitates the presence of experienced personnel, such as ICU nurses, to guide and supervise less experienced redeployed staff. This approach helps maintain the quality of care while also reinforcing the confidence and capability of the broader healthcare team.

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Target audience

Hospital management, institutional leadership

Implementation ties: short-term to medium-term implementation - High priority

Effective surge staffing is of high priority, and it is dependent upon clear coordination structures and staff availability (PR1 & PR21).

PR22: Staff psychological support

Institutionalize staff mental health support systems by establishing peer support networks (e.g. designate a coordinator or mental health leader to supervise peer supporters), ensuring access to mental health professionals, and integrating stress reduction programs into routine healthcare delivery.

Lessons Learned

The COVID-19 pandemic highlighted the urgent need for structured psychological support for healthcare workers. Many findings from the literature review (*Subtask 1.2.1*) highlighted that lack of emotional support, compounded by unclear working conditions, was a major cause of burnout and team breakdown. Evidence consistently shows that effective mental health support, especially when peer-based, easily accessible, and non-stigmatizing, strengthens team trust, cohesion, and resilience (14,89,112).

This aligns closely with the WHO *Guidelines on mental health at work* (113), which emphasize the need for institutionalized support systems, focusing on the importance of preventative strategies, early access to care and leadership involvement in safeguarding worker well-being (114).

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Target audience

Hospital management, institutional leadership

Implementation ties: short-term to medium-term implementation - Medium to High priority

Staff psychological support is essential to be guaranteed during the emergency phase; however, it should be institutionalized in the preparedness phase. It is dependent on the context and crisis-type, hence the medium to high priority. In addition, it is dependent upon clear coordination structures, clear protocols for health staff organization, and staff training (PR1, PR20, PR23).

PR23: Staff training

Introduce mandatory integrated training on emergency preparedness and ethical decision-making for all clinical staff, embedded within the core curriculum of clinical education and ongoing organizational training programs. Establish simulation-based and scenario-driven exercises to strengthen both individual and team-level preparedness.

Lessons learned

As highlighted in the interviews (*Subtask 1.2.2*), the uncertainty caused by the COVID-19 pandemic in terms of continuously changing knowledge about transmission, safety measures, and policies led to staff being unsure on how to manage patients and how to protect themselves from transmission. This showed the importance of continuous training of health staff on evolving evidence or new treatments available, as well as adaptation of treatments due to lack of available resources. In addition, ethical training is essential to prepare healthcare professionals, and particularly nurse and clinical managers, to address complex dilemmas such as resource allocation, prioritization of care, end-of-life decisions,

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and consent in crisis conditions, thereby supporting morally sound and context-sensitive decision-making frameworks.

Target audience

Ministry of health, local, regional and national authorities, and hospital management

Implementation ties: short-term to medium-term implementation - High priority

Staff training is essential to build capacity over time based on the evolving evidence-base about the health crisis. However, staff training protocols, especially about ethical dilemmas are of high priority and should be envisioned in the preparedness phase, as part of the educational curriculum of health professionals. In addition, it is dependent upon PR1, and it is a prerequisite for PR22, as it contributes to health care staff wellbeing and prevention of burnout and stress during emergencies.

PR24: Availability of resources

Develop national and regional stockpile policies with clearly defined minimum thresholds for critical supplies (e.g., PPE, oxygen, essential medications, ventilators, and diagnostic tests). Establish a multi-level supply governance system that links hospitals, regional authorities, and national agencies to ensure coordinated stockpiling and distribution of essential items.

Additionally, identify and prepare robust alternative supply chains to ensure quality equipment and to avoid reliance on a single country or supplier, as overdependence poses a significant risk to supply security during a crisis.

Lessons learned

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Lack of stockpiling led to resource scarcity during the COVID-19 pandemic (115). In response, the Special Committee on the COVID-19 pandemic of the European Parliament suggests better coordination to enable timely stockpiling and calls the Member States to establish a clear sustainable stockpiling strategy, aimed at building complementary EU and national medical reserves for pandemic preparedness and response, while avoiding waste of resources (115). However, insights from the FGD (*Subtask 1.2.3*) highlighted that political will could be a potential challenge when it comes to stockpiling policies. Therefore, ensuring long-term readiness requires not only sustained political commitment, but also strong interagency coordination to uphold the quality and reliability of medical stockpiles.

Target audience

Ministry of health, Local, regional and national authorities, and hospital management

Implementation ties: short-term to medium-term implementation - High priority

Securing the availability of resources is essential during a crisis and of high priority and it requires sustained fundings and coordination to support the stockpiling; hence, it is dependent on PR1, and PR26, while a prerequisite for PR25, for the effective distribution of supplies.

PR25: Distribution of supplies

Develop a targeted distribution strategy that identifies which departments (e.g., ICU, ED, isolation wards) should be prioritized for critical supplies (e.g., PPE, oxygen, medications). Create distribution maps and logistics protocols for supplies and equipment within the facility and across regional networks.

Coordinate distribution efforts with regional health authorities to prevent duplication or gaps in supply allocation.

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Lesson learned

Limited resources must be distributed strategically, as the global dependence on specific geographic regions for supply procurement led to significant challenges during the COVID-19 pandemic. In the absence of clear distribution strategies and coordinated approaches with regional health authorities, duplication, bottlenecks, and supply gaps can occur, even when stockpiles are sufficient. Therefore, during the preparedness phase, it is essential to establish clear distribution protocols and ensure effective coordination within regional health systems. In parallel, the Special Committee on the COVID-19 pandemic of the European Parliament recommends focusing on developing and enhancing local production capacities to strengthen existing infrastructure and existing capacities (115).

Target audience

Ministry of health, Local, regional and national authorities, and hospital management

Implementation ties: short-term to medium-term implementation - High priority

For the strategic distribution of supplies, resources availability and procurement are essential, hence it is dependent on PR25, and PR26 and a clear coordination mechanism, (PR1). Protocols for their effective distribution should be established before the crisis onset, in the preparedness phase.

PR26: Resource procurement

Establish clear, legally compliant procurement, that is the acquirement of goods, and tender procedures in advance, including pre-approved supplier lists, emergency contracting mechanisms, and transparent evaluation criteria to enable rapid purchasing during a crisis. Clearly specify the type of materials that may be needed during a crisis (e.g., ventilators, vaccines) to facilitate rapid and effective purchasing.

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Lesson learned

As highlighted in some of the interviews (*Subtask 1.2.2*) the COVID-19 pandemic exposed challenges such as contracts not fully complying with procurement laws, delayed publication of emergency awards, and over-reliance on single suppliers causing bottlenecks. Addressing these issues through legal measures is vital to strengthening procurement resilience during health emergencies (116,117). This includes using emergency tools pre-authorized in the preparedness phase, engaging multiple suppliers to diversify supply chains, and centralized coordination among authorities to help streamline procurement and avoid competition.

However, as emerged from the FGD (*Subtask 1.2.3*), resilience is not only connected with legal and structural preparedness; it also requires operational specificity. Broad or overly ambitious procurement plans fail to account for the different legal, logistical, and technical requirements associated with various materials, such as ventilators, PPE, vaccines, or medications. Therefore, effective preparedness should envision the creation of item-specific procurement protocols, outlining distinct processes for categories such as medical devices, pharmaceuticals, and consumables.

Target audience

Ministry of health, Local, regional and national authorities, and hospital management

Implementation ties: short-term to medium-term implementation - High priority

The effective distribution and availability of resources is a high priority and is directly linked to their procurement and to procurement structures that should be put in place in the preparedness phase. Hence, this is prerequisite for PR24 e PR25, but it is dependent on a clear coordination structure (PR1).

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Annex 2: Stakeholder groups and their characteristics (D3.1)

The following sections focus on the stakeholders, or the people involved in the project who support it with their experience and knowledge. Understanding the characteristics of stakeholders is crucial for tailoring the engagement strategy and thus ensuring effective communication, prioritisation and engagement.

According to the literature, the classification and definition of stakeholders vary depending on the research context and specific questions addressed. Below is a classification of key stakeholder groups and their typical characteristics shown in a **detailed** and a **broad classification.** (see also figure 3) These classifications rely on the preliminary work from work package 1 (Task 1.1: Needs and perceptions of vulnerable and non-compliant groups with regard to health crises) and are supported by academic literature and institutional sources.

The classifications provide a preliminary guide to the stakeholder groups involved in the pilot projects (and beyond). Of course, the boundaries are not always so clear-cut.

Broad classification:

For research purposes, e.g., agent-based social simulation is used to analyze health crises. It is often necessary to adopt a simplified stakeholder structure. All stakeholders are broadly categorized into the general public and institutions, each playing distinct but interdependent roles.

General Public. The general public comprises individuals and communities who are both the recipients of health interventions and active participants in societal responses. Their behaviors, such as risk perception, compliance with health recommendations, and mutual support, are influenced by cultural norms, trust, and access to resources. Vulnerable populations within the public, including the elderly, migrants, and socioeconomically disadvantaged groups, require particular attention due to their increased exposure and limited adaptive capacity.

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Institutions. Institutions encompass governmental agencies, healthcare providers, community organizations, private sector entities, and media platforms that design, implement, and communicate crisis management strategies. These actors are responsible for resource allocation, policy enforcement, health service delivery, and information dissemination.

Detailed classification:

Non-vulnerable groups. The general public or non-vulnerable groups are both recipients and actors in crisis response, with their behaviours determining the effectiveness of non-pharmaceutical interventions like social distancing and mask use.

Vulnerable Groups. Vulnerable groups are disproportionately affected by health crises due to socioeconomic, demographic, or health-related vulnerabilities. These groups include the elderly, low-income groups, migrants, and people with disabilities or chronic illnesses. They often face barriers to information, care, and compliance, like the digital divide and language issues. Non-compliant individuals are often found among vulnerable groups, rather than implying that all non-compliant groups are inherently vulnerable. Individuals belonging to vulnerable groups also have different beliefs, levels of knowledge, trust and compliance.

The **characteristics of vulnerable groups were specified in WP1** in more detail to enable comparable recruitment in all pilot projects. Based on these criteria, the vulnerable stakeholders were and are being targeted in the pilot projects.

The key vulnerable groups include:

Older adults. Older adults, particularly those residing in economically deprived neighborhoods, are recognized as a vulnerable population (Hayden & Parkin, 2020; Pezzuti et al., 2021; Siller & Aydin, 2022; Tegeler et al., 2020).

Women. Women are disproportionately represented in healthcare and other frontline roles and often bear significant caregiving responsibilities, all of which contribute to their heightened vulnerability during crises. This vulnerability is particularly evident among subgroups such as pregnant women, mothers with children under five, and working women. Pregnant women may face increased health risks during pandemics, while mothers of young children are likely to experience elevated stress levels and reduced access to essential services.

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Working women, on the other hand, often encounter job insecurity and greater exposure to occupational hazards, further compounding their vulnerability. These gender-specific challenges have been documented in various studies and reports (Arzamani et al., 2022; Beckstein et al., 2022; Liu et al., 2023; Maestripieri, 2021).

People living in poverty. Communities with low incomes—and individuals without stable housing—face considerable challenges in accessing essential resources during emergencies, a fact that has been starkly revealed during the COVID-19 pandemic (Beckstein et al., 2022; John et al., 2022; Maestripieri, 2021).

People with chronic illnesses or underlying health conditions. Individuals living with chronic illnesses or underlying health conditions—such as diabetes, cardiovascular disease, chronic respiratory ailments, or immunocompromised disorders—are at a heightened risk during crises. These conditions can impair the immune response, thereby increasing the likelihood of severe complications. Epidemiological evidence from the COVID-19 pandemic consistently demonstrates that people with these health challenges face significantly higher rates of hospitalization, intensive care admission, and mortality. Furthermore, barriers to accessing regular healthcare and treatment during emergencies exacerbate their vulnerability, highlighting the need for targeted interventions and prioritized medical support for these populations (Garcia-Retamero & Cokely, 2017; Liu et al., 2023; Pera, 2020; Zalsman et al., 2020).

Minorities and marginalized groups. In Europe, minorities and marginalized groups face systematic disadvantages during crises (Beckstein et al., 2022; Liu et al., 2023; Siller & Aydin, 2022). Racial and ethnic minority communities often experience higher infection rates, limited access to quality healthcare, and discriminatory practices. Many individuals within these groups work in sectors that require frequent direct contact with the public, increasing their exposure to health risks. Similarly, Sexual and Gender Minorities (SGM) in Europe frequently encounter discrimination and have limited socioeconomic resources, contributing to poorer mental and physical health outcomes. Pandemic-related disruptions, such as delays in accessing medication and interruptions in educational services, have heightened risks for specific SGM subgroups, including transgender individuals and younger community members. Additionally, other marginalized populations—such as people with chronic or mental illnesses and sex workers—often face significant barriers in accessing essential services during emergencies, further exacerbating their vulnerability.

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Migrants and refugees. Migrants and refugees often face vulnerabilities related to insecure immigration status and limited access to resources, and these challenges have been exacerbated during the COVID-19 pandemic in Europe (Liu et al., 2023; Maestripieri, 2021; Shannon et al., 2023; Siller & Aydin, 2022). For example, many migrants encountered significant barriers to accessing healthcare and COVID-19 testing due to language obstacles, fears of legal repercussions, and limited public health outreach. In overcrowded refugee camps and detention centers, such as those in parts of Greece and Italy, poor living conditions and inadequate sanitation facilities markedly increased the risk of virus transmission. Additionally, in some European countries, policy measures further marginalized undocumented migrants by restricting their access to financial and social support during the crisis.

Individuals with disabilities. Persons with disabilities—including those with intellectual, developmental, and physical impairments—are particularly vulnerable due to a complex interplay of biological, social, and economic factors (Macdonald & Morgan, 2021; Morgan et al., 2021; Shannon et al., 2023; Siller & Aydin, 2022). For example, individuals with intellectual disabilities often have underlying health conditions that predispose them to contracting infections at a younger age and to experiencing more severe symptoms. Studies in Europe have indicated that such individuals are more likely to require hospitalization for COVID-19 and suffer complications compared to the general population. Similarly, people with mobility impairments may face significant barriers in accessing timely medical care, resulting in delayed treatment and poorer health outcomes. In addition, social isolation and economic disadvantages exacerbated by disruptions in routine care and support services during the pandemic further compound these vulnerabilities, leading to an increased risk of mortality.

Intersectionality is both natural and expected as many of these characteristics often coexist within individuals – for instance, a woman living in poverty, or a man over the age of 65.

Non-compliant Individuals who do not comply with the relevant regulations are often found among vulnerable groups. Non-compliant Groups: Those with cognitive-behavioral disorders, pregnant women, panic-prone individuals, individuals with intellectual disabilities; with the following non-compliant features:

- Individual Health Conditions, including People living with dementia, People with bipolar disorder, People with Dark Triad traits, People with psychopathic traits

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- Sociodemographic factors, including elderly unafraid of virus, lower education, migrants
- Social and Economic Context, including rural populations, people with low-income
- Little access to Information access, and low social trust

Government and Public Authorities. Government and public authorities are responsible for policymaking, funding, coordination, and enforcement of public health measures, operating at multiple levels including local, regional, national, and international. This group includes public health agencies like the Centers for Disease Control, European Centre for Disease Prevention and Control, World Health Organization, ministries of health, and emergency response units.

Professionals in social or health care. Professionals in social or health care are frontline responders during crises. Such professionals include those working in hospitals, clinics, primary care, and emergency medical services. They often face resource limitations, burnout, and high exposure risk, playing a key role in detection, treatment, and communication. This category has four more specific subcategories:

- Physicians,
- Nursing Professionals,
- Allied health professionals
- Public health and administration professionals.

Communication Channel Stakeholders. One type of stakeholder is information intermediaries who utilize communication platforms (e.g., news media, digital alert systems, translation tools) to disseminate official guidance to the public. These stakeholders do not originate the messages but play a vital role in ensuring that the information reaches diverse audiences in a timely and accessible manner. By leveraging various communication tools, they help translate messages linguistically and culturally, which is particularly important for non-native speakers or marginalized populations. While their work significantly enhances the reach and clarity of public health messaging, they typically operate in a one-way

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communication mode and do not engage in building interpersonal trust or fostering direct dialogue with recipients.

Non-Governmental Organizations (NGOs). NGOs often work directly with vulnerable communities and play a more relational and interactive role. They engage in two-way communication, mediate between institutional actors and communities, and often have established trust networks. Their activities include tailoring messages, facilitating behavioural interventions, and providing feedback loops to authorities. Because they are embedded in the communities they serve, they are vital for promoting trust and ensuring compliance with public health recommendations.

Private Sector and Employers. The private sector and employers ensure supply chain resilience, infrastructure, medical supplies like PPE and vaccines, and innovation such as digital health tools. They are involved in business continuity planning and employee protection measures and can influence public behaviour through workplace policies.

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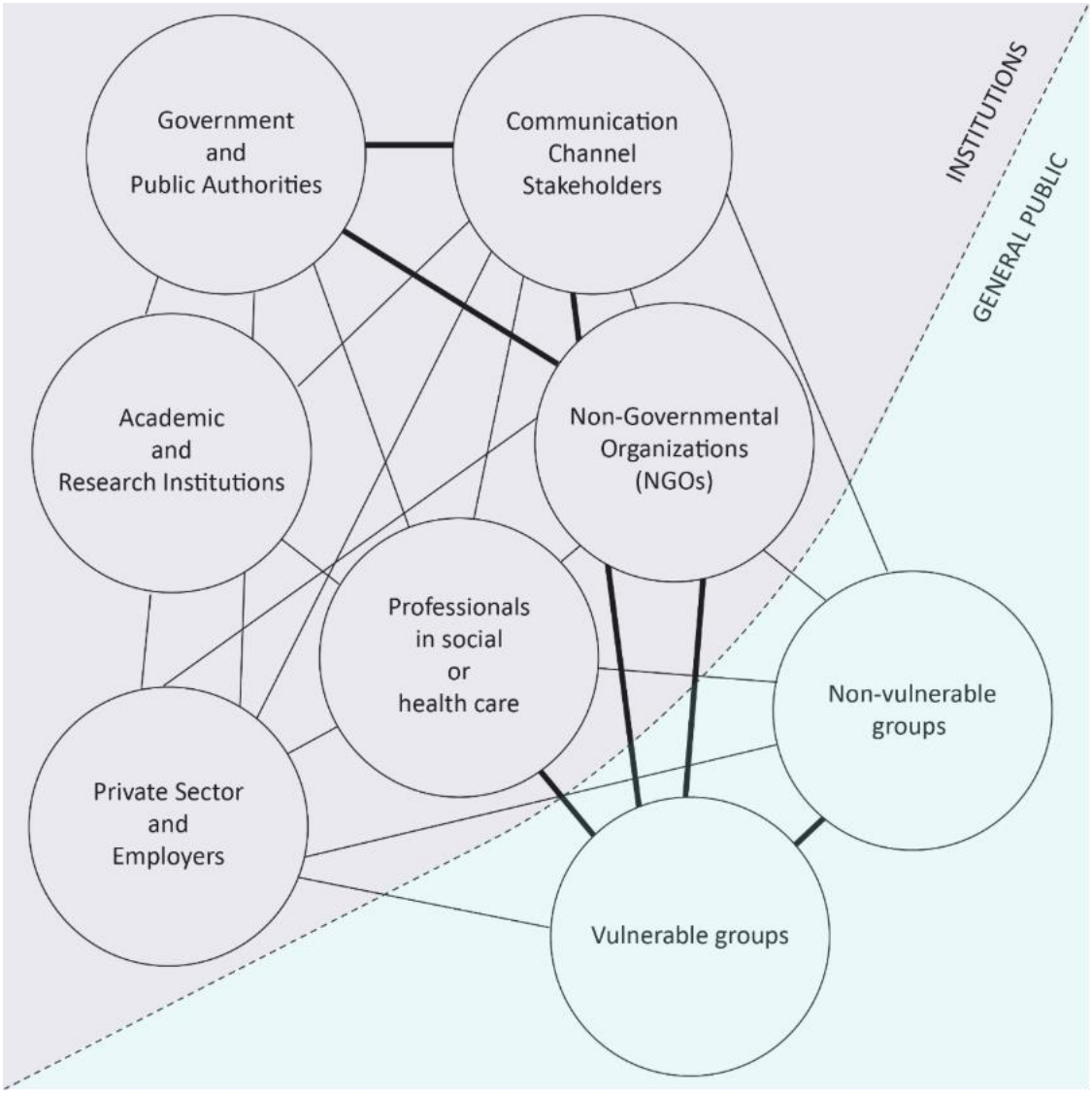

Figure 3: Stakeholder categories and their relational links across institutions and the general public in the context of health crisis preparedness.

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Annex 3: Training Template

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PREPSHIELD

Training for the Tabletop Exercise

(Date) …. … …

(online/Location) …. … …

PREPSHIELD Project Partner XYZ

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Content

First Part: PREPSHIELD

- Project Objectives, Structure, and Methods
- Project Partners
- Impacted groups and stakeholders
- Timeline and Work Packages

Part Two: Training on Best Practices

- Objectives of this training
- Preliminary Recommendations/Best Practices – Overview

1. Crisis Management
2. Communication
3. Health Literacy
4. Healthcare Governance

Part Three: Preparing for the Exercise

- What can you expect on x.x.202x?
- The interaction between different teams
- Systematic Procedure
- Content Overview and Approach
- Scenario Introduction
- Holistic Process

Part Four: Terms, queries and requests

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Project Objectives, Structure, and Methods

With a **focus on vulnerable people**, PREPSHIELD aims to improve the population's **preparedness for future health crises**.

The following **experts** will be specifically involved:

- Citizens (especially those in risk groups) and civil society organisation representatives
- Authorities, disaster control agencies, and healthcare facilities.

The following will be **analysed**:

- Needs and requirements,
- Health literacy, communication strategies and data management
- Measures for prevention and coping with health crises.

The **methods** include surveys, interviews, discussion rounds, tabletop simulations and online exercises.

The **pilots** are: Hamburg (Steilshoop), the Piedmont region, and Romania.

Based on the findings, **policy recommendations, a platform and an app for crisis preparedness and health crisis management** will be developed.

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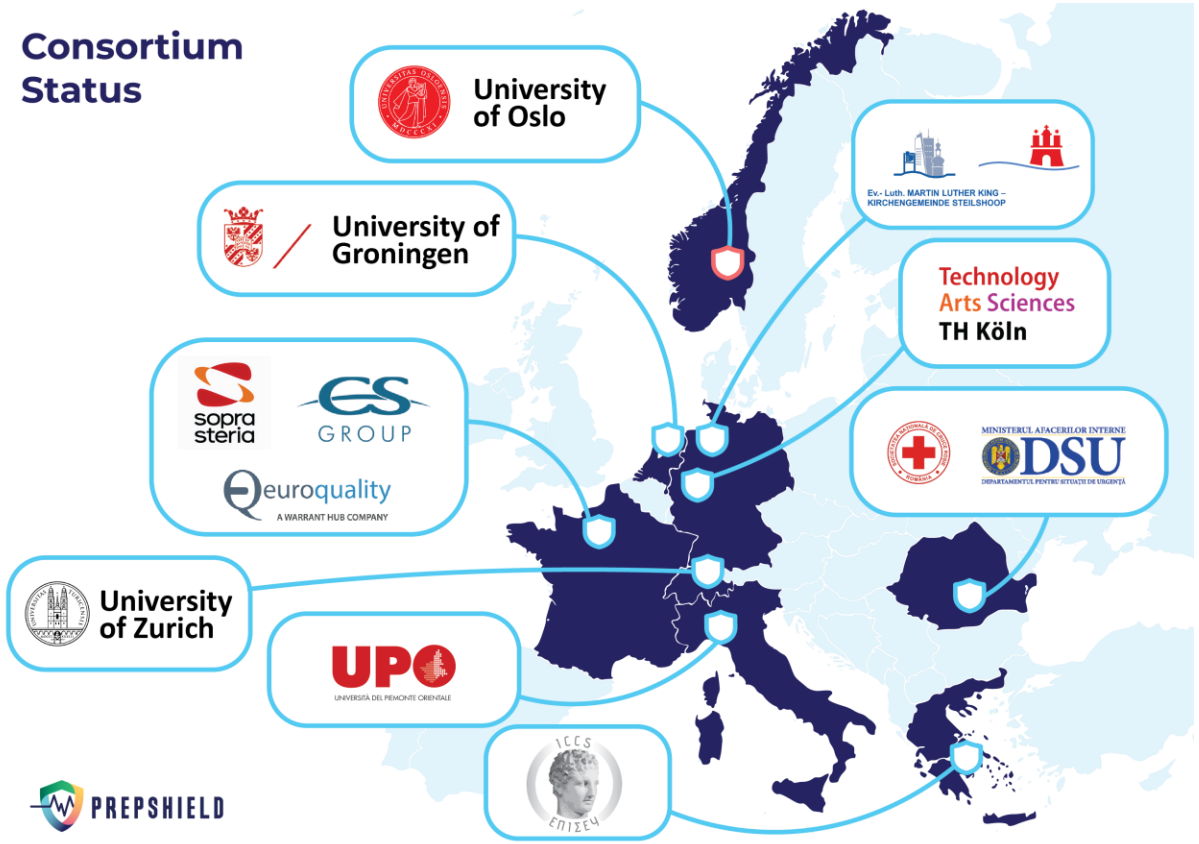
Project partners

The consortium comprises 13 partners, including universities, public institutions, non-governmental organisations and several technical partners from seven EU countries and Switzerland.



1. UNIVERSITA DEGLI STUDI DEL PIEMONTE ORIENTALE AMEDEO AVOGADRO, Italy
2. RIJKS UNIVERSITEIT GRONINGEN, Netherlands
3. UNIVERSITETET I OSLO, Norway
4. TECHNISCHE HOCHSCHULE KÖLN, Germany
5. CS GROUP-FRANCE, France
6. SOPRA STERIA GROUP, France
7. EREVNITIKO PANEPISTIMIAKO INSTITOUTO SYSTIMATON EPIKOINONION KAI YPOLOGISTON, Greece
8. MINISTERUL AFACERILOR INTERNE, Romania
9. SOCIETATEA NATIONALA DE CRUCE ROSIE DIN ROMANIA, Romania
10. FREIE UND HANSESTADT HAMBURG, Germany
11. Ev.-Luth. Martin-Luther-King-Gemeinde Steilshoop, HH, Germany
12. EUROQUALITY SAS, France
13. UNIVERSITÄT ZÜRICH, Switzerland

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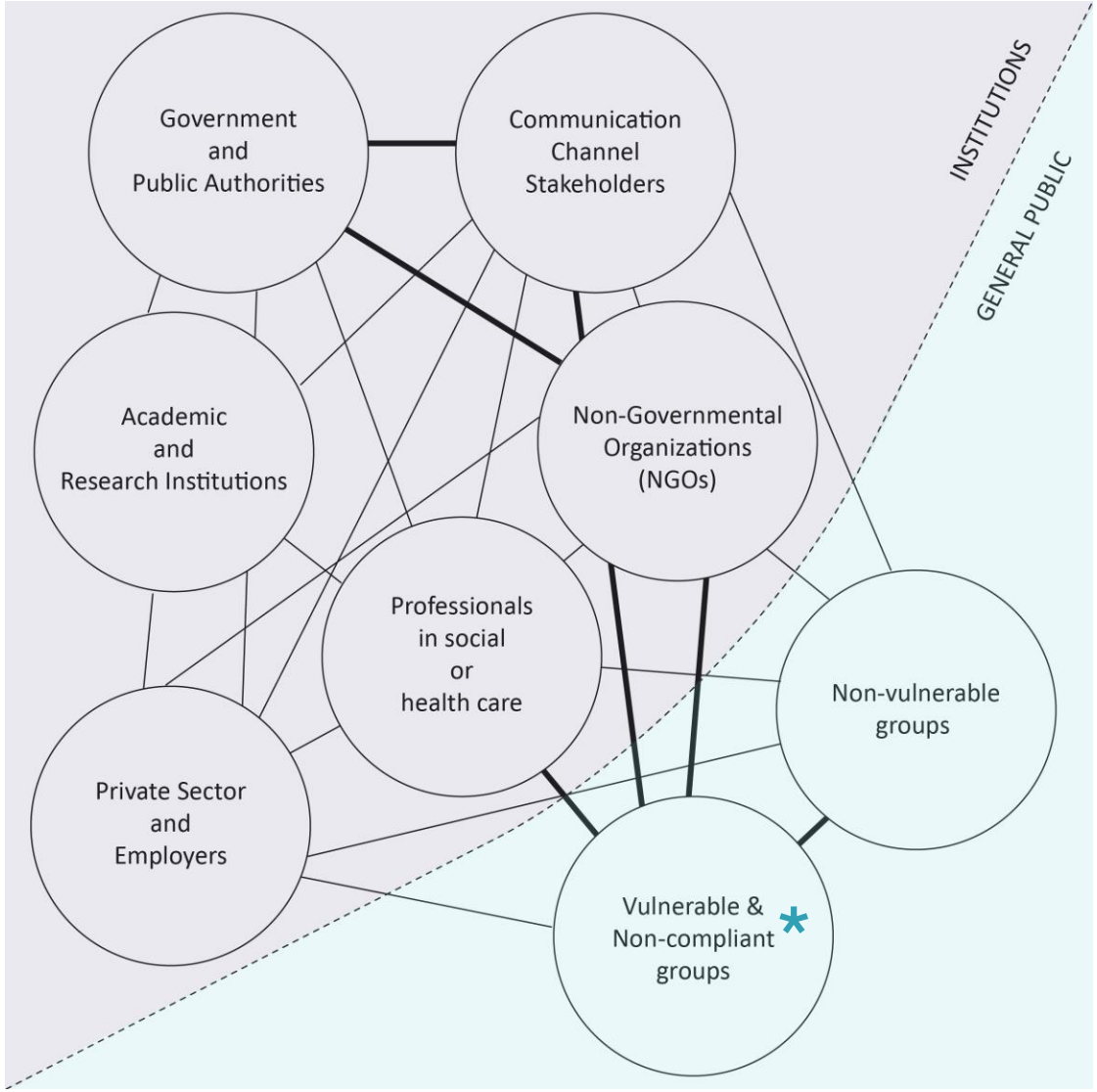
Impacted groups and stakeholders



* **Key vulnerable groups** include:

- Older adults
- Women
- People living in poverty
- People with chronic illnesses or underlying health conditions
- Minorities and marginalized groups
- Migrants and refugees
- Individuals with disabilities
- **Non-compliant groups** often face structural barriers and forms of marginalization, making them part of the broader category of vulnerable populations.

PREPSHIELD

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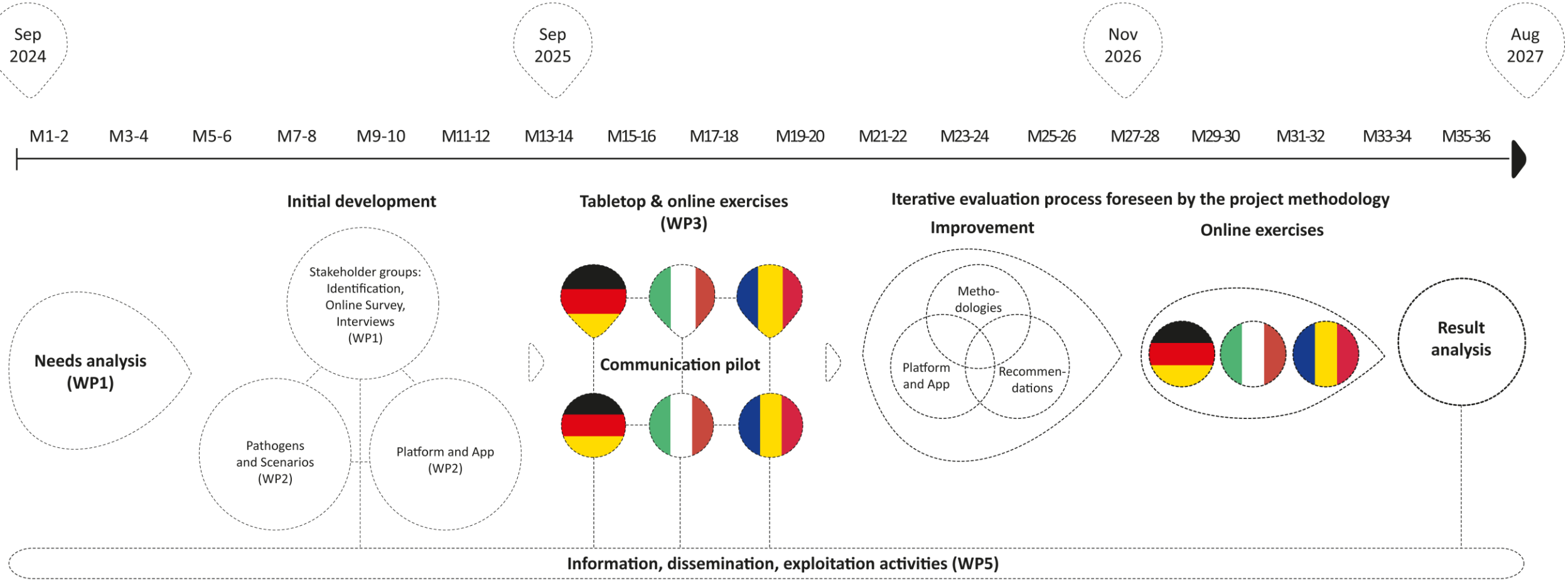
Timeline and Work Packages



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Training on Best Practices

2

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Objectives of this training

- **Measures for prevention** and management of health crises
- **Sharing of best practices** for preparation, management and communication in health crises
- **Implementation** of these practices as part of a whole-of-society approach
- **Raising awareness** of the needs of vulnerable and hard-to-reach groups
- **Preparation** for the application of the content in tabletop exercises.

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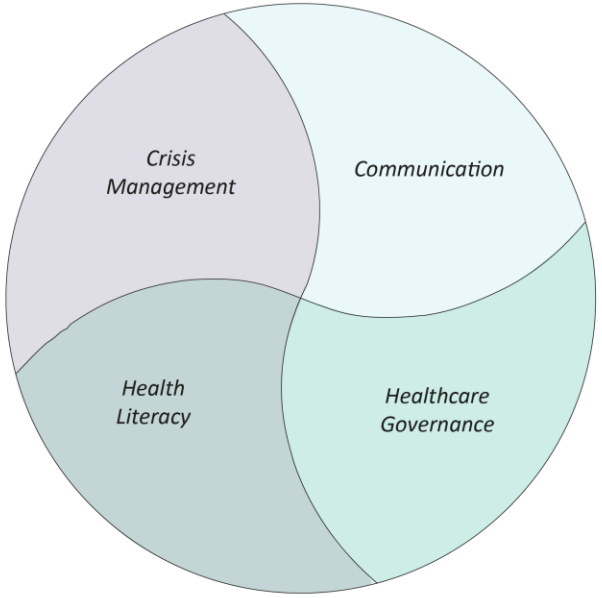
Preliminary Recommendations/Best Practices – Overview

This part of the training introduces key recommendations derived from the collected Best Practices.

Best Practices refer to recommended or promising approaches identified through the experiences and perspectives of diverse stakeholders. They highlight how communication, inclusion, and support for vulnerable groups can be improved during health crises – even if they are not formally tested or universally applied.

The content is structured around **four macro areas**:

1. Crisis Management
2. Communication
3. Health Literacy
4. Healthcare Governance



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1. Crisis Management

Effective crisis management requires centralized coordination paired with inclusive, transparent processes.

PR1: Center-led and coordinated approach

PR2: Digitalization of the information and dissemination system

PR3: Inclusive coordination

PR4: Data collection digitalization

PR5: Data protection and security

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2. Communication

Communication is a cornerstone of preparedness, requiring clarity, consistency, and inclusivity.

PR6: Clear and coordinated risk communication

PR7: Communication facilitators

PR8: Audience-centered messages and delivery

PR9: Positive and transparent communication

PR10: Multilingual and multicultural communication

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3. Health Literacy

Health literacy is vital for ensuring that all citizens can understand and act on health information.

PR11: Use of visual aids

PR12: Simple and people-centered language

PR13: Support for low-literacy populations

PR14: Digital health literacy and equitable access to technology

PR15: Training of emergency responders

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4. Healthcare Governance

Healthcare governance during crises requires flexible capacity, resilient infrastructures, and strong workforce strategies.

PR16: Adaptive healthcare capacity and service repurposing

PR17: Infection control through spatial separation

PR18: Continuity of care

PR19: Quality of care

PR20: Clear protocols for health staff organization and working conditions

PR21: Staff availability and redeployment

PR22: Staff psychological support

PR23: Staff training

PR24: Availability of resources

PR25: Distribution of supplies.

PR26: Resource procurement

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Preparing for the Exercise

3

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What can you expect on x.x.202x?

Aim of the exercise

- Real-life test environment for dealing with a health crisis (H1N1 influenza).
- Application and evaluation of new methods, communication and tools from the PREPSHIELD project.
- No assessment of personal skills; the focus is on collaboration, decision-making processes, and feedback cycles.

Your role in the Crisis Management Team

- Decision-making and control of measures based on scenario descriptions in the course of the moderated operational planning process
- Responding to inject-based scenarios and feedback from the market group as representatives of the population

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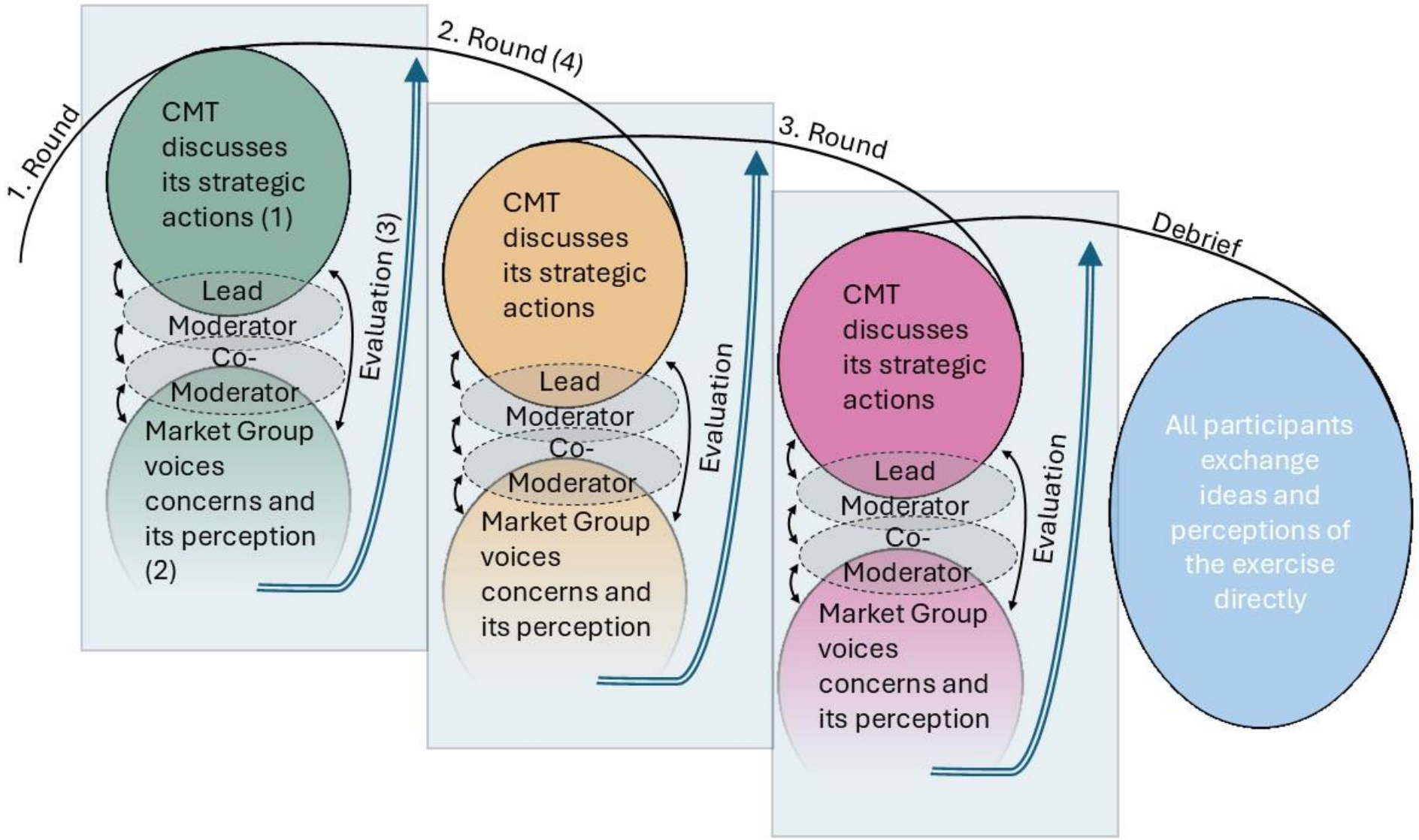
The interaction between different teams



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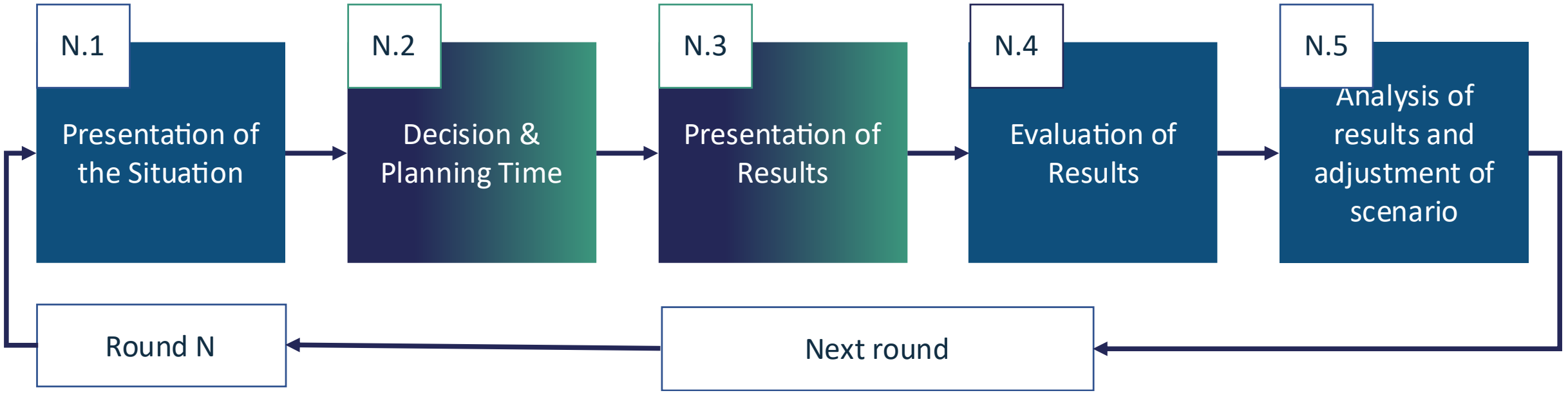
Systematic Procedure

Market Team
- Vulnerable
- Non-compliant
- Business
- Disease/Spread

CMT
- Public authorities
- Health organizations
- Dependent on region

Directors Team
- Organizer
- Observer
- Storybook
- Experts



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Content Overview and Approach

Procedure on the day of the exercise

- 11:00–11:30 Arrival and registration
- 11:30–12:00 Exercise briefing
- 12:00– 13:00 Lunch break
- 13:00–17:00 Main exercise rounds (3-5)
- 17:00–17:30 Debriefing

How do we work?

- Guided discussions among members of the CMT
- The market group follows the discussion and has the opportunity to actively influence the discussion by expressing concerns and objections
- CMT takes actions based on the results of the exchange with its group and Market Group members
- Market Group rates the actions with an evaluation sheet
- Scenario evolves based on the scores given by the Market Group

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Scenario Introduction

About the storyline

A new type of influenza virus is causing growing concern – initially locally, then increasingly across regions.

The first cases of infection are appearing in a socially diverse district of Hamburg. Authorities, health services and emergency services are faced with the challenge of acting quickly, clearly and in a coordinated manner.

The situation is still unclear:

🔍 Scientific data is incomplete.

🗣️ The public is unsettled.

📲 Initial reactions are circulating in the media.

⚖️ First decisions must be made under time pressure.

What this means for you:

- You will be part of an interdisciplinary team that monitors the situation, evaluates measures and communicates them in a targeted manner
- What you can expect is not an exam, but a safe space for collaboration, reflection and shared learning.

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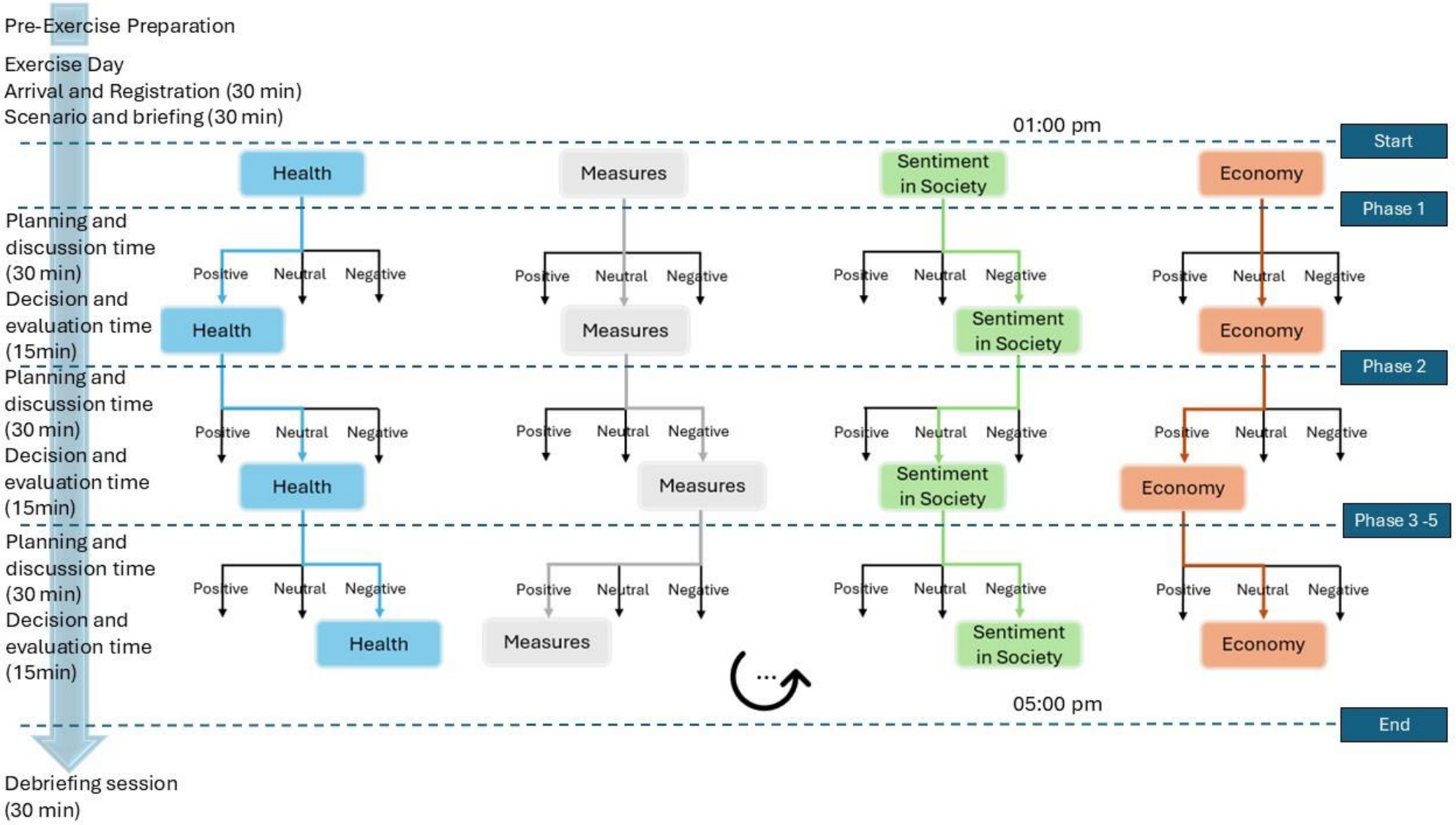
Holistic Process



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Terms, queries and requests

4

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Terms

Term	Brief explanation
Risk communication	….

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Queries and requests?

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Thank you!

PREPSHIELD project partner ....

Role in the project:

Institution:

Email address:

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