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eNOTICE-2

EU Network of Training Centres for preparedness to CBRN Events

D6.2 Report on end-user and stakeholder engagement

Leading authors:

Olga Vybornova (UCLouvain – CTMA)
Marie Dauvrin (UCLouvain – IRSS)

Contributors:

Thomas Van Den Bosch (VESTA)
Luc Calluy (VESTA)
Sylvia Pratzler-Wanczura (FDDO)
Tomáš Michalcik (JCBRND COE)
Patrick Gaisbauer (JCBRND COE)
Daniele Di Giovanni (UNITOV)
Gabriele Giuga (UNITOV)
Elif Surer (METU)
Elisa Bellerio (SAFE)
Annachiara Zardini (SAFE)
Nigel Totti (WMP)

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Dissemination level

PU	Public - fully open (automatically posted online on the Project Results platforms)	X
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SEN	Sensitive - limited under the conditions of the Grant Agreement	
EU classified	RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444	

Document Information

Grant Agreement n°	101139905
Project Title	EU Network of Training Centres for preparedness to CBRN Events
Project Acronym	eNOTICE-2
Project Coordinator	Université catholique de Louvain (UCLouvain)
Document Responsible Partner	UCLouvain
Document Number	D6.2
Document Title	Report on end-user and stakeholder engagement
Dissemination Level	Public
Contractual Date of Delivery	Month 24 (December 31, 2025)

Partners involved in the Document

N°	Participant organisation name (short name)	Check if involved
1	Université catholique de Louvain (UCLouvain)	X
2	Campus Vesta APB (VESTA)	X
3	Fire Department of Dortmund (FDDO)	X
4	University of Rome Tor Vergata (UNITOV)	X
5	Joint CBRN Defence Centre of Excellence Vyškov (JCBRND COE)	X
6	Middle East Technical University (METU)	X
7	Fondazione SAFE	X
8	Associated partner: West Midlands Police (WMP)	X

Circulation list

- European Commission
- eNOTICE-2 Consortium

Executive Summary

This document is Deliverable 6.1 End-user and stakeholder engagement plan of eNOTICE-2, a UCPKN funded project, under the Grant Agreement n° 101139905. It presents the report on the achieved results on the end-user and stakeholder engagement as beneficiaries of the project results, and the further exploitation plan at the end of the project. The work has been completed under Task 6.1 Mapping of end-users and stakeholders, gaps and needs analysis, and Task 6.2 End-users and stakeholders engagement in the project activities, dissemination. The scope of the work comprises the findings on the CBRN stakeholders categorization, dissemination and communication channels to reach out to every category of stakeholders, completed dissemination and communication activities.

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List of abbreviations used in the document

CBRN	Chemical, Biological, Radiological, Nuclear
CERIS	Community for European Research and Innovation for Security
CP	Civil Protection
CSNPH	Belgian National Council for Persons with Handicap
DRM	Disaster Risk Management
ENCIRCLE	European CBRN Innovation for the Market Cluster
eNOTICE	European Network of CBRN Training Centres
eNOVATION	Extended Network of CBRN Training Centres for Innovation
ERCC	Emergency Response Coordination Centre
FDDO	Fire Department of (the City of) Dortmund
FR	First Responder
HSR	Health Services Research
IAEA	International Atomic Energy Agency
JCBRND COE	Joint CBRN Defence Centre of Excellence
KCE	Belgian Health Care Knowledge Centre
LUSS	Ligue des Usagers des Services de Santé (League of health services users)
METU	Middle East Technical University
PPE	Personal Protective Equipment
PCEP	Person-Centred Emergency Preparedness
PRT	Patient Rat und Treft (Patient advice and meetings)
RAP	Rapid Assessment Procedure
SICC	Scientific International Conference on CBRNe
SDS	Safety Data Sheet
SOP	Standard Operating Procedure
TC	Training Centre
UCLouvain	Université catholique de Louvain
UCPM	Union Civil Protection Mechanism

UNITOV	University of Rome Tor Vergata
VESTA	Campus Vesta APB
VPP	Vlaamse Patientenplatform (Flemish patient platform)
UNDRR	United Nations Office for Disaster Risk Reduction
WHO	World Health Organisation
WMP	West Midlands Police

1 Objectives and scope

This Deliverable 6.2 presents the report on the achieved results on the end-user and stakeholder engagement as beneficiaries of the project results, and the further exploitation plan at the end of the project. The work has been completed under Task 6.1 Mapping of end-users and stakeholders, gaps and needs analysis, and Task 6.2 End-users and stakeholders engagement in the project activities, dissemination. The scope of the work comprises the findings on the CBRN stakeholders categorization, dissemination and communication channels to reach out to every category of stakeholders, completed and yet planned dissemination activities.

Task 6.1 identified the profile of the project results end-users and stakeholders, including CBRN TC of the network, training professionals, CP, DRM practitioners, security stakeholders in search for innovations, researchers, industry and service/technology/process innovation providers, civilian population, representatives of patients' organisations and organisations dealing with vulnerable groups of population, people with disabilities, competent authorities, etc. Task 6.2 ensured awareness of the first responders CP and DRM end-users and stakeholders, and general public vulnerable and disabled people' active participation in the project activities in WP1 – WP5. The end-user and stakeholders' inputs have been collected through questionnaires and workshops associated with the technical WPs and SimEx.

This report is structured as follows: after presenting the scope and objectives of the work in Section 1, Section 2 presents the results of involvement of patients with disabilities, caregivers and health providers - end-users of eNOTICE-2 developments from vulnerable groups of population, and Section 3 explains the dissemination and communication activities implemented during the project reaching out to all groups of stakeholders. Section 4 puts forward the impacts and exploitation of the project results.

2 Results of involvement of end users – patients with disabilities, caregivers and health providers

In the context of CBRN operations, the involvement of end users – on the one hand rescue units but in particular patients with disabilities, caregivers, and healthcare providers – is of central

importance. These groups are not only directly affected by CBRN incidents, but also possess essential experiential and practical knowledge that is critical for effective preparedness, response, and recovery.

One of the main challenges is the heterogeneity of needs. Persons with disabilities are not a homogeneous group: sensory, cognitive, psychosocial, or physical impairments influence perception, mobility, communication, and the understanding of warnings and protective measures. Standard CBRN protocols often insufficiently address this diversity (see WP 5, D5.1, D5.2 and D5.3).

In addition, communication barriers pose a significant challenge, particularly in conveying risk information and behavioural guidance during emergencies. Warning messages and instructions are frequently not provided in accessible formats (e.g. lack of easy-to-read language, sign language, tactile or auditory alternatives). Caregivers face particular pressure in CBRN situations, as they are responsible both for their own safety and for that of the person they support, often without clearly defined guidance or training. Healthcare providers, in turn, are confronted with high workloads, unclear responsibilities, and ethical dilemmas, especially when resources are scarce and vulnerable populations must be prioritized.

Another major issue is the lack of systematic involvement of these groups during the planning and training phases of CBRN preparedness. Their perspectives are often considered only retrospectively, once structural shortcomings have already become apparent (during collaboration of eNOTICE-1 project organising Joint Activities with H2020 project PROACTIVE that was looking into human factors and involvement of volunteers with disabilities and other vulnerable groups of population in CBRN exercises <https://proactive-h2020.eu/>)

Early and sustained involvement of patients with disabilities, caregivers, and healthcare providers is essential to develop realistic, inclusive, and operational CBRN strategies. End users can identify concrete weaknesses in existing emergency plans, for example with regard to evacuation procedures, decontamination processes, or the use and / or decontamination of assistive devices and medical equipment.

Participatory approaches enable the development of accessible communication and training concepts, improving understanding and compliance during crisis situations. At the same time, meaningful involvement strengthens trust in authorities and emergency responders, which is crucial for the acceptance of protective measures.

For healthcare providers, active participation allows the co-creation of practice-oriented guidelines that integrate both medical and psychosocial considerations. Overall, consistent end-user involvement helps reduce inequalities in disaster preparedness and response, builds resilience, and ensures that CBRN operations are not only effective, but also ethically responsible and inclusive.

2.1 Research questions and objectives

When implementing the task on engagement of end-users in the project, the main research question was “What are the needs and preferences of persons living with assistive devices in case of decontamination?”

The objectives were:

- 1. To identify attention points in decontamination procedures from the perspective of users. Secondary objectives were:
 - To understand the degree of preparedness of citizens and institutions regarding emergencies (in general)
 - To assess the degree of knowledge regarding CBRNe and decontamination
 - To identify attention points in decontamination procedures from the perspective of users

This first objective was achieved through interviews with users and knowledgeable stakeholders on the needs of persons living with assistive devices in 2024. Detailed results were presented in D6.1 and have been recently accepted for publication in a journal.

- 2. To integrate the needs of the users in the decontamination procedures.

This second objective was achieved through structured feedback by users on the development of visual information materials about decontamination. Besides, it was planned to involve end-users in SimEx 4 and several of them accepted to participate but, due to unforeseen circumstances each of them had to cancel participation and they could not make it.

2.2 Key results from the interviews

This section briefly presents the key findings from the interviews with representatives of persons living with disabilities and professionals working with them conducted in 2024. Table 1 summarises the physical requirements as expressed by participants while Table 2 summarises the psychological requirements.

Individualized experiences	Participants highlighted that disabilities are unique to each person, requiring tailored and individualized approaches.
Cumulative handicaps and complex needs	Complex needs often involve multiple disabilities (e.g., mobility, respiratory, cognitive). People with cognitive or mental health conditions may be challenging to manage due to unpredictable reactions.
Invisible disabilities	Some disabilities, such as Ehler-Danlos syndrome or multiple sclerosis, are not immediately visible to FRs and require special consideration during emergency responses.

Challenges faced by first responders according to people living with disabilities	FRs may lack experience in working with disabilities, increasing the risk of inappropriate responses (e.g., use of force, restraint, or infantilization) or exclusion from care, which remains a significant concern for individuals with disabilities.
	Decontamination should start with <u>tracking and tracing the device, differentiating between devices</u> that can wait and those requiring immediate replacement, while also <u>preserving autonomy</u> during the process.
Decontamination of Assistive Devices	<u>Critical assistive devices</u>: Assistive devices have different removal needs; some are non-critical, while others require immediate replacement (e.g. respiratory assistance). <u>Internal medical devices</u> (e.g., catheters, stomas): a risk assessment should be conducted for medical or feeding probes, catheters, pacemakers and stomas before decontamination. <u>Tailor-made devices</u> should be distinguished from generic devices, which are easier to replace.
Assisting a person with a severe disability	<u>For individuals with mobility or respiratory needs</u> : consider using a stretcher with a lift-up backrest for a half-seated position or provide a chair in the shower. After decontamination, comfortable lying positions should be ensured, particularly for those with neuro-muscular conditions.

Table 1. Physical requirements as identified by people living with disabilities

Communication with a person with hearing or visual disabilities	Clear, continuous communication is essential during emergencies to reassure and guide people with disabilities. Specialized communication strategies (e.g., pictograms, sign language, transparent masks for lip-reading, videos) should be used to aid those with sensory impairments.
Environmental Considerations	Reducing sensory stimulation (e.g., noise, light) and ensuring the presence of a trusted caregiver, responder, or support staff can help reduce stress and anxiety for individuals with disabilities awaiting decontamination.
Involvement of Usual Professionals	Involving trusted caregivers or family members from the start can reduce anxiety and improve cooperation during decontamination, particularly for those with cognitive or behavioural conditions.

Consent and Sensitivity	Emergency protocols should prioritize consent and respect (e.g., using the term "person with a disability" is generally more respectful than simply "disabled"). Forced actions (e.g., undressing) can be distressing and should be managed with care, dignity, and sensitivity.
Triage and Fair Treatment	Triage must be based on clinical criteria rather than disability status, ensuring fair and equitable treatment for all victims.
Perceived Survival Chances	Some people with disabilities may feel they have a lower chance of survival; responders should be aware of this perception and receive training to provide reassurance, equitable care, and psychological support, ideally in collaboration with disability advocacy groups.
Emotional Attachment to Devices	Removing assistive devices may trigger anxiety; careful handling is essential.
Post-Decontamination Debriefing	Stress and discomfort can be significantly reduced if a debriefing session is organized after decontamination. During this time, individuals should be provided with updates on the status of their personal assistive devices.

Table 2. Psychological requirements as identified by people living with disabilities

2.3 Development of information materials

Emerging from the interviews, there was the need for accessible communication and information materials in multiple formats, using simple language and designed for use in contaminated (red) zones¹. Emergency information should be developed while keeping the most vulnerable person in mind, following universal principles^{2,3}. Ensuring accessibility will not only benefit individuals with severe disabilities but also children, non-native speakers, and those with low literacy, enabling them to understand and follow basic instructions. Since improving access to information is one of the targets of the Sendai Framework, it can be regarded as a priority for action.⁴

Consequently, as part of the eNOTICE-2 project, it was decided to develop an information material to improve communication with people awaiting decontamination, with a focus on

¹ Rogers MB, Amlôt R, Rubin GJ. The impact of communication materials on public responses to a radiological dispersal device (RDD) attack. *Biosecur Bioterror*. 2013 Mar;11(1):49-58.

² Schmutz S, Sonderegger A, Sauer J. Easy-to-read language in disability-friendly web sites: Effects on nondisabled users. *Appl Ergon*. 2019 Jan;74:97-106.

³ Meltzer A, Barnes E, Wehbe A. Providing accessible health information for people with disability in a public health crisis: A qualitative study of the experiences of Australian accessible information provider organizations during the COVID-19 pandemic. *Disabil Health J*. 2025 Apr;18(2):101720.

⁴ UNDRR. Sendai Framework for Disaster Risk Reduction 2015-2030. 2025 [cited 2025 10/24/2025]; Available from: <https://www.preventionweb.net/sendai-framework/sendai-framework-for-disaster-risk-reduction>

people living with disabilities. To ensure the adequacy of the information material, patient representatives were consulted in a collaborative way.

Taking into account the needs of the target audience - both people with disabilities, regardless of their origin, and emergency responders - FDDO (with contributions from VESTA) developed a brochure focusing on communication in CBRN situations, with a particular emphasis on decontamination procedures. The development process aimed to address the specific vulnerabilities and practical challenges faced by persons with physical, sensory, cognitive, and psychosocial disabilities during CBRN incidents, while at the same time supporting emergency responders in delivering clear, respectful, and effective instructions under high-pressure conditions.

A key challenge was finding an appropriate balance between providing sufficiently detailed, technically accurate information and ensuring that the content remained accessible and understandable for people with diverse abilities and levels of health literacy. Complex technical terminology, abstract risk descriptions, and overly detailed procedural explanations had to be carefully adapted without compromising the correctness or safety relevance of the information.

To overcome these challenges, the brochure emphasises clear, structured guidance, and visual support elements without using a lot of textual explanations.

Overall, the brochure serves as a practical tool to enhance mutual understanding between emergency responders and people with disabilities, contributing to safer, more inclusive, and more effective communication during CBRN decontamination operations. (further information concerning the brochure see D5.3)

2.4 First consultation round with representatives of people living with disabilities

2.4.1 Objectives

The aim was to provide initial feedback on the information material developed by the FDDO to ensure that it is understandable to everyone and adapted to the specific needs of people with disabilities during decontamination. In this first round of feedback, the focus was on the content (=message) and the form used to convey this message.

2.4.2 Methods

Procedure and tools for data collection

FDDO provided a first draft version of the information support.

To facilitate the discussion and ensure that all aspects were covered, a discussion guide was elaborated based on guidelines for assessing information material, with attention to the experiences of persons living with disabilities. Note - Annex 2 presents the final version of the

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handout – the visual materials updated and finalised after all the feedback received on previous versions.

After a short introduction, the information support was showed to the participants – without any comment from the moderator. Participants were then invited to share what they understood and their overall impression about the support. Each picture was then presented to gather specific comments.

The focus groups were moderated by the same researcher that conducted the interviews (M. Dauvrin). The moderator is trained as a community health nurse, has experience as first responder and is hearing impaired.

Participants

All participants (representatives of persons living with disabilities or professionals) to the interviews of Summer 2024 were contacted to join an online group discussion via Microsoft Teams (n=33). Two persons who expressed their interest for the study but were not interviewed were also contacted but none of them replied.

The first group discussion was held on March 28 with a representative of persons living with disabilities and a social worker. The second group discussion was held on March 31 with 6 patient representatives. An additional appointment was made with a couple (parents of a person living with cerebral lesions) who experienced technical problems when attempting to join the first discussion (meeting was then organised via Zoom instead of Microsoft Teams).

Additionally, we requested a review of the information support from two specialised services: 1 service specialised in easy-to-read-language and 1 service specialised in health literacy (2 experts in health literacy and 2 graphists assessed the support). Both services are experienced in developing information supports to various publics. They have no prior knowledge about decontamination and CBRN. This was perceived of added value for ensuring the clarity of the messages.

Finally, a face-to-face group discussion was also organised with citizens belonging to the Civil Protection Reserve of the province of the Walloon Brabant. None of these citizens participated to the interviews. The constitute a natural group⁵ in the sense that all participants have met before. Choosing natural group is a pragmatic way to reach participants and, in this case, was useful as the objective was to focus on the information material. The participants were not familiar with CBRN or decontamination but have a basic training in crisis management and first aid, provided by the services of the Governor. This was perceived of added-value as they were perceived as able to distance themselves from the potentially anxiety-provoking nature of the topic. The discussion was held on April 10. A total of 16 volunteers (10 men and 7 women, age ranging from 20 to 76 years), accompanied by the coordinator of the reserve participated

⁵ Leask et al.2001. Focus group composition: a comparison between natural and constructed groups. AUSTRALIAN AND NEW ZEALAND JOURNAL OF PUBLIC HEALTH 25 (2), p152-154 <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1753-6405.2001.tb01838.x>

to the discussion. Only one participant had some prior knowledge about decontamination because of his professional background. The moderator briefly introduced the eNOTICE-2 project before guiding the discussion on the information material. As the group was in face-to-face mode, participants were handed a printed copy of the information material. Once the discussion was completed, the moderator provided more detailed explanation about decontamination.

Ethical aspects and privacy

Participants were informed about the objectives of the discussion and gave their consent for the audio recording of the exchanges. Participation was voluntary and no incentive was offered. Refreshments were provided to those participating to the live discussion.

The moderator has some experience related to decontamination and CBRN but is not an expert in these processes. It was not possible for her to answer all the questions raised by the participants.

Analysis

Based on the automatic transcription and on the notes taken during the discussion, a narrative synthesis was drafted and shared with FDDO. Participants to the live discussion also shared their personal notes (n=10).

Limitations

All participants were Belgian-born and all of them – but one – spoke French as mother tongue (one participant was born and raised in Flanders but has lived in Wallonia for years).

2.4.3 Results: general comments

First, those who participated to the interviews were happy to be consulted again. They stressed the importance of providing adapted information, easy to understand when facing a stressful situation. They thank the FDDO for drafting the support and accepting to receive feedback on their work. Participants praised the fact that a specific information document was planned to decrease stress. Participants to the live discussion were also happy to be involved as they acknowledge the need for better informing the population when a crisis occurs.

Comments were shared to improve the support to meet the needs of persons living with disabilities but also all citizens that will undergo a decontamination process. Indeed, as recalled by some participants, during a crisis, first responders (FR) will have to distribute the same information support to all victims. Some participants also pointed that the information support will never replace a proper information of the victims and that the first responders will still need to remain available for questions and direct interactions.

Participants also wanted to stress that this is a complex exercise to find the proper balance between too much information and too few information.

As the victims are likely to be stressed because of the circumstances, participants pointed the importance of having a clear document that won't let place to imagination and too much interpretation.

Participants seemed really interested and had numerous additional questions regarding the process of decontamination. It was not possible to provide answers to all these questions during the discussion. These questions are listed below.

Participants to the live discussion also wondered what will happen to a victim who refuses to undergo decontamination.

Comments related to the form and the process

Landscape format appears more adapted to depict the idea that decontamination is a process

- The reading sense was perceived as confusing
- Some felt they had to read from bottom to top
- Reading from left to right appears easier
- Landscape serves more the temporality
 - Not usual to use a top bottom design to indicate temporality
- It was not clear to all that there were 2 distinct processes (one for people who cannot stand up in a shower and one for people who can stand up in a shower)
- If the 2 processes are kept on the same page, it should always be displayed in the same order: persons with disabilities above / persons without disabilities below (or vice-versa)
- ⇒ **Suggestion:** use a landscape format where action occurs from left to right

Overall, the progression between the different sections is not clear enough

- It is a very good thing to have an overview that there will be 6 steps
- It is a very good thing to have an indication where we are in the process (the yellow dot)
- The current display of the box with the 6 steps, close to the pictogram above, is not clear and gives too much information
- It is not clear why – in the 6-steps schema – the 1 and 2 are in the same box although, in their understanding, the activities do not occur in the same place
- It is suggested to have the 6-steps schema in a horizontal lay out – on the left of the page – on the same level than the pictogram
- The same colour should be used in the pictogram on the top and in the 6-steps schema
- Would it be possible to move from red to green across the 6-step and the pictograms to indicate that the risk is decreasing?
- ⇒ **Suggestions**
 - put the 6-steps schema horizontally from left to right

- distinguishing better the 6 steps – eventually having the pictogram?
- using the same colour in the numbering of the 6-step schema than the colour of the pictogram above OR using red colour when in the steps 1 to 3 then the green colour for the steps 4 to 6 (in both the pictogram above and in the 6 steps scheme)

Some text could be helpful – at least one sentence explaining what is happening

- Not too much
 - Text will prevent interpretation of the pictures
 - It was suggested to rely on the information material in airports where a lot of information is provided in a simple and clear way
 - It can be useful for visual deficient as it can be translated in braille
 - Which size of police and characters will be used?
- ⇒ **Suggestion:** use a short sentence to indicate the main action occurring in the step

There is a lack of contextualization when the reading starts.

- Is it about all CBRN incidents?
- Is it only about nuclear incidents? Several participants identified the radiological symbol and were then confused about the circumstances
- A participant – who was involved in the interview – thought that it was about fires.
- Some participants (who previously participated to an interview) thought that it was aimed for professionals and did not understand that it was aimed at victims
- What happens to the devices that are given to the FR?
 - It is clear – to some participants – that the victims must give their belongings to the FR
 - No convergence of opinions about informing or not that the devices and other personal belongings may be destroyed
 - It was pointed that it is necessary to inform that some devices won't be replaced but others will be replaced directly because it is vital.
 - Some participants asked if there is a decontamination chain of the devices that can be decontaminated (e.g. “normal” glasses, crutches...). Is it something that can happen when they wait during the step 5?

⇒ **Suggestion:** add a short sentence / picture explaining the context on the first page + key word / small sentence at each step (e.g. assembly area, removal of clothes and personal belongings, decontamination shower, dressing, waiting area,)

⇒ **To be clarified:** what happens to personal belongings apart from clothes that can be decontaminated? E.g. wedding ring, glasses, mechanical wheelchair,

Overall, there are lots of wheelchairs, but this is only a part of the population living with disabilities.

- Concerns raised about the invisible disabilities, implying that some people may need help but not because they are in a wheelchair
- It feels not reassuring for those who need help but are not in a wheelchair

⇒ **Suggestion:** add a short sentence “if you need help, you XXX” ?

Comments related to the characters depicted in the different steps

Participants understood that it was aimed at presenting a diverse population, but some questioned why there is no baby or child.

⇒ What will happen to children and babies was a recurring concern for some participants (some of them were parents themselves and were anxious to know if they can stay with their child. A participant also explained that, for adults with intellectual disabilities, it is important to have a parent alongside to prevent refusal).

As the FR are all in a PPI suit, some thought that the same FR will remain with them during the whole process. Besides, as the FR were still in a PPI suit after the shower, some questioned the efficacy of the decontamination: are the FR still wearing it because there is still a risk of contamination?

Some participants were upset that none of the characters had eyes. Some thought that the absence of visage implied that the victims have intellectual disabilities

Attention to the contouring of the characters (e.g. those in PPI) as it is sometimes too wide

Some questioned why one of the characters is pictured in black: they understood that it was a way to highlight the diversity. It was therefore seen as confusing: some participants advised to keep the same character from one picture to another to help explaining that the same person is undergoing the process. The same suggestion was made about the character in a wheelchair.

⇒ **Suggestion:** keep the same personas + the same objects in the different steps

⇒ **To be clarified:** what happens to children?

Additional suggestions

Videos presenting the decontamination process can be a useful complement – making it more “real”

- As more and more people have a smartphone, link to the video can be sent when a CBRN alert is issued via the information network (they mention Be-Alert)

Participants pointed that there is no author of the support, it is not known who produces it and when

⇒ **Suggestion:** add key info on eNOTICE2 / authorship somewhere

The visual support can take the form of an “accordion” so those who wish can open it and directly have an overview of the entire process

- This was mentioned as important for some persons with behaviour-related problems that need to be able to count in the numerical order

- ⇒ **Suggestion:** One side can be the decontamination for persons who do not need help / one side can be the decontamination for persons who do need help (wheelchair, prothesis but also persons with invisible diseases).

2.4.4 Results: detailed feedback per step

Picture 1

This is a key picture that determines how the rest of the information will be processed by the victims.

Participants identified the pictogram as they have seen it earlier in public spaces. But, as a tent was used to illustrate the decontamination area, they wondered “does it mean that decontamination is always in a tent?”

- Some persons believe that it was mostly done in a container unit and that it necessitates a closed environment
- As the tent is above the group of victims, some understood that it means that victims are coming from the tent
- How do the people in the green area arrive to the tent?
- How do people arrive to the green area?

It seems more logical to have first the group of persons then the decontamination zone

- Why is the pictogram green but the step (in the 6-steps schema) is in a red case?

⇒ **Suggestions:**

- to indicate the flow of patients from the gathering area to the tent with an arrow
- place FR closer to the victims to indicate a form of interaction / give some movement to the FR (e.g. arm waving to call the victims)

Picture 2

Several participants perceived that the message is that someone will help you, whoever you are.

For participants, it is important that people understand that the clothes will be cut. It was pointed as positive that it clearly showed in the pictures but other also felt that it may trigger stress.

The pictogram of “cutting the clothes” is clear, but the colour red is misleading

- Some could understand it as “do not cut your clothes” as red is often used to signify something forbidden
- What happens to the people who give their wheelchair? Do they have to stand-up? Is there another wheelchair that will be brought?
- What happens to the babies and the children? Do they stay with their parents?
- Not clear why the arrow points to the FR in suit
 - It was understood as “you have to put the prothesis leg inside the suit”

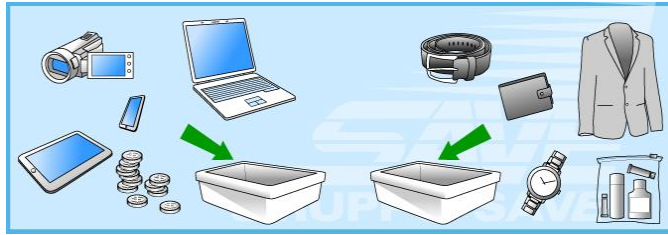
The picture of the leg prothesis was first understood as a distorted wine glass.

As all the personal belongings need to be removed, some suggested to add more pictures.

- ⇒ **To be clarified:** to which extent personal belongings that can be decontaminated will be identified at this stage?

⇒ **Suggestions:**

- Show the transfer from the wheelchair to the stretcher
- Use a picture like the ones used in airport



Picture 3

Several participants asked “Aren’t the victims supposed to be naked for the decontamination shower?”

The blue colour of the pictogram (the pantone used) does not appear as blue but a shade of purple

As there is no FR, some understood it as “you are alone to take the shower when you can stand up”

It was not clear to all that the black short lines in the shower represented water

- It was even perceived as frightening

⇒ **Suggestions:**

- add a FR close to the shower when the victim is standing up (otherwise it feels that the victim is on its own)
- There exist pictograms for persons with intellectual disabilities that indicate the different movements one has to do when showering; it can be useful to put in the shower area

Picture 4

The pictogram above is clear, more than the “towel” on the hanger

It seems – when reading from top to bottom – that “taking a decontamination shower turns you to black and that now you’re able to walk again”

Some did not understand why the person in the suit walks before the victim

- Some interpreted it as the FR will look for the clothes of the victim, but it was not clear enough,
- It seems that the victims receive “loincloths” or towels and not a proper clothing.
- The towel on the beach was understood as a bed with a pillow
- It can be more explicit to have a sort of counter where clean clothes are handled to the persons who can stand up and having a picture of someone helping the person in the wheelchair to dress
 - Add an arrow from the clothes to the person to indicate the action? (“getting dressed in clean clothes”)
 - Add a more explicit picture that a full set of clothes will be provided? E.g. a picture of a jogging?
- As the wheelchair was given in step 2, participants did not understand where the wheelchair came from, if it is the same wheelchair or a clean one.

⇒ **To be clarified:**

- Is it at this stage that the personal belongings or assistive devices are given back?

⇒ **Suggestions:**

- Add an arrow from the clothes to the person to indicate the action (“getting dressed in clean clothes”)
- Add a more explicit picture that a full set of clothes will be provided (e.g. a picture of a jogging handed to the person)

Picture 5 (following the feedback, this picture was removed and does not appear in the final version)

The pictogram with the sandglass is a good pictogram; everybody understands that they must wait

- Some wondered if it was part of the standard decontamination procedure, waiting that the “products” act
- Some asked why there is not that many persons, comforting their hypothesis that it is a “therapeutic” waiting time
- Some thought that it looked like a police station
- How does it come that a person has crutches as it was given in step 2
 - Why the person in wheelchair is no longer there?
 - Does it mean that the FR has provided the person with crutches? Is it crutches belonging to the person or something provided by the Red Cross (for example)

It can be useful to show someone waiting on a stretcher / on a bed to indicate, especially as the persons who previously were in a wheelchair won’t especially receive it back

The action of the FR in PPI is not clear

⇒ **Suggestions:**

- Have a person in wheelchair
- Put some FR in non-PPI suit that “interact” with the victims, e.g. giving a glass of water or taking info with a flipboard

Picture 6

Participants understood that if you are in a wheelchair, you will be helped but it gives the wrong impression about the other persons depicted in the scene.

- The valid person seems “alone” and “lost” (a participant found that this person looked like a zombie).
- It feels – for some – that, if you are not in a wheelchair, you are on your own to manage your return home
- It gives a feeling of “you’re on your own now, manage the situation by yourself, our job is done”

“It seems that people on foot are free to go – even if they don’t seem to know where they have to go – but not the person in wheelchair that seems going to prison” – A participant

- Some suggested to add families or other persons that cheer or welcome the persons that are now decontaminated

As the person has again a wheelchair, does it mean that they receive their wheelchair back?

- As the vehicle looks like an ambulance, some thought that it implied that only those in wheelchairs will be sent to the hospital
- As the leg prosthesis was taken off in step 2, how did the person receive it back? Some were also concerned that the person with a leg prosthesis was “white” in

the shower then “black” at the end: a participant pointed that it gave the feeling that the leg prosthesis was given from one person to another?

- For the valid persons, does it mean that they can use their personal car or is it contaminated too?

It can be nice to have a generic sentence such as “Do not hesitate to call your GP or a health professional if you need more help” to indicate that it is not the end and that the people do not have to remain alone after such an event

- GP / health professionals were suggested as they exist everywhere, and it can more EU friendly

⇒ **Suggestions:**

- Add a generic sentence about where to find support
- Add FR close to the other victims

2.5 Feedback from eNOTICE-2 partners (June 2025)

During the SimEx 3 in Campus Vesta, an adapted version of the information support was presented to the eNOTICE-2 partners to gather additional feedback from a professional perspective.

The main adaptation that was suggested is to enlarge the scheme with the steps so it covers the whole larger of the page and to integrate the pictogram in the scheme.

In brief :

- The 6 steps schema need to be kept horizontally
- It was suggested to add the icons in each step with highlighting the step where the action takes place (I did it for the shower - easiest to reproduce) - e.g. making it bigger
- It was suggested to keep the color and number of each pictogram + the indications "contaminated zone" / "non-contaminated zone" as you have done in the version 2
- Each picture will have then one banner at the top including the steps and different actions + the detailed action above
- when different actions take place (shower with / without assistance) it is better to avoid a diagonal line for separating but the line can go to the bottom of the page

2.6 Feedback from persons living with disabilities, professionals of the handicap sector and first responders (November 2025)

2.6.1 Objectives

The aim was to provide second feedback on the information material developed by the FDDO to ensure that it is understandable to everyone and adapted to the specific needs of people with disabilities during decontamination. In this second round of feedback with people living with disabilities, the focus was on the form and on the strategies to disseminate the information support.

2.6.2 Methods

To ensure a wider participation, an online survey was chosen over group discussions or interviews. The aim was to collect feedback from people living with disabilities, their relatives, professionals of the handicap sector and first responders. This consultation did not aim at reaching a statistical representativity but at capturing the heterogeneity of the population. This is why the survey was developed in three languages: Dutch, English and French.

The questionnaire included 7 parts: sociodemographic information and knowledge about CBRN / decontamination; the 5 steps of the decontamination process; and dissemination of the support.

For each step of the decontamination process, respondents were presented with the Figure and an accompanying text. They were asked to assess the clarity of the content and of the visual support.

Questionnaires were launched on November 14, 2025, until December 8, 2025. Participants to the previous feedback round and to the interviews were directly invited to participate. The questionnaires were also shared on social networks (Facebook and LinkedIn).

Participants were informed about the objectives of the survey and about the privacy policy. No ethical approval was required. Participation was anonymous.

2.6.3 Results

A total of 62 participants opened the questionnaire: among these participants, 42 left an incomplete response and 20 respondents fully completed the online survey.

The French version was accessed by 56 persons, the Dutch version by 4 persons and the English version by 2 persons. Among the 20 fully completed questionnaires, 19 were completed in the French version and 1 in the Dutch version. Four participants gave their opinion about the first version of the information support.

One participant praised the survey by letting the following comment at the end of the survey:

Que c'est une excellente idée d'enfin penser aux personnes en situation de handicap lors de tel événement.

2.6.3.1 Participants profile

Six participants considered themselves as people living with disabilities, 3 as professional or volunteer working in the handicap sector, 3 as professional or volunteer working in civil security and 4 as relatives of people living with disabilities (2 parents of children under 18 years old, 1 parent whose child is more than 18 years old, 1 person caring for their parent). There was no participant belonging to an emergency medical service. All participants lived in Belgium.

The questionnaire was completed by 15 women and 4 men, one participated did not want to disclose their gender. Ten participants were aged between 41 and 60 years old. In our previous study about the needs, we did not find differences according to gender and age.

Participants reported the type of disabilities they face / the people they live or work with face. Figure 1 presents the distribution of the disabilities and impairments among the participants. Participants were allowed to report more than one problem as disabilities are often cumulative.

Chronic diseases leading to physical or sensorial impairments and chronic pain were the most frequent problem (n=7) followed by intellectual disabilities (n=6).

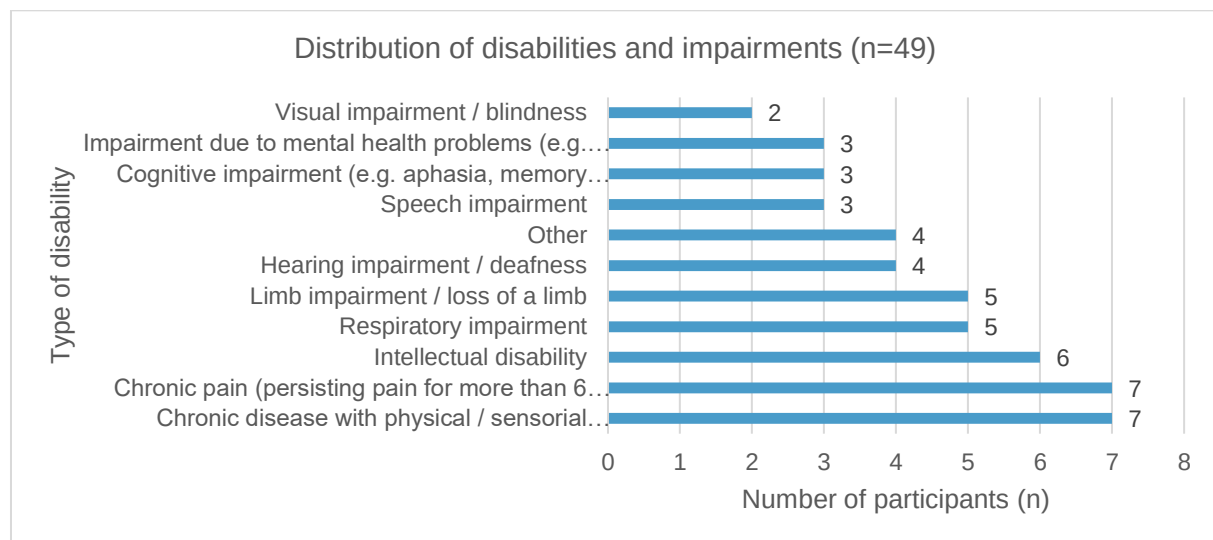


Figure 1. Distribution of the disabilities and impairments

2.6.3.2 Knowledge about CBRN, preparedness and decontamination

Overall, participants had poor previous knowledge about decontamination but were more familiar about what they can do to prepare themselves in case of collective emergencies. Figure 2 presents the self-reported knowledge about preparedness, CBRN and decontamination of participants (n=20).

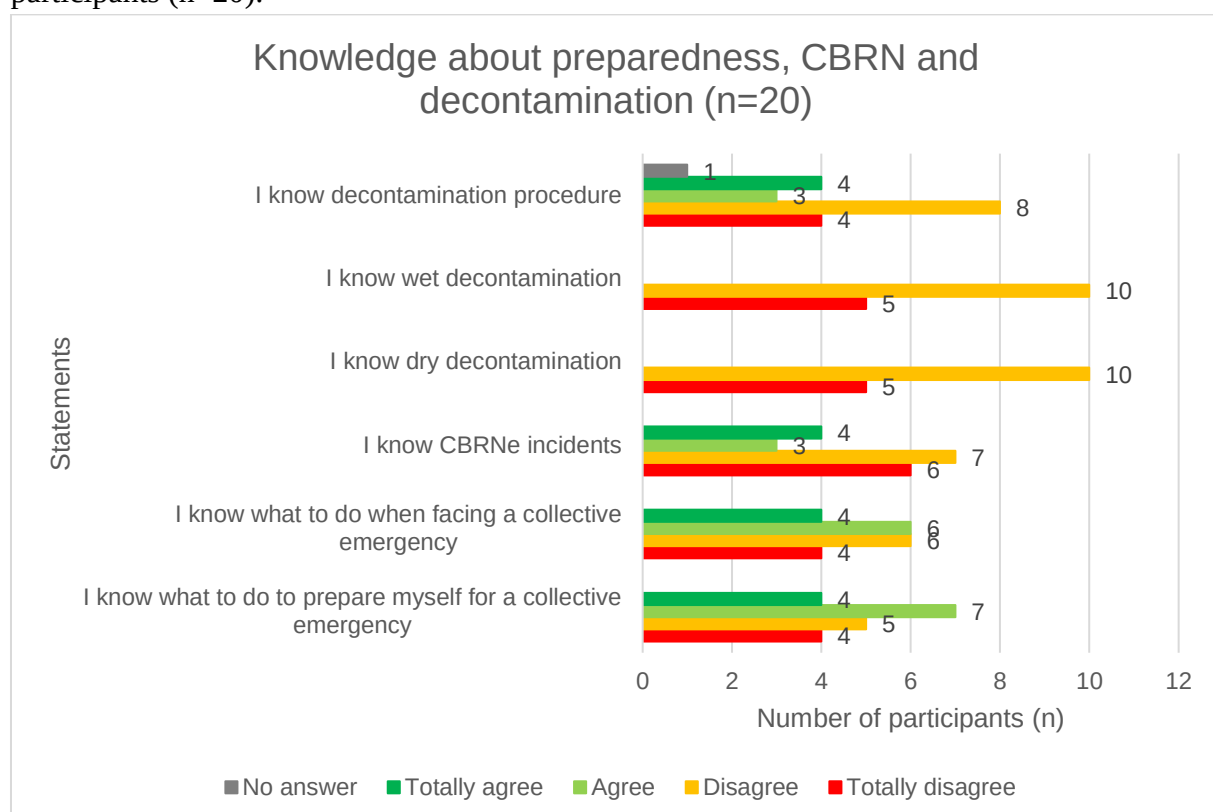


Figure 2. Self-reported knowledge about preparedness, CBRN and decontamination, online survey, 2025

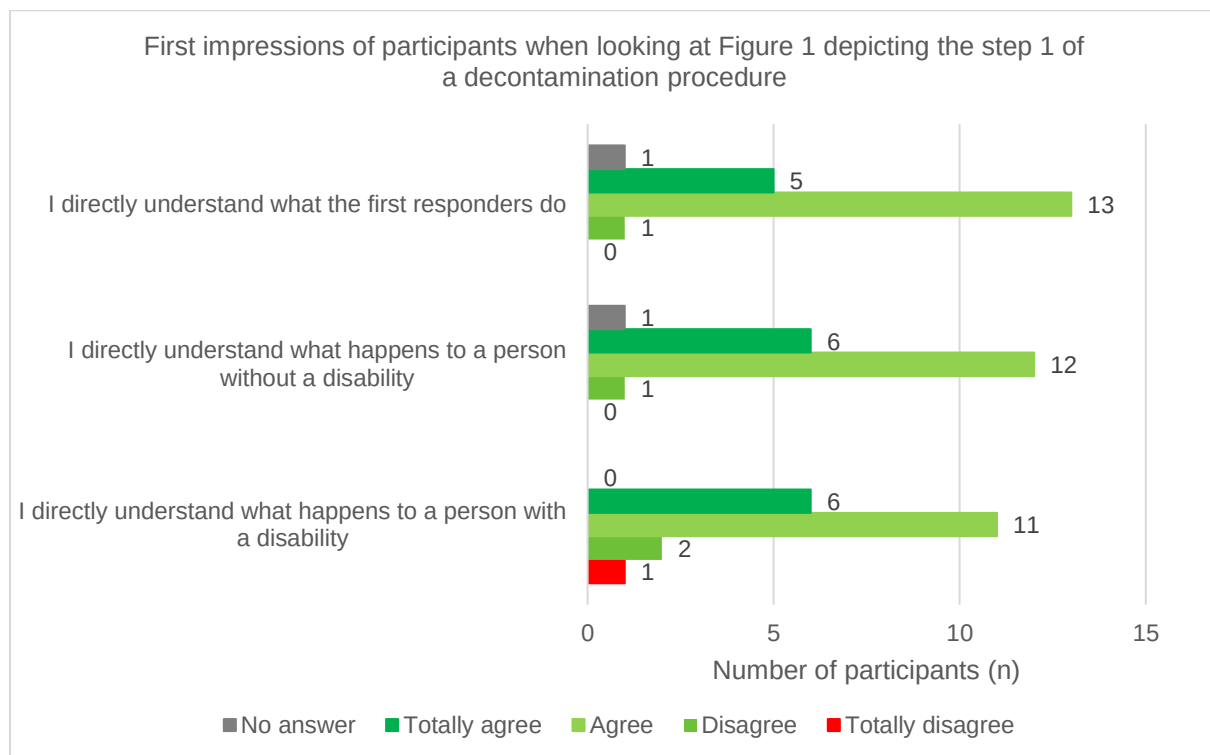
When presented to the definition of a CBRN incident, 10 participants correctly identified the correct answer while 8 participants limited CBRN incident to accidental release only. Two participants did not reply. Fifteen participants correctly identified the definition of a decontamination process.

2.6.3.3 Initial impressions of participants when looking at the figures

Feedback on Step 1 – Gathering of the victims

Overall participants directly understood what happened to victims, with or without disabilities and the actions taken by the first responders.

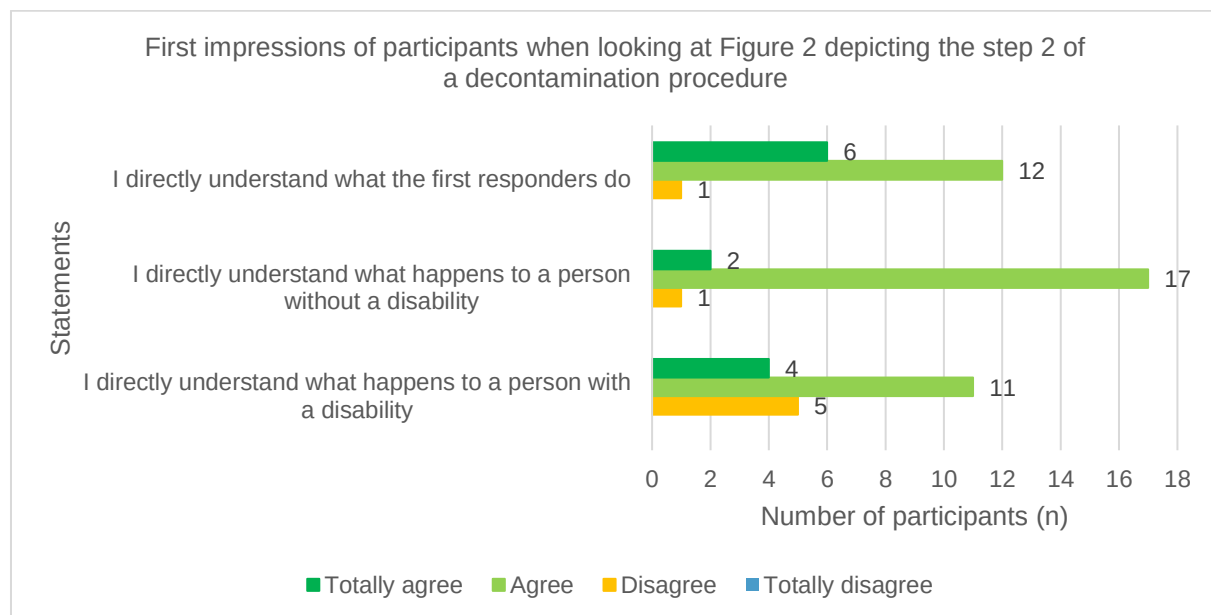
When asked to share the first key word that jumped to mind, participants shared the following words: “waiting”, “gathering”, “triage”, “management”, “decontamination station”, “decontamination”, “prudence”, “emergency”. This diversity of key words can support the need for adding one to two keywords to ensure that readers understand the step correctly.



Feedback on Step 2 – Removing clothes and giving personal belongings

Overall participants directly understood what happened to victims, with or without disabilities and the actions taken by the first responders but there were more participants who did not understand what happens to people with disabilities, leaving room for more uncertainties about the adequacy of the message displayed.

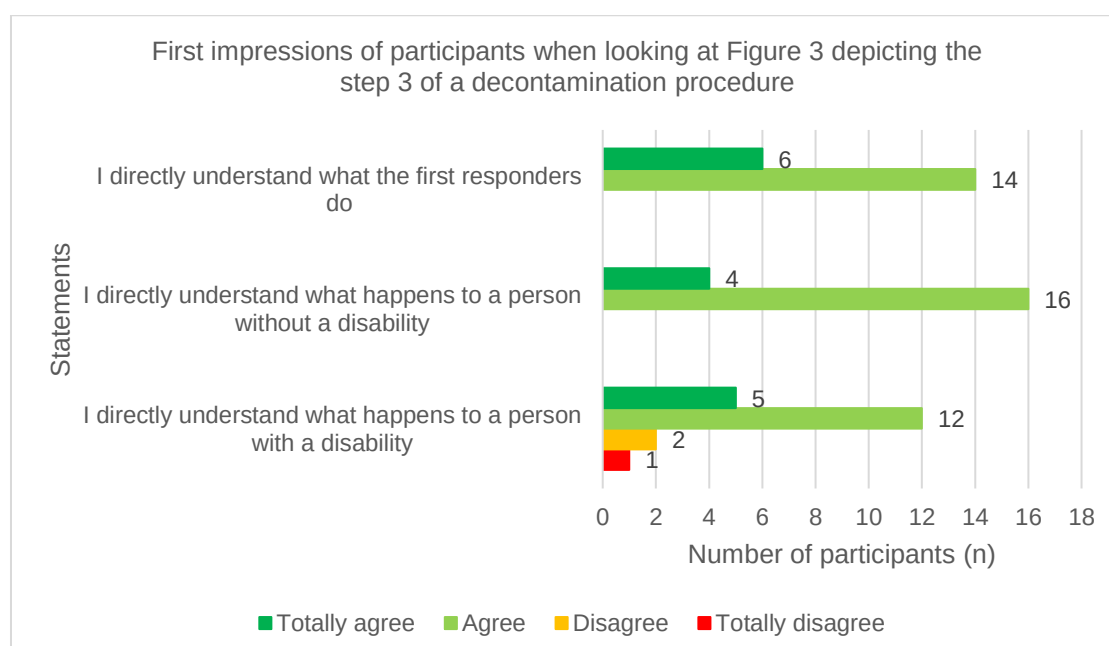
When asked to share the first key word that jumped to mind, participants shared the following words: “separation”, “removal”, “undressing”, “disposal”, “preparation”, “naked”. Again, this diversity reflects the multiple interpretations made by participants.



Feedback on Step 3 – Washing the victims

Overall participants directly understood what happened to victims, with or without disabilities and the actions taken by the first responders. As this step is a key step in the decontamination process, one should have expected that all participants directly understood this figure.

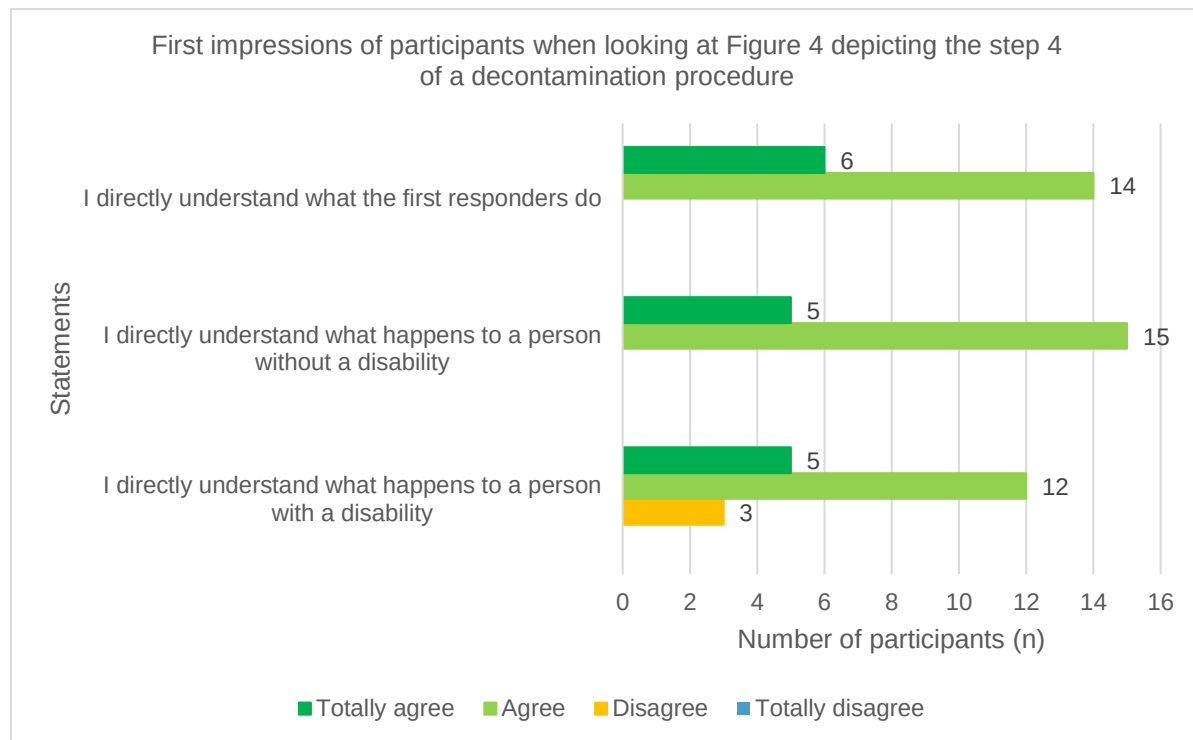
When asked to share the first key word that jumped to mind, participants shared the following words: “shower”, “decontamination”, “washing”, “cleaning”, “treatment”.



Feedback on Step 4 – Providing clean clothes to the victims

Overall participants directly understood what happened to victims, with or without disabilities and the actions taken by the first responders.

When asked to share the first key word that jumped to mind, participants shared the following words: “dressing”, “drying”. This is the step where participants seemed to better identify the action.

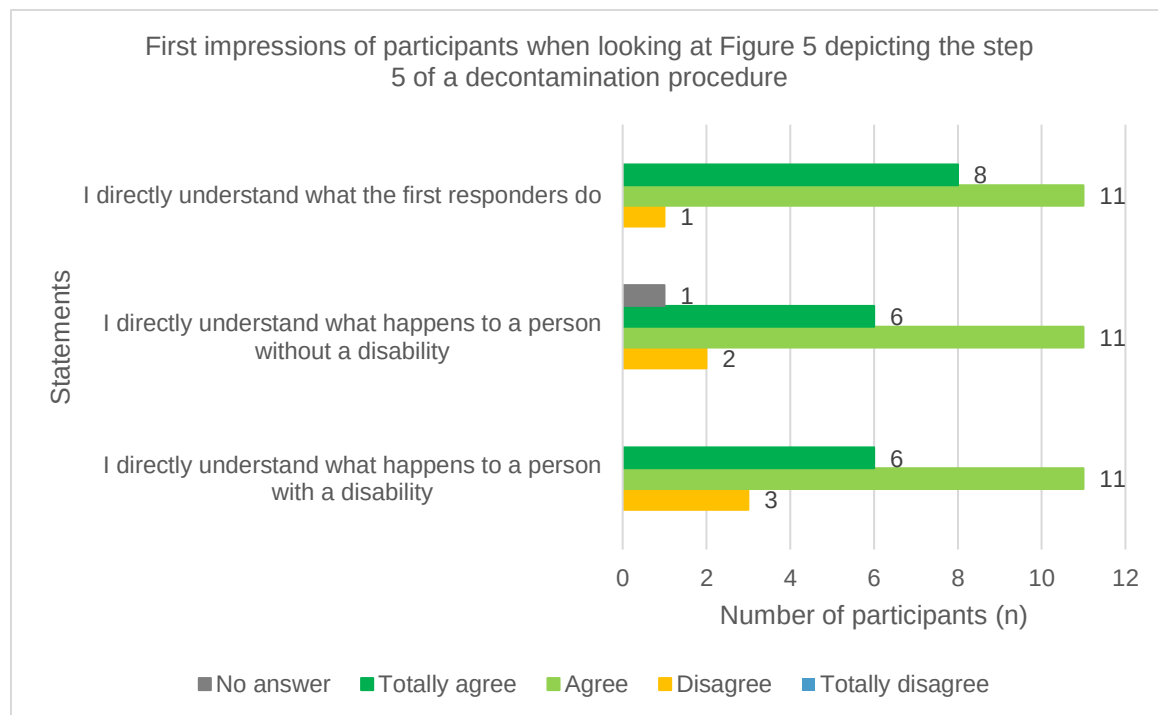


Feedback on Step 5 – Evacuating the victims

Overall participants directly understood what happened to victims, with or without disabilities and the actions taken by the first responders.

Surprisingly, this last step was the less understood by the participants (although participants were overall in agreement about the clarity of the content at first sight).

When asked to share the first key word that jumped to mind, participants shared the following words: “evacuation”, “return”, “transportation”, “departure”, “treatment”, “secure”, “end”.



2.6.3.4 Evaluation of the clarity of the messages displayed by the figures

Table 3 presents the evaluation of the clarity of the messages displayed by the figures illustrating the different steps of a decontamination process. Overall, participants reported that the figures were clear or totally clear. For each picture, the less clear messages concerned being in a contaminated / decontaminated zone and in which step the action is taking place.

	Clarity of the messages displayed by the figures				
	Totally unclear	Unclear	Clear	Totally clear	No answer
FIGURE 1					
The persons are gathered in a predefined place before being decontaminated	0	0	8	12	0
All persons that need decontamination are gathered]	0	4	10	4	2
The first responders are waiting at the entrance of the decontamination tent.	1	4	9	5	1
The first responders wear protective equipment because of the contamination.	0	1	9	10	0
There are 5 steps in a decontamination procedure.	3	4	6	7	0
This is the first step of a decontamination procedure.	1	4	11	4	0
The action takes place in a contaminated zone.	1	6	6	5	2

FIGURE 2					
All the contaminated persons give their personal belongings to first responders.	0	1	14	5	0
Assistive devices are given to the first responders.	0	1	15	4	0
The first responders remove the clothes of the contaminated persons.	0	6	10	4	0
This is the second step of a decontamination procedure.	1	3	9	7	0

The action takes place in a contaminated zone.	2	7	7	3	1
FIGURE 3					
The contaminated person takes a shower under the surveillance of a first responder.	0	0	14	6	0
There are always first responders present.	0	1	13	6	0
The first responders wash persons who cannot do it by themselves.	0	2	13	5	0
This is the third step of a decontamination procedure.	0	1	13	6	0
The action takes place in a contaminated zone.	1	5	10	3	1
FIGURE 4					
The decontaminated person receives clean clothes.	1	0	13	6	0
The first responders help persons with limitations to dress with clean clothes.	0	2	14	4	0
This is the fourth step of a decontamination procedure.	0	1	12	7	0
The action takes place in a decontaminated zone.	0	4	11	4	1
FIGURE 5					
The first responders evacuate decontaminated persons.	0	3	11	5	1
The first responders provide specific assistance to persons living with disabilities.	0	2	12	5	1
This is the fifth and final step of a decontamination procedure.	0	2	11	6	1
The first responders wear their usual equipment.	0	3	11	5	1
The action takes place in a decontaminated zone.	0	5	10	4	1

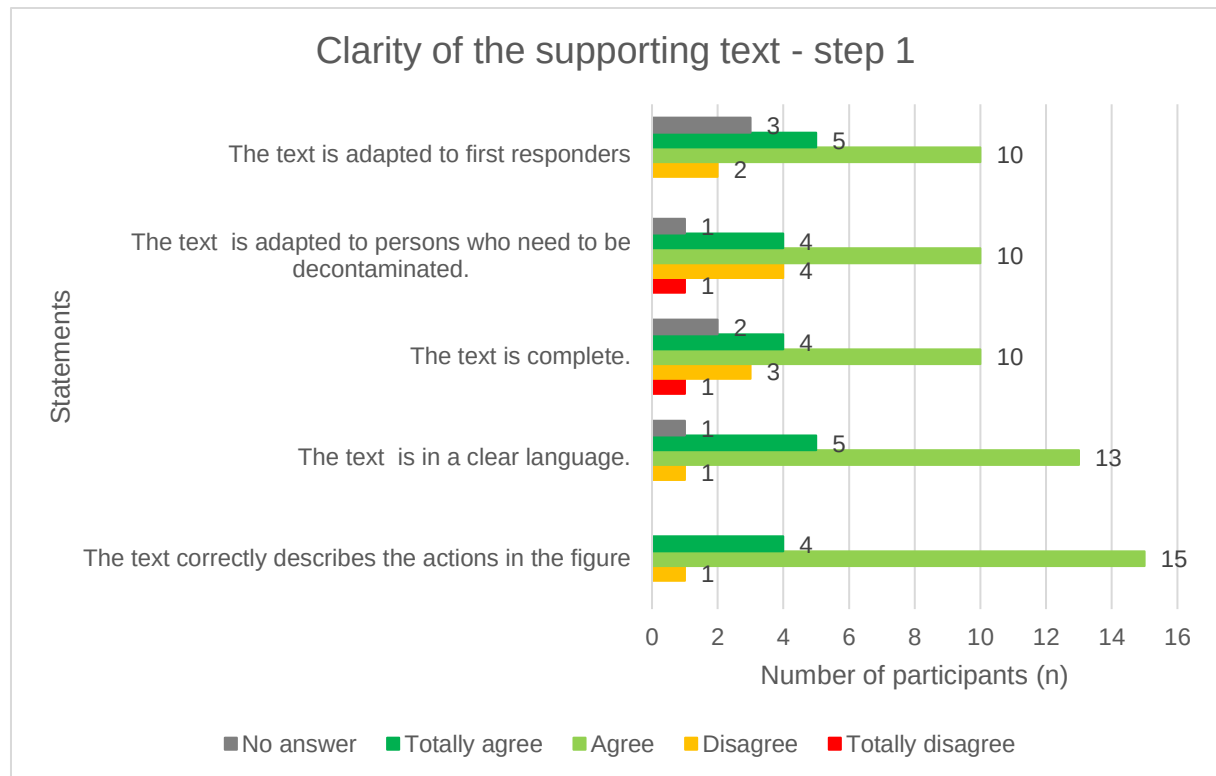
Table 3. Evaluation of the clarity of the messages displayed by the figures by participants to the online survey, 2025

2.6.3.5 Evaluation of the clarity of the supporting text accompanying each figure

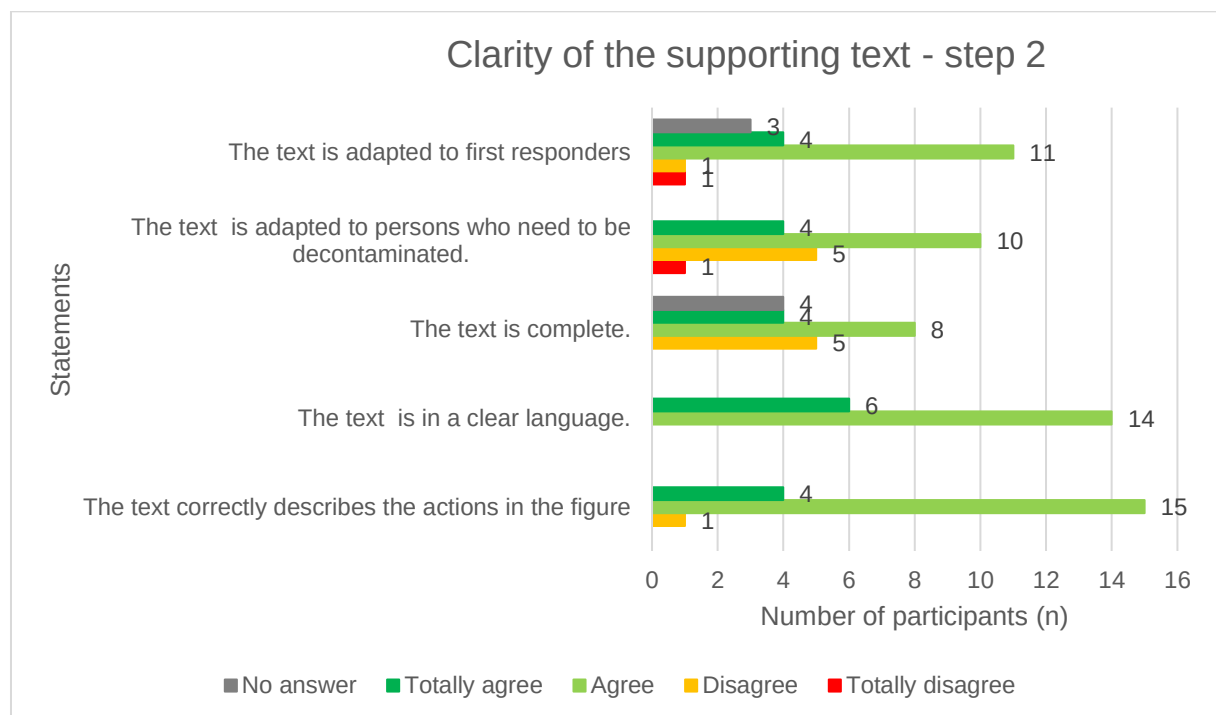
Overall participants found that the supporting text correctly described the actions, was in a clear language, complete and adapted to both first responders and people who need a decontamination.

Participants were invited to share additional comments to improve the text but none of the comments were found accurate enough to modify the text. It was therefore suggested to ask a specialist in easy-to-read-and-understand to review the supporting text.

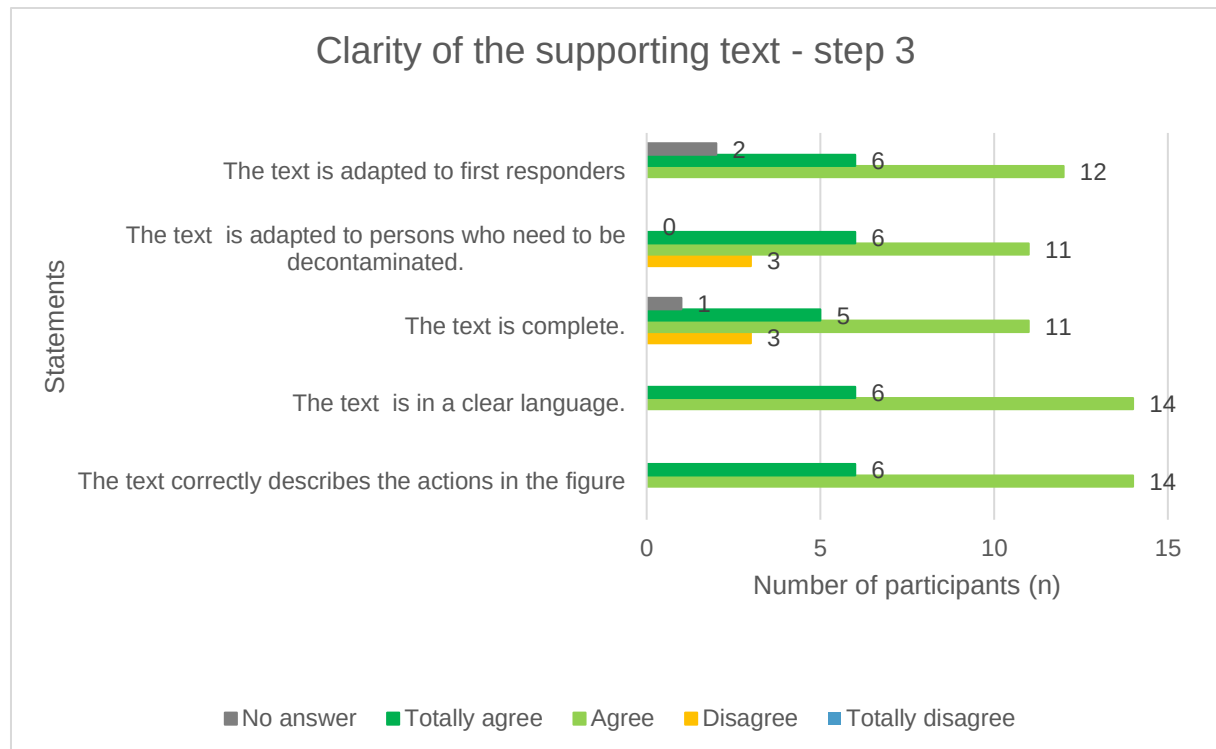
Step 1



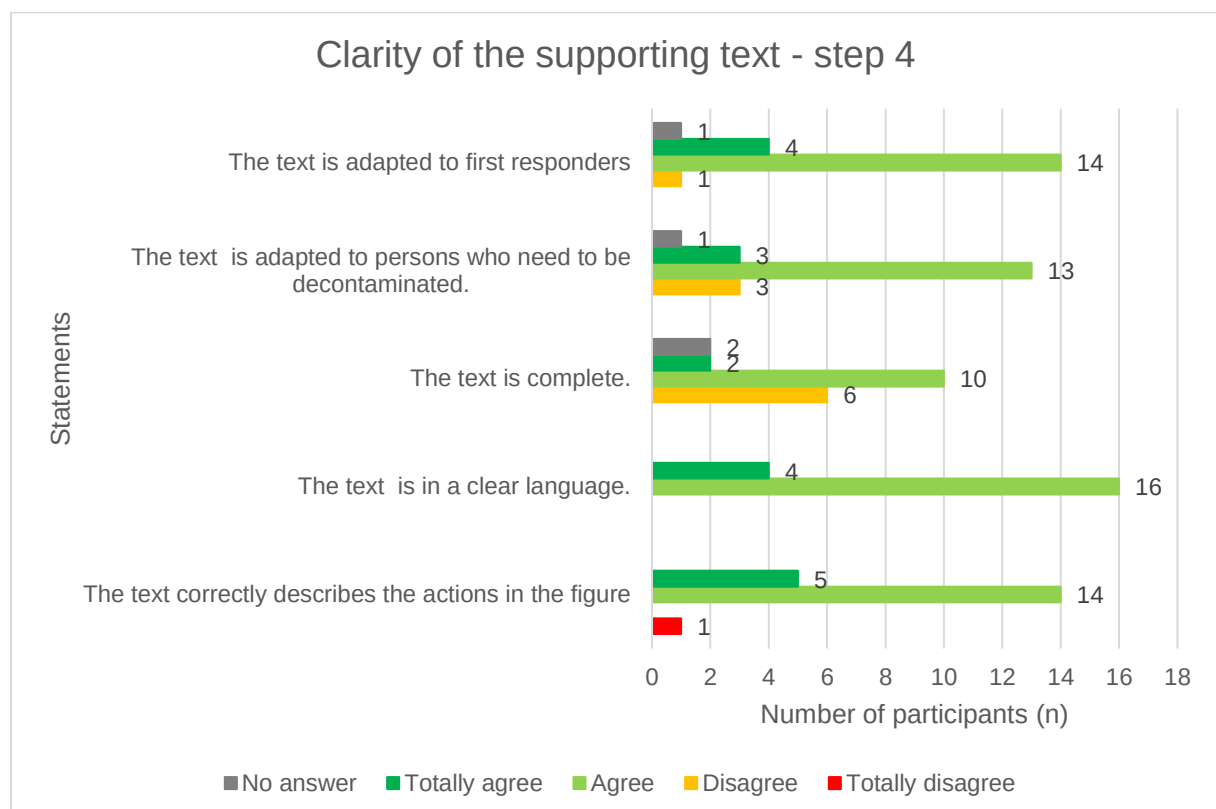
Step 2



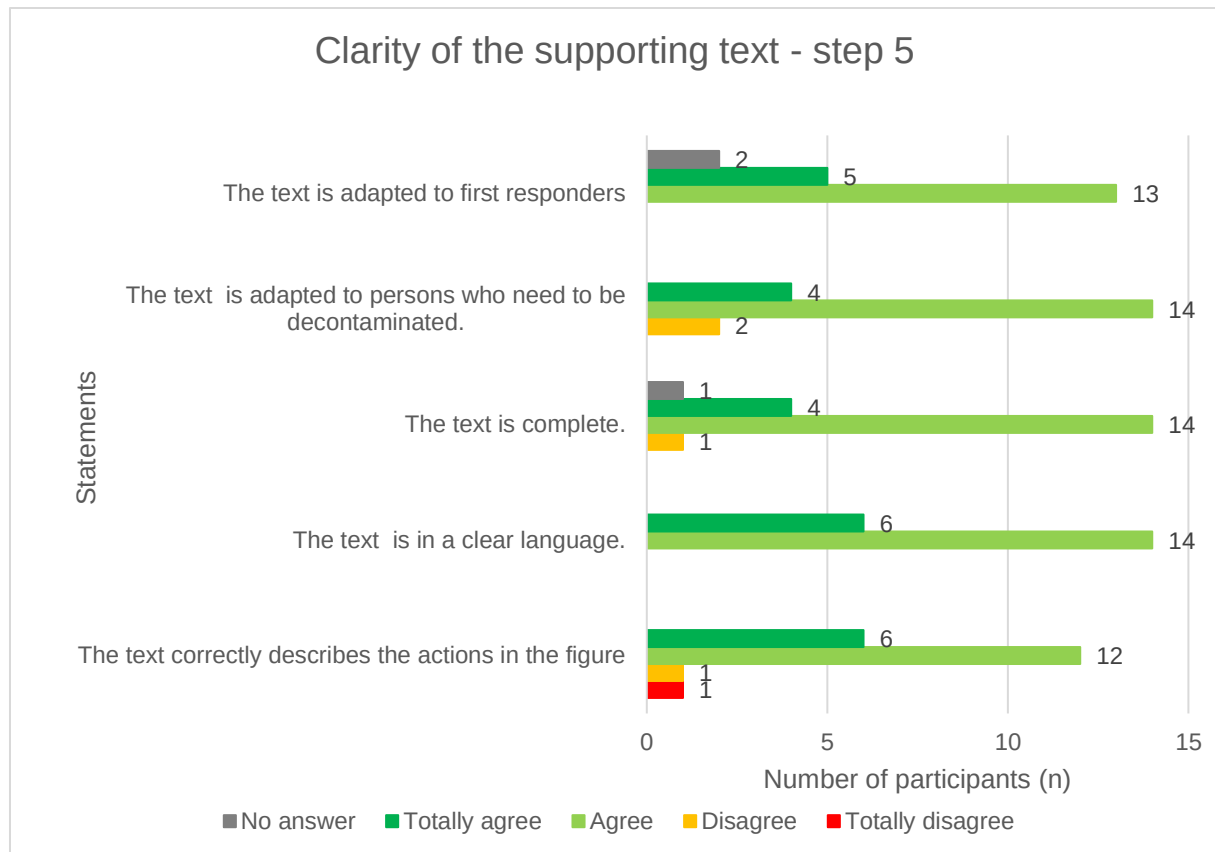
Step 3



Step 4



Step 5



2.6.3.6 Dissemination strategies

Overall participants agreed with the suggested dissemination channels (Figure 3). Using the information support as part of a training for first responders was the dissemination strategy with the highest agreement, followed by using it during an incident (directly on scene or via national alert system) or as part of general information for people living in areas with high risks of CBRN incident. Some participants therefore commented that giving too much information in advance can trigger anxiety and that the information support alone is not sufficient to help people to prepare themselves.

Local municipal associations can also play a role in disseminating such information support.

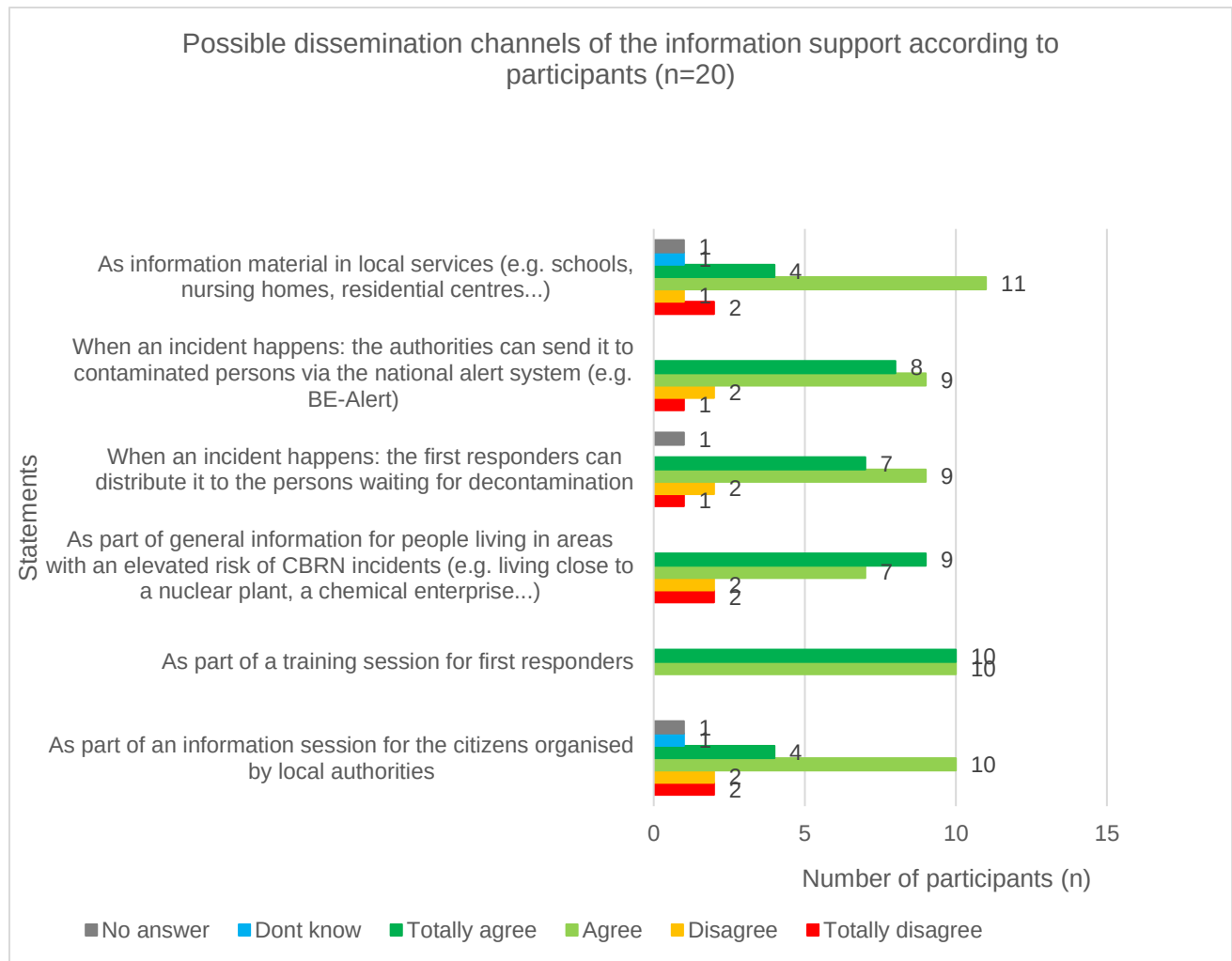


Figure 3. Degree of agreement of participants regarding the dissemination channels for the information support

Figure 4 presents the agreement of the participants regarding the potential use of the information support. It is worth noting that 11 participants did not agree with the distribution of the booklet to all citizens: as said above, this is seen as not useful and may increase the stress and the anxiety.

Participants were more in agreement of using the information support during incidents as a booklet for victims or as posters to indicate the different steps.

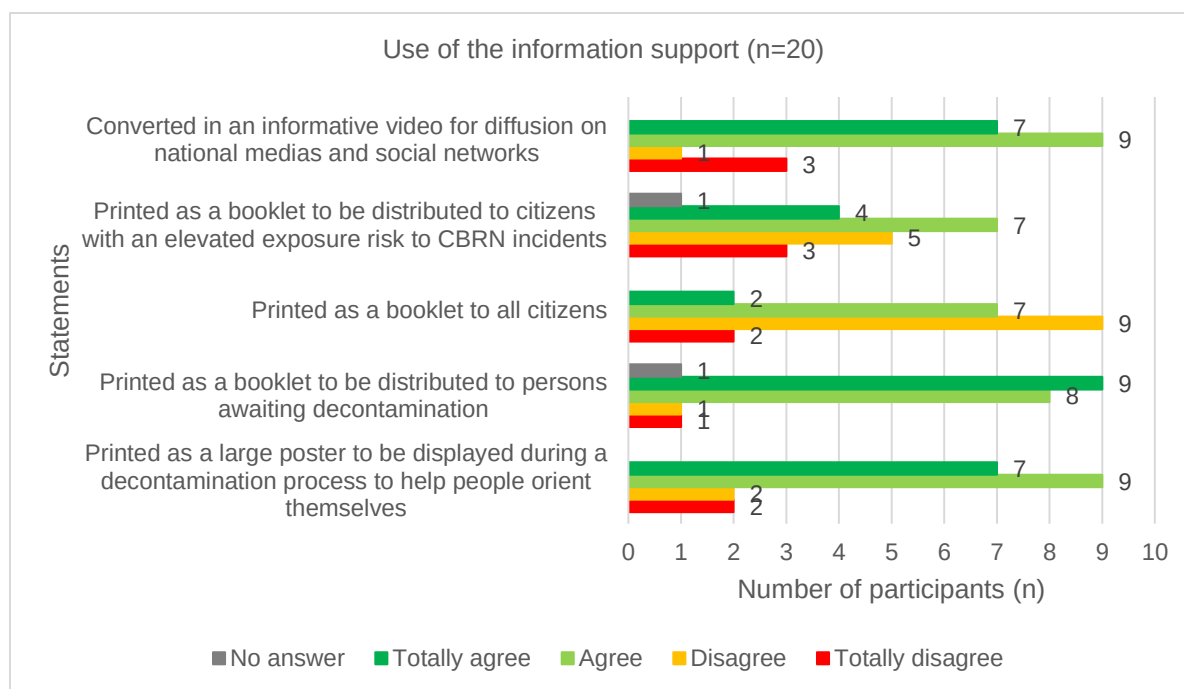


Figure 4. Agreement of the participants regarding the potential use of the information support

2.6.4 Discussion and recommendations

Based on this final consultation, one can conclude that, in its current state, the information support is likely to improve the information of people awaiting decontamination. However, as this is based on the opinions of a limited sample of participants, it is advised to further assess the adequacy of the content. Despite our efforts, the survey was poorly disseminated, and the final sample did not reflect the diversity of the European citizens living with disabilities, their relatives and professionals caring for them. Specifically, it is needed to develop an easy-to-read-and-understand version of this support, that can be understood by any person (not only people living with intellectual disabilities but also to any citizen or professional). A Braille version and a version adapted to those with visual impairments are also needed.

Contacts are currently ongoing with the European Disability Forum to further discuss these issues.

Additionally, there is a need to find the proper balance between giving proper information and preventing unnecessary anxiety. Further studies should investigate this difficult balance to find. During the consultation process, additional concerns were raised by participants that can deserve further investigation: how to manage decontamination process with children and babies, are the specific needs for pregnant women or breastfeeding mothers.

3 Dissemination and communication of eNOTICE-2 results

According to the dissemination and communication plan presented in D6.1, the consortium has followed the steps and ensured promotion of the project results for the benefit of the CBRN network of training centers, the CP and DRM community. eNOTICE-2 reached out to CBRN, security and crisis management stakeholders at the local, national and European to increase their involvement in the network and their willingness to play a key role in innovation through networking and training centers visibility. In particular, it was important to make stakeholders aware of the project results, achieved according to the project objectives, as shown in Table 4:

Project Specific Objectives (SO)	Results
SO-1: Specific guidelines for decontamination	• Pre-normative guidelines for on-site decontamination of sensitive equipment and assistive devices used by people with disabilities (WP5) • Physical and psychological requirements for inclusive CBRN response (WP5 and WP6)
SO-2: Select and review four courses dealing with the management of CBRN risks	• Selection and review of CBRN R&D&I priority topics in 8 main focus areas: CBRN, HAZMAT, cross-border crises, rapid threat detection, operational aspects, decontamination, protection, and emerging methods and threats, inclusion of the priority topics in the training courses (WP1)
SO-3: CBRN-centred digital library of open-access resources	• In total 104 documents uploaded in the Knowledge Library, incl. ref docs and publications, books, manuals, guidelines, SOPs, training materials, case studies, best practices and lessons learnt, national policies and plans, legal docs (WP2)
SO-4: Safety/security data sheet (SDS	• Methodology for producing SDS = AdInoS agreed upon by partners • 3 AdInoS produced on B threats: Mpox, Ricin, Anthrax (WP3)
SO-5: Joint CBRN activities and trainings	• 4 SimEx in the form of TTX: in Germany, Czech Republic, Belgium and Italy (WP4)
SO-6: Assess new CBRN technologies	• Deployment of immersive VR/XR training modules to enhance preparedness to CBRN incidents (WP4)

Table 4. eNOTICE-2 Specific Objectives and Results

3.1 Implemented dissemination and communication activities

The eNOTICE-2 project focused on various activities to maximise awareness of its outcomes and the European network of CBRN training centers. This process included three types of dissemination via the corresponding communication channels:

- **Informing on, explanation and promotion of the project results**, presented in Table 4 above, reaching out to the relevant CP and DRM stakeholders.

- **Promotion of the project and its web space on the UCPKN platform** to the possible users, CP and DRM community and all CBRN stakeholders

- **Promotion of the capacity of CBRN training centres (TC)**, testing and demonstration sites to all stakeholders

The initiative to promote excellence, leverage results, and share knowledge generated during the project engaged all consortium partners and included various activities designed to maximize awareness of the European CBRN Community. Each eNOTICE-2 partner shared the project findings and outcomes through their respective networks, contacts, and channels.

3.1.1 Project webpage at the UCPKN platform

The eNOTICE-2 project webpage was launched at UCPKN platform at the address <https://civil-protection-knowledge-network.europa.eu/projects/enotice-2> immediately at the start of the project, it serves as the main platform of dissemination of the project activities and results to the external audience. The webpage provides relevant stakeholders, including training centers, practitioners, CBRN technology suppliers, decision-makers, and regulators, with the latest updates on the eNOTICE-2 project and the broader network. Information regarding the project's concept, methodology, events, and very importantly – access to the results and publications in the KN Library – are accessible and available from the webpage.

3.1.2 Publications

The project academic partners – UCLouvain, UNITOV, METU – proceeded with publication of the project findings in peer-reviewed scientific journals, such as:

- International journal of Environmental Research and Public Health
<https://www.mdpi.com/journal/ijerph>
- Environment Systems and Decisions - <https://link.springer.com/journal/10669>
- International Journal of Safety and Security Engineering -
<https://www.iieta.org/Journals/IJSSE>
- Frontiers in Public Health - <https://www.frontiersin.org/journals/public-health>
- Journal of Strategic Innovation and Sustainability
<https://articlegateway.com/index.php/JSIS/index>
- Biosensors journal, <https://www.mdpi.com/journal/biosensors>
- Frontiers in Disaster and Emergency Medicine
https://www.frontiersin.org/journals/disaster-and-emergency-medicine?gad_source=1&gad_campaignid=23187344532&gbraid=0AAAAAC_sJ7nNiODfxwiprCWm5lWSrx9el&gclid=Cj0KCQiAubrJBhCbARIsAHIdxD_q6hJZwd4zYa06B5ILlpjzQWxPDCsGDC55R_kjmr6ACba0k9siCVMaAr4_EALw_wcB
- BMC Research Notes <https://link.springer.com/journal/13104>

while both academic and other partners – FDDO, VESTA, JCBRND COE, SAFE, WMP – published briefs and white papers in their corresponding professional journals meant for the practitioners audience in their professional network, such as, for example:

- CBRNe World magazine <https://cbrneworld.com/magazine>
- Counter Terrorism Preparedness Network (CTPN) <https://www.london.gov.uk/programmes-strategies/fire-and-city-resilience/counter-terrorism-preparedness-network>

As part of WP2 - Development of the library of CBRN resources, the consortium contributed to the UCP Knowledge Library, where all the sent publications are described in detail in D2.2 - CBRN-centred digital library implementation. In total 104 documents have been uploaded in the Knowledge Library, including reference documents and publications, books, manuals, guidelines, SOPs, training materials, case studies, best practices and lessons learnt, national policies and plans, legal documents – produced during the lifetime of the project, and just recently before.

3.1.3 eNOTICE-2 events

The Consortium has organised dedicated eNOTICE-2 events to strengthen the community, to practically show, use and promote the training facilities included in the network and to build and raise awareness of the project especially in view of increasing the involvement of the training professionals, practitioners and technology suppliers in the project activities. The following eNOTICE-2 events have been implemented:

- **Joint activities and workshops:** 4 activities Simulation Exercises (SimEx) have been implemented during the project. 3 of the SimEx were organized in the form of tabletop exercises (TTX), and 1 was a training course, incorporating the eNOTICE-2 lecture in the training session. Every SimEx invited previously identified interested stakeholders to participate, as active participants or observers. Workshops dedicated to various aspects of the project development (AdInoS development focus groups, industrial solutions and research methods of decontamination, training courses, VR/AR training) were organized side-by-side with the SimEx, and the workshops participants were the invited stakeholders.

eNOTICE-2 deliverable D4.1 – presents the report and describes all the details about the preparation, organisation, participants and results of 3 SimEx – in Dortmund (Germany) hosted by FDDO, Vyškov (Czech Republic) hosted by JCBRND COE and Ranst (Belgium) hosted by VESTA.

The **Final event - SimEx 4** - was hosted by Fondazione SAFE, organised with the support of UCLouvain, and with participation of all consortium partners. The objective of the TTX was to bring forward the key results and lessons learned and identified in the previous three SimEx implemented throughout the project lifetime, as well as to put into practice the tools developed in the eNOTICE-2 project, including, but not limited to, the decontamination guidelines produced in WP5 and the Safety Data Sheet (SDS) – Additional Information On Scene (AdInOS) developed in WP3. The focus of the final TTX scenario was put on the procedures

for effective decontamination following an indoor B incident – deliberate attack and spread of a B agent in a public space. The response involved decontamination of vulnerable groups of the population, especially individuals with disabilities and their assistive devices (including electronic components and/or made of sensitive materials). Moreover, another key element of the TTX was the cross-border element of the scenario, therefore foreseeing the participation of First Responders (FRs) from different countries in order to test and improve the coordination capacity in response to a large CBRN event.

- **Final Conference:** The final project conference took place on 27th November 2025, at Borgo Rocca Sveva in Soave, bringing together representatives from EU institutions, first responder organisations, research institutes, industry stakeholders and partners from multiple EU-funded initiatives. Merged with the activities of the fourth and final SimEx, the event provided a comprehensive platform to present, discuss and consolidate the results achieved throughout the project's lifecycle. Its primary purpose was to disseminate the project outcomes, foster dialogue across sectors, and explore opportunities for sustainability and future cooperation within the wider CBRN preparedness community.

During the conference, speakers from eNOTICE-2 consortium highlighted the unique contribution of the project in addressing emerging operational challenges, particularly the decontamination of assistive devices used by people with disabilities. This topic generated a great interest, as participants emphasised the growing complexity of such devices, which are increasingly customised, technologically advanced, and made from materials that are vulnerable to usual decontamination procedures. The presentations emphasised that existing protocols are often inadequate and can cause irreversible damage, highlighting the need for updated guidelines and training approaches that enable operators to handle these devices safely and effectively. Building on this premise, the discussions also addressed the results of interviews conducted with people with disabilities and their representatives. The diversity of the sample, which included people with mobility, sensory, cognitive, or chronic health-related disabilities, illustrated the wide range of needs and vulnerabilities to be considered in CBRN emergency management.

The conference also saw the participation of representatives from DG ECHO rescEU and other EU-funded projects. The Roundtable discussion on the topic “Operational use of innovations, training to first responders, and Joint Activities in the CBRN TC Network – outcomes, challenges, and future” was moderated by UCLouvain and involved speakers representing projects eNOVATION, TeamUP, CBRNe4Rail, DIREKTION, IMPRESS, GUARDIANS, MOBVEC, P106 and others, who contributed to discussions on the CBRN training results and operational challenges, bringing innovations to first responders, synergies between programs and the sustainability of results beyond the conclusion of the project.

Updates on CBRN capacity development in several Member States, including Italy, Germany, Finland, and Croatia, provided an operational overview of how European tools and guidelines can support coordinated response mechanisms. Particular attention was paid to the evolving role of immersive technologies in CBRN preparedness, notably VR and AR solutions, recognised for their potential to support standardised and highly realistic training environments.

Overall, the Final Conference represented both the culmination of the work carried out within eNOTICE-2 and a strategic forum for future planning. By facilitating dialogue between practitioners, researchers, and policymakers, the event strengthened the link between training,

innovation, and operational preparedness. It also reaffirmed the centrality of inclusivity, and technological advancement in future CBRN preparedness efforts, ensuring that the results of eNOTICE-2 will continue to support the resilience of European emergency response systems for years to come.

The detailed report on the SimEx 4 – project Final event – consisting of the TTX and the Final conference – is presented in D4.2.

	Date	Hosting partner	Location	Type of activity
1	April 19-20, 2024	FDDO	Dortmund, DE	SimEx 1 - table-top and field exercise. Participants – FDDO first responders, and eNOTICE-2 partners. Workshop with decontamination technology developers. Participating project – Horizon Europe TeamUP
2	November 25 - 29, 2024 and June 9 – 13, 2025	JCBRND COE	Vyškov, CZ	SimEx 2 – NATO CBRN Consequences Management Course, with eNOTICE-2 training session. Participant – NATO personnel and civilian EU participants. Invited project – Horizon Europe eNOVATION
3	June 5 – 7, 2025	VESTA	Ranst, BE	SimEx 3 – table-top exercise. Participants – Belgian top crisis management and civil protection stakeholders. Workshop on AdInOS creation, and VR/XR training
4	November 26 – 27, 2025	SAFE	Soave, IT	SimEx 4 - final event. TTX and Final conference. Participants – multiple first responders, crisis managers and training professionals from different EU countries, eNOTICE-2 consortium. Participating project – DG ECHO rescEU. Projects invited and participating in the Final conference – several Horizon Europe projects.

Table 5. eNOTICE-2 project events

3.1.4 Participation in external events

The eNOTICE-2 Consortium presented the project status and results at selected major events like the meetings of CERIS. After the previous report of D6.1, i.e. from Month 8 to Month 24, eNOTICE-2 was presented at the following events (including but not limited to):

- 8 – 10 October, 2024 – CERIS Disaster Research Days, Vienna, Austria. Invited presentation and panel discussion: Exploring the Intersection of Public Health and Disaster Management. Speaker – UCLouvain, participant – JCBRND COE

- 11 - 13 November, 2024 - IAEA Zoonotic Disease Integrated Action – ZODIAC, Regional Meeting on ZODIAC Implementation in Africa, Rabat, Morocco. Invited presentation on training of first responders in eNOTICE-2 network. Presenter – UCLouvain
- 28 – 31 January, 2025 – RIMMA 2025 - International Conference on Forecasting, Preparedness, Warning, and Response, Bern, Switzerland. Invited presentation of eNOTICE-2 at the panel discussion “Emergency and Crises Management as core aspects of HEIs curricula and infrastructures: enhancement of their resilience and in support of secure societies”. Speaker – UCLouvain
- 27 March, 2025 – CERIS workshop on solutions for First Responders. Participants: VESTA, UCLouvain
- 12 May 2025 – T.I.T.A.N. Workshop, Rieti, Italy – Workshop on National Security, Intelligence and Technology in the CBRNe Era. Participants: UNITOV.
- 14 May 2025 - “Harnessing Collective Knowledge to Strengthen Cultural Heritage Resilience” International workshop under the PROCULTHER-NET2 Project, Rome, Italy. UNITOV invited as eNOTICE-2 Project Member.
- 15 May 2025 – “The EU CBRN Risk Mitigation Centres of Excellence Initiative – 10th International Meeting of the National Focal Points”, Brussels, Belgium. Speakers: UNITOV.
- 21 May, 2025, Brussels, Belgium – CERIS panel discussion on Accelerating innovation uptake by first responders for on-site CBRN response to climate-exacerbated crises through European and Global Training Networks. Speakers: UCLouvain, VESTA
- 29 September - 3rd October, 2025- ERPW (European Radiation Protection Week) 2025, London, England – Oral presentation on “Enhancing Competences in Radiation Protection: A Novel Risk Assessment Methodology”; Speaker: UNITOV
- 16–17 October 2025 - Ospedale Papa Giovanni XXIII, Bergamo, Italy – “CBRNe Events: Chemicals” CBRNe Panel Discussion on Chemical Events. Speaker: UNITOV.

FDDO participated in various events and presented the project in bilateral discussions and presentations at internal management training sessions.

3.1.5 Collaboration with other Projects

eNOTICE-2 has been building on all the links and collaborations established with numerous CBRN-related R&D&I projects, networks, initiatives, associations and clusters funded by EU Horizon Europe, H2020, ISF, EDA, FPI, national projects, and is continuously looking into new contacts, new projects, that deal with CBRN technology development, research, networking, policy, training and standardisation.

Project Acronym and full title	Project website	Relation to eNOTICE-2 partners	Rationale for collaboration
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Horizon Europe TeamUP - Transforming Collaboration and Response Strategies for CBRN-E Incidents	https://teamup-project.eu/	UCLouvain, VESTA, FDDO are partners	Development of technologies for first responders, training curricula
Horizon Europe eNOVATION - Extended Network of CBRN Training Centres for Innovation	https://www.innovation-project.eu/	UCLouvain is technical coordinator, partners – VESTA, UNITOV, JCBRND COE, SAFE, METU, WMP	Upgrading training methodologies, VR/XR assisted CBRN training, exchange of information and best practices, interface with industry
UCPKN KnowEMS - Knowledge Network Of Workable Emergency Medical Systems	https://civil-protection-knowledge-network.europa.eu/projects/knowems		Trainings, liaison with emergency medical services, exchanges on CBRN knowledge
DG HERA Easy2reUse - Reusable Easy to Breath and Use Masks – Elastomeric half-mask	To be created. Project started in September 2025	UCLouvain leads a WP on decontamination of surgical masks, that include sensors and made of sensitive materials	Decontamination technologies
Horizon Europe BEHOLDER - Build and Extend CBRN- E related Hazard- Assessment and Anomaly Detection Capabilities on Urban Environment	https://beholderproject.com/	UCLouvain is a partner	CBRN detection in urban environments, development of training curricula
Horizon Europe NARCOSIS –	https://www.narcosis-project.eu/	UNITOV is a partner	The project will provide a set of features for fast, robust, and reliable multidisciplinary

Non-targeted forensic multidisciplinary platform for investigation of drug-related fatalities			approach to harmonise forensic investigations by means of an up-to-date and updateable diagnostic platform
rescEU-CBRN-DSIM-IT	Not included in the project	SAFE is a partner	Development of technologies for CBRN DIM for first responders, creation of training curricula to include VR/XR components, network with relevant first responders.
Horizon Europe PALAESTRA - Bridging Safety and Realism in CBRN Training	To be created. Project started November 2025	VESTA is a partner	Development of an AI driven CBRN training tool, to enable realistic training without requiring many resources.
CBRN CoE Project 104 - Strengthening crime scene forensics and prosecution capabilities in investigating CBRN incidents in the Middle East Region		UNITOV is a partner.	Strengthening crime scene forensics and prosecution capabilities in investigating CBRN incidents in the Middle East Region
Horizon Europe SparkUp - Strengthening CBRN Talent Development and Cross-Sector Innovation for a Safer Future	https://www.sparkup-project.eu/	UNITOV is a partner.	The project seeks to build a skilled, adaptable workforce and foster a more integrated research ecosystem capable of tackling complex CBRN challenges through enhanced collaboration among universities, research institutions, industry, and government

Table 6. eNOTICE-2 collaboration with other projects

4 Project results impact and further exploitation

The involvement of industries engaged in the CBRN sector is considered essential. Through the eNOTICE-2 supplier platform, the project connects scientific knowledge with first responders, industrial players, and policy-makers during the preparedness phase, enhancing the visibility of research activities to a broad array of multidisciplinary stakeholders (as elaborated in prior sections). This approach fosters greater integration of academic expertise and the work of research and technology organisations (RTOs) within both small and large industries, as well as among first responders. It creates a dynamic exchange of relevant, cross-fertilising, and controlled (non-confidential) CBRN information, specifically targeting effective decontamination methods. eNOTICE-2 drives change and innovation, actively contributing to national training programs and reinforcing CP and DRM stakeholders responsible for crisis preparedness and management.

The eNOTICE-2 results and their impact are seen as follows, presented in Table 7:

eNOTICE-2 Results	Impacts
Pre-normative guidelines for on-site decontamination of sensitive equipment and assistive devices used by people with disabilities during CBRN response	New tested and validated decon methods – for FR to choose correct method for ANY equipment with electronic components (smartphones, tablets, radios, etc.) or sensitive materials
Physical and psychological requirements of individuals with disabilities Recommendations on how decontamination protocols can be adapted to enhance inclusivity and effectiveness during CBRN response	Support to EU Preparedness Strategy – better incorporating disability considerations into CBRN preparedness efforts. Standard decon protocols should incorporate accessible communication strategies, electronic-friendly procedures, and environmental adaptations.
Selection and review of CBRN R&D&I priority topics in eight main focus areas	Up-to-date contents of training programs, training courses provided by TC, development of specific modules focusing on urgent actual needs, new and emerging threats
CBRN-centred digital library of open-access resources, implemented at the DG ECHO Knowledge Library	Dynamic library of resources, accessible to the whole CBRN community , for sharing good and best practices, challenges and ways to overcome them

Methodology for producing SDS = AdInoS (Additional Information on Scene) agreed by end-users 3 AdInoS produced on B threats: Mpox, Ricin, Anthrax	Innovation – application-based synthetic operational information on B threats from open sources (before – existing only for C and R). Flexible format, easy to develop for new threats, new agents, accessible to FR
4 SimEx in the format of TTX and training in Germany, Czech Republic, Belgium and Italy.	Exchange and comparison of response procedures in different countries. Belgium and Italy SimEx play on realistic scenarios of intentional attacks during large-scale international events (ref. large outdoor musical festival, and Winter Paralympic Games) Joint Activities – bringing stakeholders together in the field, to see the training centres capability and to test and validate new technologies and training methods
Deployment of immersive VR/XR training modules to enhance preparedness to CBRN incidents	New technologies used as advanced training methods, to train FR on various original scenarios, to learn, repeat, and improve the response and decontamination procedures, optimize resources. Applications - for VHP decontamination and use of a negative pressure glovebox.

Table 7. eNOTICE-2 results and their impact

The eNOTICE-2 results will be further exploited and built upon in the new Horizon Europe Innovation Action project eNOVATION – Extended Network of CBRN Training Centres for Innovation – that started in September 2024 and aims at continuation and maintenance of the network of CBRN Training Centres. One of the main objectives and expected final result of eNOVATION is to exploit the testing and validation framework and innovation results towards the sustainable network of CBRN training centres, develop the business strategy and business model for the network to make it function independently. All practitioner-driven innovations, taken over from eNOTICE-2 and others to be further developed in eNOVATION have high marketing potential, the work will ensure that the developments match the market's requirements, market study and business plan. The ultimate goal is to finalize and formalise the Network of CBRN TC ensure its economic sustainability, through the revenue generated by the members, user-pays model and private-public partnerships with significant role of industry.

Annex 1 – eNOTICE-2 – question guide for the feedback on the information support

INTRODUCTION

- Aims and objectives of eNOTICE-2
- Presentation of the researcher team
- Round table of the participants
- How the support was developed
- Rules of engagement of the group
- Approval for recording and confidentiality

STEP 1 – Silent examination of the support

- The researcher distributes a printed copy of the support / shares the support via the screen
- Participants are invited to examine the support and take notes individually
- The researcher observes how the participants interact with the support; the time they need to read each part...

STEP 2 – Feedback

The researcher first asks for general impression then goes step by step / figure by figure. The researcher distinguishes the content and the form.

- What is your overall impression of the support?
- What is the topic of this support?
- What do you retain as information?
- What did you learn?
- To which extent do you feel that this support is aimed at you?
- What are the most important points for you personally?
- Was there inappropriate information?
- Was there shocking information?
- Was it missing?
- What needs to be improved?
- What needs to be dismissed?

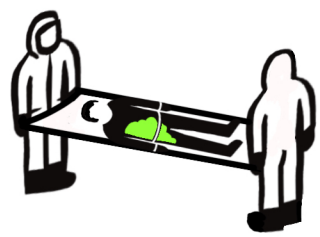
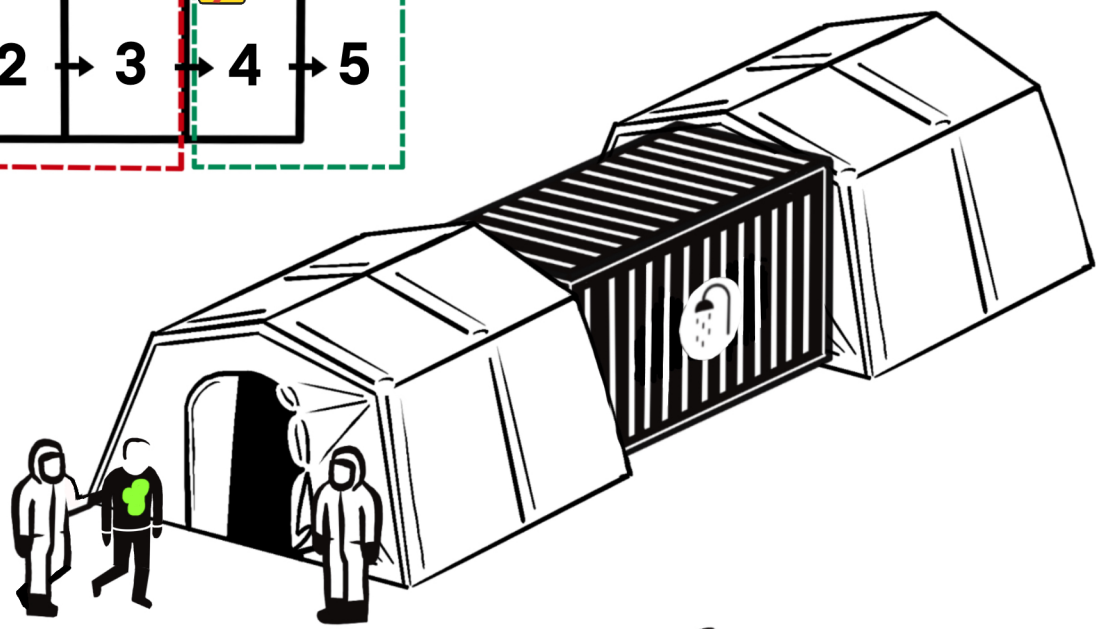
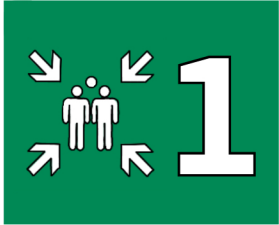
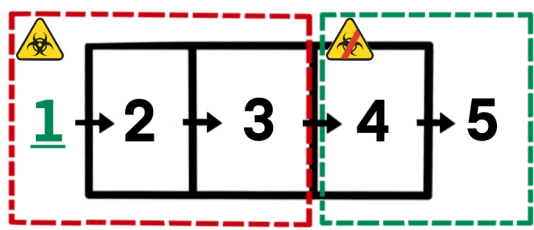
STEP 3 – Dissemination

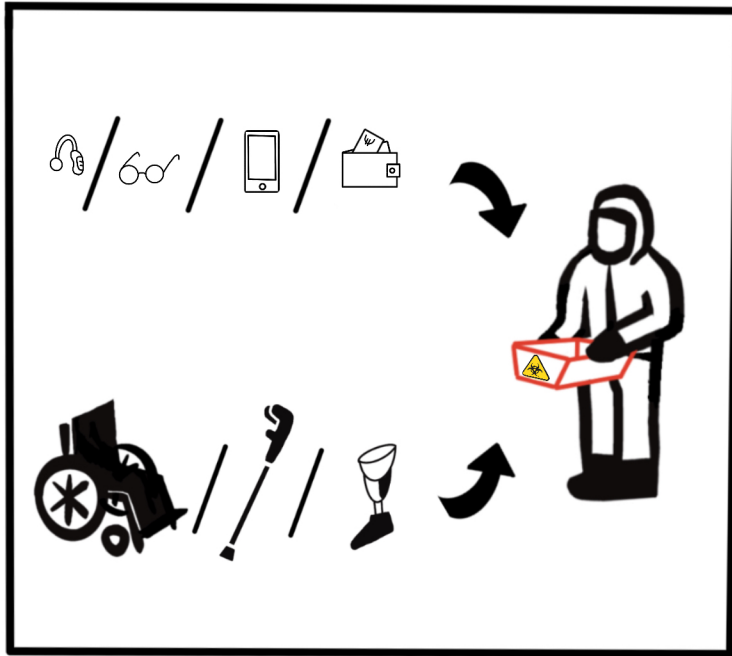
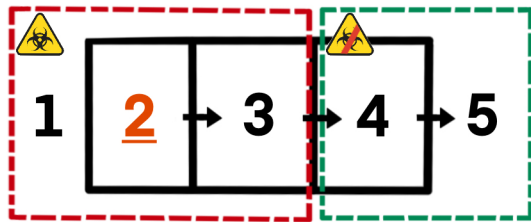
- What are your suggestions for disseminating this support?

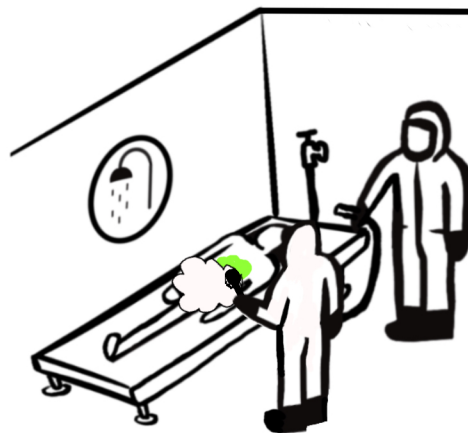
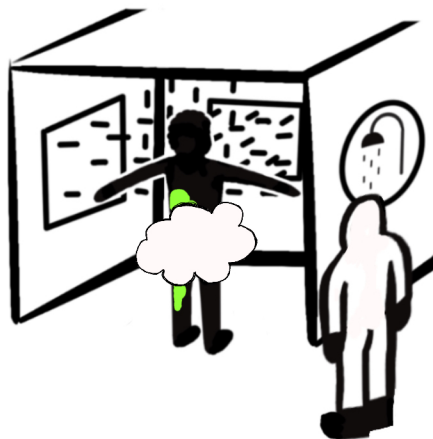
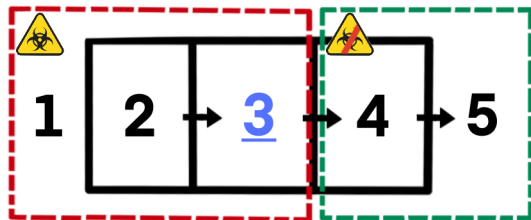
STEP 4 – Closing

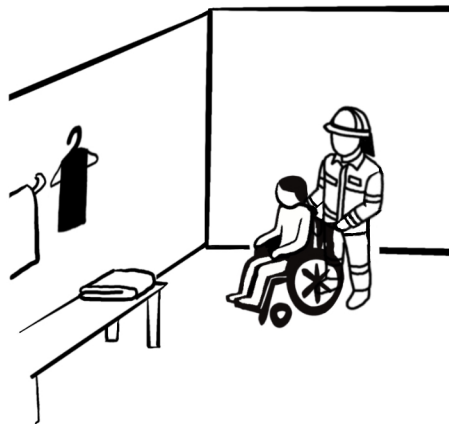
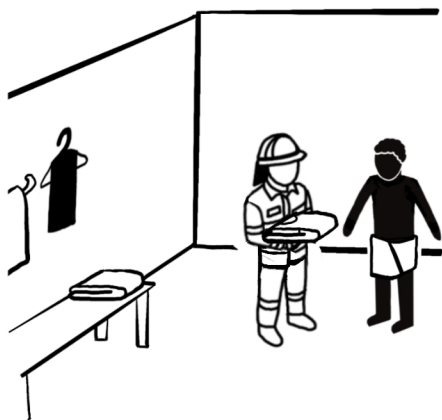
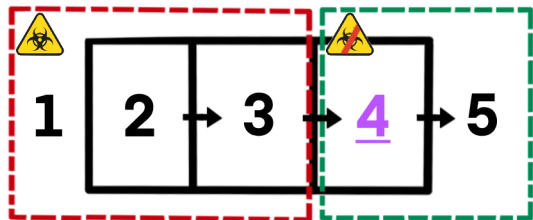
The researcher thanks the participants, recalls the rules for engagement and explains the next steps of the project.

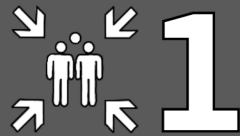
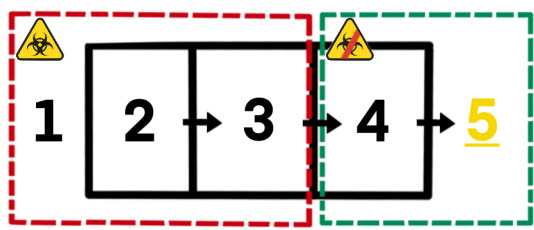
Annex 2 – Handout visual materials on the process of decontamination of people with disabilities











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