

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981



# **Deliverable D6.5**

## Report on the third field exercise and evaluation workshop

Due date of deliverable: 31/07/2023

Actual submission date: 31/07/2023

Åsa Burlin<sup>1</sup>, Daniel Stromberg<sup>1</sup>, Tony Godwin<sup>2</sup>, Dominic Kelly<sup>2</sup>, Irina Marsh<sup>2</sup>, Danielle Carbon<sup>2</sup>, Grigore Havarneanu<sup>3</sup>, Laura Petersen<sup>3</sup>, Dale Weston<sup>4</sup>, Virginia Bertelli<sup>5</sup>, Mariano Zamorano<sup>5</sup>, Garik Markarian<sup>6</sup>

1: UMU, 2: CBRNE, 3: UIC, 4: UKHSA, 5: ETICAS, 6: RINISOFT

© Copyright 2023 PROACTIVE Project (project funded by the European Commission). All rights reserved.

No part of this document may be copied, reproduced, disclosed or distributed by any means whatsoever, including electronic without the express permission of the International Union of Railways (UIC), Coordinator of PROACTIVE Project. The same applies for translation, adaptation or transformation, arrangement or reproduction by any method or procedure whatsoever.

The document reflects only the author's views and the Commission will not be liable of any use that may be made of the information contained therein. The use of the content provided is at the sole risk of the user.



# Project details

Project acronym	PROACTIVE
Project full title	PReparedness against CBRNE threats through cOmmon Approaches between security praCTItioners and the VulnerablE civil society
Grant Agreement no.	832981
Call ID and Topic	H2020-SU-SEC-2018, Topic SU-FCT01-2018
Project Timeframe	01/05/2019 - 31/08/2023
Duration	52 Months
Coordinator	UIC – Grigore Havarneanu (havarneanu@uic.org)

## **Document details**

Title	Report on the third field exercise and evaluation workshop
Work Package	WP6
Date of the document	31/07/2023
Version of the document	05
Responsible Partner	UMU
Reviewing Partner(s)	West Midlands Police and Crime Commissioner
Status of the document	Final
Dissemination level	Public

# **Document history**

Revision	Date	Description
01	15/06/2023	First Draft
02	26/06/2023	First Review by West Midlands Police and Crime Commissioner
03	17/07/2023	First Review by consortium partners and AB members
04	21/07/2023	Official Review West Midlands Police and Crime Commissioner
05	31/07/2023	Final Version



# Consortium – List of partners

Partner no.	Short name	Name	Country
1	UIC	UNION INTERNATIONALE DES CHEMINS DE FER (COORDINATOR)	France
2	CBRNE	CBRNE LTD	UK
3	PPI	POPULATION PROTECTION INSTITUTE (MINISTRY OF THE INTERIOR OF THE CZECH REPUBLIC)	Czech Republic
4	DB	DEUTSCHE BAHN AG	Germany
6	UMU	UMEA UNIVERSITET	Sweden
7	DHPOL	DEUTSCHE HOCHSCHULE DER POLIZEI	Germany
8	RINISOFT	RINISOFT LTD	Bulgaria
9	WMP	WEST MIDLANDS POLICE AND CRIME COMMISSIONER	UK
10	ETICAS	ETICAS RESEARCH AND CONSULTING SL	Spain
11	SESU	STATE EMERGENCY SERVICE OF UKRAINE	Ukraine
12	UKHSA	UK HEALTH SECURITY AGENCY (DEPARTMENT OF HEALTH – PUBLIC HEALTH ENGLAND)	UK
13	SPL	STATE POLICE OF LATVIA	Latvia
14	AGS	AN GARDA SÍOCHÁNA – NATIONAL POLICE FORCE IRELAND	Ireland
15	FFI	FORSVARETS FORSKNINGSINSTITUTT	Norway
16	NPH	KOMENDA GŁÓWNA POLICJI	Poland

# Supporting organisations

Affiliation	Short name	Name	Country
eNOTICE	Vesta	Campus Vesta	Belgium



#### **Acknowledgements**

We would like to thank the project eNOTICE and especially Campus Vesta for the opportunity to realise this successful joint CBRNe field exercise in Ranst.

A special thanks to all engaged Civil Society Organisations, de Markgrave, Huizeke van Nazareth, Symfoon, WZC Millegem, Pegode VZW, Akabe Edege, OKRA Broechem, Hatzoloh, Scouts & Gidsen Vlaanderen, AC Lyra, KVG VZW, Calasanz, Sint Ursula Lier, Downsyndroom Vlaanderen, Mosque Lier, Volleybal Nijlen for their valuable support in recruiting and ensuring the safety of all volunteers.

Further PROACTIVE thanks to Caritas (Germany) organisation, which once again helped to provide spare clothes for the exercise.

We would also like to thank the video company Impact Media who captured the essence of the exercise visually through pictures and videos.

The exercise could not have run smoothly without the assistance of the interpreters from KU Leuven and the University of Antwerp who gave up their time freely to support.

We would also like to acknowledge the contributions of the following data analysts: Dale Weston<sup>5</sup>, Charles Symons<sup>5</sup>, Megan Phillips<sup>5</sup>, Holly Carter<sup>5</sup>, Louise Davidson<sup>5</sup>, Charlotte Hall<sup>5</sup>, Freya Mills<sup>5</sup>, Virginia Bertelli<sup>5</sup>, Riinu Pae<sup>5</sup>, Richard Amlôt<sup>5</sup> (5: UKHSA).

Finally, the exercise planning team thanks all members of the PROACTIVE consortium and the involved Civil and Practitioner Advisory Board members for their immense support through the planning process, during the exercise and for their valuable feedback during the writing of this comprehensive report.



# List of Acronyms

Acronym	Definition
CBRNe	Chemical, Biological, Radiological, Nuclear, and explosive
CDP	Communication and Dissemination Plan
CSAB	Civil Society Advisory Board
CSO	Civil Society Organisation
DPO	Data Protection Officer
EDPS	Ethics and Data Protection Supervisor
EEAB	External Ethics Advisory Board
EU	European Union
GDPR	General Data Protection Regulation
IIMARCH	Information, Intention, Method, Administration, Risk assessment, Communication, Human rights, legal and ethical
iOS	Operating System for Apple
KPI	Key Performance Indicators
LEA	Law Enforcement Agency/Agent
PEO	Project Ethics Officer
PPE	Personal Protective Equipment
PSAB	Practitioner Stakeholder Advisory Board
SAB	Security Advisory Board
SOP	Standard Operating Procedure
PGMD	Post Graduate Disaster Management
WP	Work Package



#### **Executive summary**

This deliverable reports on the findings, lessons learnt, and Key Takeaways from the third PROACTIVE field exercise. It applies the Work Package (WP) 1 recommendations and learnings from the previous two field exercises to the Belgian context and the parameters set by Campus Vesta.

On Saturday May 13th 2023, the third PROACTIVE field exercise took place at Campus Vesta, an educational facility and training center located just outside of Ranst, Belgium. Originally scheduled for spring 2022, the event was significantly delayed by the Covid-19 pandemic. As with the previous two PROACTIVE field exercises, the event was a joint activity with Horizon 2020 project eNOTICE, which has within its membership a number of CBRNe training centres situated across Europe. Campus Vesta is a member of eNOTICE and the exercise was a tripartite arrangement were most of the communication during the planning process was held between Campus Vesta and PROACTIVE.

#### Goals and Method

The methodology for planning and delivering this field exercise was established in the previous deliverable D6.1 (Godwin and Hale 2021), which adopted the IIMARCH (Information, Intention, Method, Administration, Risk Assessment, Communication, Human Rights, Legal and Ethical) principles to fit the requirements of the project. The Strategic and Tactical Objectives for the exercise were based upon the requirements set out in the Description of Actions and evolved from the preceding exercises in consultation with the PROACTIVE consortium.

The heart of the PROACTIVE project is the involvement of the diverse civil society, and in particular vulnerable persons, in CBRNe training. This deliverable details the planning of the exercise along with the inclusion, management, protection, and feedback of those civil society members who participated in the exercise. It also presents the results of the research conducted and identifies the learnings from the first and second exercise with a view to establish key takeaways from all three exercises. The PROACTIVE management structure was led by UMU and supported by CBRNE, UKHSA, DHPol, ETICAS, and RINISOFT. Strategic overview and management was provided by UIC.

#### Exercise scenario and participants

The scenario for the exercise was developed by Campus Vesta with consideration to the PROACTIVE Tactical Objectives. Considerable negotiation was required to meet the divergent objectives of Campus Vesta's Post Graduate Disaster Management examination and PROACTIVE's requirement to evaluate the interaction between civil society and first responders. Comprise from all parties ensured that a suitable scenario was developed. The premise was an incident involving both chemical and biological agents and incorporated both initial and specialist operational response, requiring evacuation, triage, and decontamination. The exercise included two separate but interlinked scenarios where PROACTIVE was only involved with one of them to best use available resources and ensure quality of evaluation. The PROACTIVE part of the scenario engaged close to 60 volunteers, of which approximately half were considered vulnerable. All recruitment of participants was managed and coordinated by Campus Vesta. PROACTIVE was responsible for the volunteer registration, collecting and managing property, focus groups, surveys, overall wellbeing, and final



check out. As with the previous two exercises, detailed flow charts, administrative check lists, and clearly defined roles and responsibilities were deployed to minimise the risk of volunteer discomfort or disruption to the exercise.

#### **Risk management**

For this exercise, Campus Vesta assumed responsibility of the risk management. PROACTIVE still had a Health and Safety/Risk Assessment Officer on scene and used the same structure for accident reporting as in the previous two exercises. No accidents were reported during the exercise.

#### Communication

PROACTIVE put in place dedicated communication strategies for internal communication, external communication including with media, protocols with exercise participants and communication about the project during the exercise.

The PROACTIVE Crisis Communication System was incorporated into the field exercise specifically to interact with the observers. The focus for this exercise was to provide information from first responder control centres to observers so that the process of information sharing could be evaluated.

#### Human rights, legal and ethical aspects

A series of protocols and risk assessments were developed in order to ensure compliance with ethical principles, human rights and data protection requirements when managing participants and their data during the Ranst exercise. This included a wide set of documents, plans and activities such as informed assent and consent, briefings for observers and participants, a specific Data Management Plan, insurance arrangements and the identification of safety measures to protect the integrity and privacy of individuals during the whole fieldwork.

Together with this, ETICAS and CBRNE addressed the ethical implications of managing vulnerable groups during CBRNe events from an operational perspective while discussing the existing theoretical background in this regard. A specific theoretical framework developed in WP8 for this purpose was operationalised into methodological tools used for data collection and post-event analysis. The results of this examination are reflected in this section and D8.4.

#### Evaluation

As for the previous two exercises, a thorough evaluation of the exercise against the PROACTIVE strategic and tactical objectives was conducted. As before, this evaluation included the collection of pre- and post-exercise questionnaire data, observational analysis of the exercise itself, and focus groups conducted with individuals who participated in the exercise. In addition, this exercise provided the opportunity to conduct an experimental evaluation of the utility of the PROACTIVE pre-incident information material during the largest scale exercise within the project. Despite some methodological limitations, the experimental test of the PROACTIVE pre-incident information can be considered a test, revealing likely behavioural and cognitive impacts of receiving the pre-incident information material. Given the absence of any similar recommendations by the emergency responders, and the delay in initiating decontamination (and subsequent decision to only decontaminate a small number of individuals), the behaviours undertaken were consistent with the



pre-incident information. These represented the most likely interventions to reduce harm caused by exposure undertaken throughout the exercise.

More broadly, the overall findings of the evaluation echo those from the previous exercises. That is, identifying some instances of good practice in communication between responders and the public, and some limited evidence of adaptations made for individuals from vulnerable groups on the one hand; while also identifying clear instances where poor communication had consequences both for the experiences of the general public during the exercise (potentially leading to instances of non-compliance) and a perception of the responders as not knowing how to deal with vulnerabilities on the other hand.

Given this, there is a clear need for additional education and training for both responders and the public. These should include regular continued engagements between responders and the public (both in exercise situations and broader stakeholder engagement). This will continue to develop both the public understanding of CBRNe response and will provide responders with valuable opportunities to interact with the public and learn from these interactions. Alongside these continued engagements, there is a clear need for additional training and demonstrations of best practice concerning the management and communication with the public during CBRNe incidents. This will ensure that responders know 'what good looks like' and can build on this through their own exercises and training.

#### Key Takeaways and lessons learned

A number of Key Takeaways identified in the previous two exercises could be applied in Ranst. Lessons learned through conducting the exercises in Dortmund and Rieti informed and improved the PROACTIVE execution of the Ranst exercise. In addition, good practices were identified and elaborated to establish lessons learned for organisers of future exercises incorporating similar elements.



# **Table of Contents**

1.	INT	ROD	UCTION	14
2.	THE	E IIM	ARCH FRAMEWORK	14
3.	REI	LEVA	NT BACKGROUND INFORMATION	15
3	3.1.	Buil	ding upon previous research	15
3	3.2.	PRC	DACTIVE/eNOTICE Joint Activity	16
3	3.3.	Invo	lving civil society and vulnerable groups	17
3	3.4.	Date	e and place	18
4.	INT	ENTI	ION	18
4	4.1.	Stra	tegic Objectives	18
4	1.2.	Tac	tical Objectives and KPIs	19
2	4.3.	PRC	DACTIVE tools	22
	4.3.	.1.	Development of the PROACTIVE pre-incident information material	22
	4.3.	.2.	PROACTIVE web platform and mobile App development for the Ranst Exercise	23
2	1.4.	Eva	luation methodology	24
	4.4.	.1.	Pre-exercise and post-exercise questionnaires for volunteers	25
	4.4.	.2.	Observation guide for evaluators	25
	4.4.	.3.	Focus group guide for focus group leaders	26
	4.4.	.4.	Observer guides	28
2	4.5.	Sce	nario overview	30
	4.5.	.1.	Scenario development	30
	4.5.	.2.	Final scenario	31
5.	ME	THO	D	32
Ę	5.1.	Арр	lying good practices identified in previous exercises	32
Ę	5.2.	Exe	rcise management	33
	5.2.	.1.	Pre-exercise	33
	5.2.	.2.	Exercise	34
	5.2.	.3.	Post-exercise	35
5	5.3.	Exe	rcise timeline and processes	36
	5.3.	.1.	Exercise planning process	36
	5.3.	.2.	Planning the flow of volunteers	37
Ę	5.4.	Exe	rcise contributors and support functions	40
	5.4.	.1.	Support functions	40
	5.4.	.2.	Exercise players	40



	5.4.	3.	Evaluators and observers	. 41
5	.5.	Rol	e of PSAB, CSAB, EEAB members	. 43
5	.6.	Use	e of PROACTIVE tools and SOPs	. 43
	5.6.	1.	PROACTIVE pre-incident information material during the Ranst exercise	. 43
	5.6.	2.	PROACTIVE web platform and mobile App during the Ranst exercise	. 44
6.	AD	MINI	STRATION	. 45
6	.1.	Cor	nmand and control	. 45
6	.2.	Adn	ninistration of volunteers	. 45
	6.2.	1.	Civil society volunteers	. 45
	6.2.	2.	Vulnerable groups and supporting parties	. 46
	6.2.	3.	Recruitment process	. 47
6	.3.	Reg	gistration process	. 48
	6.3.	1.	Volunteer registration	. 48
	6.3.	2.	Observer registration	. 49
	6.3.	3.	General dress code	. 49
	6.3.	4.	Volunteer dress-code check	. 50
6	.4.	Brie	efing	. 50
	6.4.	1.	Briefing of exercise planning, management, and support team roles	. 50
	6.4.	2.	Briefing of volunteers	. 50
	6.4.	3.	Briefing of PROACTIVE observers and guests	. 51
	6.4.	4.	Briefing of third parties	. 52
6	.5.	Exe	ercise Area	. 52
	6.5.	1.	Restricted areas and demarcation protocol	. 52
	6.5.	2.	Signage	. 52
6	.6.	Log	istics	. 53
	6.6.	1.	Site management	. 53
	6.6.	2.	Transportation to Campus Vesta	. 53
	6.6.	3.	Property Management and Changing Areas	. 53
	6.6.4		Catering and welfare	. 54
6	.7.	Pro	curements	. 55
7.	RIS	K		. 56
7	.1.	Risl	k assessment	. 56
7	.2.	Risl	k registers	. 56
7	.3.	Miti	gation	. 57
7	.4.	Em	ergency procedures	. 57



		7.4	.1.	Evacuation plan	57
		7.4	.2.	Fire	57
		7.4	.3.	First aid	58
		7.4	.4.	Criminal activity	58
		7.4	.5.	Damage to personal property	58
	7.	5.	Oth	er Contingencies	58
		7.5	.1.	Weather contingency plan	58
		7.5	.2.	Live incidents contingency plan	58
		7.5	.3.	Covid-19 contingency plan	59
		7.5	.4.	Participant absence contingency plan	59
		7.5	.5.	Communication Failure	59
		7.5	.6.	Mismatch of PROACTIVE Objectives and Host Objectives	59
8.		СО	MML	INICATION	60
	8.	1.	Con	nmunication strategy	60
		8.1	.1.	Protocols with exercise participants	60
		8.1	.2.	Communication about the project during the exercise	60
		8.1	.3.	External communication & media	61
	8.	2.	Diss	semination	61
		8.2	.1.	Filming/Recording	61
9.		HU	MAN	RIGHTS, ETHICAL AND LEGAL ASPECTS	63
	9.	1.	Info	rmation sheet	63
	9.	2.	Brie	fing on human rights, ethical and legal aspects	64
	9.	3.	Info	rmed Consent	64
	9.	4.	Digr	nity and respect	65
	9.	5.	Use	of force	66
	9.	6.	Sec	urity	66
	9.	7.	Data	a protection and GDPR	67
	9.	8.	Ethi	ics risk assessment	69
	9.	9.	Ethi	ics supervision	70
	9.	10.	In	surance	70
10	-	EXI	ERCI	SE OUTCOMES	72
	10	).1.	D	ata analysis of the Technical Data of the PROACTIVE mobile App	72
	10	).2.	E	valuation of first-hand experience of volunteers based on questionnaires	73
	10	).3.	E	valuation of first-hand experience of volunteers based on focus groups	83
		10.3	3.1.	General experiences of the exercise	83



10.3.2	. Responders attitudes and behaviour	84
10.3.3	. Perception of responders interacting with vulnerable people	84
10.3.4	. Interaction between volunteers and volunteer behaviour	86
10.3.5	. Perception of Decontamination	86
10.3.6	. Perception of communication	87
10.3.7	. Suggestions for improvement	89
10.3.8	. Summary of key learnings	92
10.4.	Evaluation of the exercise based on the evaluator's observations	92
10.4.1	. Description of Exercise	93
10.4.2	. Communication between responders and volunteers	95
10.4.3	. Responder adaptations for vulnerable individuals	96
10.4.4	. Volunteer to volunteer interactions / helping behaviours	96
10.4.5	. Use of pre-incident information	97
10.4.6	. Non-compliant behaviours	98
10.4.7	Exercise artificiality/ lack of realism	98
10.5.	Evaluation of the exercise based on Observer Guide	99
10.5.1	. Feedback about the observation task	99
10.5.2	. Feedback about the exercise	101
10.5.3	. Feedback about the PROACTIVE Crisis Communication System	106
10.5.4	. Feedback about lessons learned	112
10.5.5	. Feedback about ethics	114
10.5.6	. Suggestions for improvement	116
10.6.	Feedback of the EEAB Observers	117
10.6.1	. General remarks on ethical and legal issues concerning the project and the	
partici	pants	117
10.6.2	. Ethics of the response operations	118
10.6.3	. Ethics of the exercise, i.e. research ethics	122
10.6.4	. General observations and Recommendations	125
11. GOOE	PRACTICES	126
12. CONC	CLUSION	129
12.1.	Summary of Tactical Objectives findings	130
12.2.	Conclusion of evaluation	135
12.2.1	. Limitations	136
12.2.2	. Recommendations and conclusion	137
12.3.	Final notes	138



13. REFERENCES	139
Appendix 1: UKHSA Ethical approval	141
Appendix 2: Adult Pre-Exercise Questionnaire	142
Appendix 3: Adult Post-Exercise Questionnaire	145
Appendix 4: Child Pre-Exercise Questionnaire	152
Appendix 5: Child Post-Exercise Questionnaire	155
Appendix 6: Observation guide of evaluators	
Appendix 7: Web Platform Questionnaire	161
Appendix 8: Adult Focus Group Guide	170
Appendix 9: Childrens Focus Group Guide	175
Appendix 10: Observer Guide	178
Appendix 11: PROACTIVE pre-incident information Material	196
Appendix 12: Exercise timeline	
Appendix 13: H&S Risk Register Summary Table	
Appendix 14: Communication and Dissemination Plan	
Appendix 15: Interview Management Plan	211
Appendix 16: Consent Form Volunteers	213
Appendix 17: Consent Form Observers	220
Appendix 18: Assent Form	
Appendix 19: PROACTIVE Ethics Framework Observatin and Evaluation Plan	232
Appendix 20: PROACTIVE Ethics observation and Evaluation Sheet	241
Appendix 21: Summary from the ethics Risk Assessment: Campus Vesta Exercise	



# List of Figures

Figure 1: Clarification of responsibilities and objectives at the joint exercise of PROACTIVE,	
eNOTICE and Campus Vesta	. 16
Figure 2: PROACTIVE pre-incident information	. 22
Figure 3: Iterative approach to mobile app development	. 23
Figure 4: Mobile App as an integral part of the PROACTIVE CBRNe Communications System	. 23
Figure 5: Organisation of key tasks and appointed leaders	. 34
Figure 6: Pre-exercise phase plans for facilitating volunteers	. 38
Figure 7: Exercise and post-exercise phase plans for facilitating volunteers	. 39
Figure 8: Type of observers that completed Observer Guide.	. 42
Figure 9: Observers' reported familiarity level with the PROACTIVE App prior to the exercise	. 42
Figure 10: LEAs perspective of Incident List	. 44
Figure 11: PROACTIVE Risk Matrix of the joint Ranst exercise	. 57
Figure 12: PROACTIVE Risk Matrix of the joint Ranst exercise	. 67
Figure 13: Total PROACTIVE mobile App Statistics	. 72
Figure 14: Technical Verification Summary	. 73
Figure 15: Visual of exercise site	. 94
Figure 16: Five elements of the responder-victim interaction and their average observer score	102



## List of Tables

Table 1: Distribution of participant sample according to age, gender and vulnerability	. 17
Table 2: Tactical Objectives for the Ranst exercise	. 19
Table 3: Tactical Objectives and Key Performance Indicators for PROACTIVE field exercises	. 20
Table 4: Type of ethical dilemmas and categories	. 29
Table 5: Takeaways from previous PROACTIVE exercise (Rieti)	. 32
Table 6: Colours of tabards used at Campus Vesta for PROACTIVE participants	. 35
Table 7: CMIST	. 46
Table 8: Vulnerable volunteer by type of vulnerability	. 47
Table 9: Risks to and from the Campus Vesta field exercises identified during the PROACTIVE	
risk assessment	. 56
Table 10: Summary of all descriptive statistics for all pre-exercise and post-exercise outcomes	
for Intention to Treat (ITT) and Per Protocol (PP) datasets	.74
Table 11: Summary of sub-sample sizes by condition, disability, and decontamination for the	
adult ITT dataset	. 76
Table 12: Significant findings in ITT and PP datasets (findings present in both ITT and PP	
analyses presented in bold)	. 82
Table 13: Feedback on Mobile App usability	107
Table 14: Feedback on Mobile App usefulness	108
Table 15: Feedback on Web Platform usability	110
Table 16: Feedback on Web Platform usefulness	111



## 1. INTRODUCTION

In order to familiarise emergency services with the special needs of vulnerable groups, the PROACTIVE project, together with the eNOTICE project, set out to conduct three operational field exercises across Europe. The aim of these exercises was to observe first responders' engagement with civil society and, based on these observations, formulate recommendations on how emergency services can make their operational management even more effective in a CBRNe incident.

In report D6.3 following the first PROACTIVE / eNOTICE CBRNe operational exercise in Dortmund, Germany in May 2022 (Carbon et al. 2022), it was elaborated that CBRNe first responders typically do not have the opportunity to interact with the public at large during CBRNe exercises. Particularly vulnerable groups (such as children, persons with mobility restrictions, etc.) are very rarely included in such exercises. Such inclusion is important, however, as emergency responders should be familiar with the special needs of vulnerable groups in an emergency to increase preparedness and ensure effective incident management.

After the first exercise, a second exercise was conducted in Rieti, Italy, in November 2022. More people were involved in the second exercise, 32 volunteers in Rieti compared to 18 in Dortmund. In both exercises, approximately 50% of the volunteers were categorised as vulnerable. One of the aims for the third and final exercise was to increase the number of volunteers significantly, both to increase the complexity of the exercise in general and also to be able to conduct a meaningful trial of the pre-incident information materials produced by consortium partner UKHSA.

This deliverable covers the preparatory work leading up to the third and final exercise in Ranst, Belgium, in May 2023, along with a detailed description of the exercise, from a PROACTIVE perspective. The description of the PROACTIVE results follows the IIMARCH process, which is presented in the following chapter. In addition to results from the Ranst exercise, comparisons are made between all three exercises throughout the report.

## 2. THE IIMARCH FRAMEWORK

As with the previous two exercises, the PROACTIVE team used the IIMARCH framework to plan its involvement in the Ranst exercise. This framework is presented in detail in the preceding PROACTIVE deliverable D6.1 (Godwin & Hale 2021) 'The PROACTIVE Methodology for the Field Exercises' and comprises the planning areas Information, Intention, Method, Administration, Risk assessment, Communication, Human rights, legal and ethical aspects. The following chapters of this deliverable will cover relevant aspects of the framework accordingly. It should be noted though, that the exercise planning team from Campus Vesta did not follow the IIMARCH methodology. A stark difference between this third, and the previous two PROACTIVE exercises was the exercise constraint on the PROACTIVE team to influence aspects of the exercise such as the scenario, handling of volunteers, and various other logistical arrangements. eNOTICE partner Campus Vesta was not only the exercise host, but also the exercise organiser. The PROACTIVE team organised its own involvement and activities according to the IIMARCH framework and in close collaboration with Vesta representatives.



## 3. RELEVANT BACKGROUND INFORMATION

The organisation of a field exercise is a significant undertaking. The ability to organise an exercise as a joint activity may reduce some of the financial and logistical demands on the parties involved, but it adds to the administration and communication workload. The following chapter outlines relevant background, detailing the how, who, and where of the exercise.

## 3.1. Building upon previous research

Several PROACTIVE deliverables were used in the preparatory stages of organising the PROACTIVE involvement in the Ranst exercise. As with the previous two exercises, the planning process was structured according to the IIMARCH framework and checklists.

The methodological framework for PROACTIVE exercises developed in deliverable D6.1 and the Scenario Development and Evaluation Methodology of D6.2 (Hall et al. 2021) had proven successful in Dortmund as well as Rieti and were applied in Ranst as well. Results from the Dortmund exercise are described in deliverable D6.3<sup>1</sup> and results from Rieti in deliverable D6.4 (Godwin et al. 2023). Noteworthy comparisons between all three exercises will be throughout the following chapters, as well as in the future deliverable D6.6.

The PROACTIVE tools, including the pre-incident information materials and the crisis communication system, have been integrated and tested in some capacity in all three exercises. Building upon feedback and results, the tools have been updated throughout the project period and the latest version of the crisis communication system, including the mobile App, along with the final version of the pre-incident information materials, were used in Ranst. The iterative work processes leading up to the final version of the PROACTIVE crisis communication system, including the App and web platform, will be detailed in the upcoming deliverables D4.2, D4.3 & D5.4. The primary requirements of the system are detailed in deliverables D4.1 (Kolev, Markarian & Polushkina 2021) and D5.3 (Kolev, Markarian & Polushkina 2020).

As explained in detail in preceding deliverables, the main goal for the PROACTIVE crisis communication system is to provide a reliable, secure, and multi-purpose communication tool for all stakeholders involved during a CBRNe event. The system is designed to be user friendly, intuitive, and able to be used by various groups of European stakeholders. The details and results of the testing of the PROACTIVE crisis communication system in the Ranst exercise is explained in detail in chapter 10.

The basis for the CBRNe pre-incident information materials developed by UKHSA is described in deliverable D5.1 (Nicholson et al. 2021). The incorporation of the pre-incident information materials in the previous two exercises are detailed in deliverables D6.3 and D6.4. The entire iterative development process for the materials that were tested in the Ranst exercise are described in deliverable D5.2 (Dennis et al. 2023). One of the aims for the Ranst exercise was to involve at least 60 volunteers. This number was partly due to the intention of conducting a research trial, where half of the participants in the exercise had been exposed to the pre-incident materials beforehand, and the other half had not. This process, its methodology and results is detailed in section 10.2.

<sup>&</sup>lt;sup>1</sup> The authors of each deliverable are only mentioned the first time within the deliverable. Throughout the further text reference is made only to the number of the respective deliverable (e.g. D6.3).



As in the previous exercises, all participants were asked to sign an informed consent form, essentially confirming they were aware of their rights as research participants. The foundation for the consent forms previously used are outlined in deliverables D8.1 (Clavell et al. 2021), D8.2 (Zamorano, Gonzalo & Clavell 2021), and D8.3 (Marsh et al. 2021). While PROACTIVE had for both previous exercises outlined the advantages of having a joint informed consent form between projects eNOTICE & PROACTIVE, Ranst was the first exercise where a joint consent form was used. The main benefit of a joint consent form was that participants were only asked to read and sign one document prior to their involvement. A drawback to the approach was the cumbersome procedure of reaching an agreement concerning the wording of the consent form and accompanying information sheet. This process is described in detail in section 9.3.

In summary, as was always the intention with the iterative processes in the symbiotic work packages, the work completed prior to the third and final exercise laid the foundation for the successful implementation of accumulated knowledge and experience.

## 3.2. PROACTIVE/eNOTICE Joint Activity

The Ranst exercise was a joint activity and the final exercise between the two Horizon2020 projects; PROACTIVE and eNOTICE[1]. (see Figure 1). eNOTICE partner Campus Vesta was the host and also the organisation responsible for the planning and execution of the exercise. In Dortmund and Rieti the organisation of the exercise was a collaborative process where PROACTIVE organised several aspects of the exercise, recruited the volunteers, helped draft the scenario, etc. In Ranst, this was not the case. The joint activity was integrated into the final examination of Campus Vesta's Post Graduate Disaster Management (PGDM) course. The course is delivered every year and culminates in an examination exercise, an annual event taking place every spring. This means that PROACTIVE joined an already established examination procedure, with its own set objectives and requirements.



#### Figure 1: Clarification of responsibilities and objectives at the joint exercise of PROACTIVE, eNOTICE and Campus Vesta

There were advantages as well as challenges with this structure. It goes without saying that it was a significant benefit for PROACTIVE that Campus Vesta recruited the research participants, including the civil society volunteers of which approximately 75% had some form of vulnerability. Factors including language barriers and geographical distance would have made it extremely difficult for PROACTIVE to undertake the recruitment efforts unassisted by a local partner. However, there were challenges concerning the access PROACTIVE had to the volunteers, the pre-exercise



communication, and the communication/clarification concerning the role of a volunteer. The recruitment of vulnerable volunteers is further described below under 3.3 and in section 6.2.1.

## 3.3. Involving civil society and vulnerable groups

The active involvement of a diverse representation of civil society in CBRNe training and exercise opportunities is a cornerstone of PROACTIVE. As desk research performed prior to the field exercises demonstrated in D2.5 (Arnold et al. 2021) the inclusion of vulnerable individuals in CBRNe training and exercise opportunities is very limited. Instead, they are typically played by actors. The reasoning behind this can vary, but including non-trained civilians in disaster training is, at best, a time consuming and risk filled activity. Using actors, first responder students/trainees, or similar wellinformed groups generally results in a more efficient exercise with fewer unexpected difficulties. The ethical aspects of involving civil society, and especially those individuals with vulnerabilities, is a chapter in its own right (see chapter 9). But as highlighted by Marsh and Burlin (Marsh et al. 2023) and Burlin at al. 2022) there is no such thing as disaster training completely without risk, and to push the boundaries of preparedness, some risks are not only worth taking but arguably necessary. In short, PROACTIVE operates from the standpoint that the only way to truly capture the needs of specific groups of people in the event of a CBRNe incident, is to include them in exercise planning and execution. Besides gaining a better understanding of the needs and behaviours of vulnerable groups through their participation in the exercises, the layout of the exercises (location, scenario) can be improved in terms of relevance and realism by including these groups in the development process.

As mentioned, it was an ambition of PROACTIVE to involve at least 60 civil society volunteers in the Ranst exercise. The number would mean a significant increase from the previous two exercises and also allow UKHSA to conduct a trial of the pre-incident information materials with two independent groups. With a final number of 55 volunteers, the ideal number of 60 was almost achieved and the trial with the pre-incident information materials was carried out successfully.

Participants		Gender		Vulnerability		
			Men	Women	Vulnerable (% of total)	Non- vulnerable
Volunteers	Minors	7	4	3	7 (12%)	-
	Adults <65	39	14	25	24 (44%)	25
	Adults >65	9	7	2	9 (16%)	_
Total		55	25	30	40 (73%)	25
Actors*		4	1	3	_	_
Total		59	26	33	40	25

# Table 1: Distribution of participant sample according to age, gender andvulnerability

\* Actors see 5.3.2



## 3.4. Date and place

The site for the exercise was agreed upon in January 2020. Furthermore, the setting for the joint activity would be Campus Vesta's annual examination of PGDM students. Since this had been established well in advance, a delegation of PROACTIVE representatives was invited to visit and observe the 2022 examination. This proved a valuable opportunity for the PROACTIVE representatives to familiarise themselves with the location, infrastructure, staff, and other relevant factors to the upcoming joint activity. The date for the 2023 exercise and joint activity was communicated to the PROACTIVE team late summer 2022, and set for May 13, 2023. As the exercise was part of an examination of disaster management students, the first responders were not being evaluated or examined. The students being examined were responsible for which units to deploy where and what information was being sent to the responders. All participating first responders were instructed to act as they would if this was a real event.

Campus Vesta is a former British military base situated on over 92 acres just outside of Ranst, Belgium. The site now functions as a training centre for police officers, fire fighters, and ambulance staff from the province of Antwerp and offers a wide range of facilities and infrastructure suitable for advanced training and realistic scenarios. Campus Vesta has modern classrooms, an auditorium, several buildings and structures for fire scenarios, a simulated highway accident, etc. Although most of this infrastructure was not used in this particular event, the size of the campus and distance between various buildings was a factor in planning and conducting the exercise.

## 4. INTENTION

This section describes the PROACTIVE objectives, including the key performance indicators (KPIs), introduces the scenario, the evaluation strategies and involved tools of the exercise. All PROACTIVE objectives and KPIs were clearly communicated and discussed with Campus Vesta prior to the exercise.

## 4.1. Strategic Objectives

The Strategic Objectives were reviewed after the first and second field exercises. It was agreed that they were still fit for purpose. There was a minor amendment to the overarching aims as the previous exercise sign posted the next field exercise, whereas Ranst was the final exercise in the series.

#### PROACTIVE / eNOTICE joint activity Strategic Objective

In partnership with eNOTICE, evaluate the effectiveness of responses to a CBRNe incident focusing on harmonisation of procedures and tools that support the needs of civil society, including those citizens that are vulnerable.

#### Field exercise PROACTIVE Overarching Aim

The overarching aim of the exercise was to test combinations of selected tools and evolving procedures in response to a CBRNe incident incorporating the direct participation of members of civil society that includes vulnerable citizens and non-trained staff. This included the following aspects:



- Understand citizen perceptions of the processes and procedures used by practitioners.
- Evaluate the usefulness of tools used by practitioners for managing people, both nonvulnerable and vulnerable citizens.
- Evaluate the effectiveness of tools developed within the project.
- Examine the ethical issues and dilemmas associated with responding to CBRNe incidents.
- Identify lessons learned to incorporate into the final report.

## 4.2. Tactical Objectives and KPIs

To meet those Strategic Objectives, Tactical Objectives were formulated. These evolved from the Tactical Objectives developed for the second field exercise and reflected the learning from it and the feedback received; in particular, the increased number of volunteers allowed for an experimental trial of the efficacy of the PROACTIVE pre-incident information (Objective 4). In addition, the objectives relating to the App were updated to reflect the growing maturity of the crisis communication system. The objective relating to ethical considerations remained unchanged. The Tactical Objectives for the Ranst exercise are set out in Table 2 below, and in turn the KPIs to measure the extent to which the Tactical Objectives were achieved are set out in Table 3.

No	Objective
1	To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercises with at least 15% of these representing vulnerable groups.
2	To evaluate the effectiveness of First Responders to recognise vulnerable people during a CBRNe incident.
3	To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe incident phases, through response measures (e.g. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.
4	To conduct an experimental trial of the efficacy of the PROACTIVE pre-incident information for influencing attitudes, perceptions and behaviours during an emergency incident response.
5	To evaluate if communication with the public during the incident is pitched at an appropriate level in terms of language, complexity, and channels.
6	To test the technical aspects of the PROACTIVE Crisis Communication System (App & Web Platform) in a live exercise environment.
7	To evaluate how useable and useful the PROACTIVE Web Platform is for practitioners in a live exercise environment.
8	To evaluate how usable and useful the PROACTIVE App is in supporting the needs of Civil Society in a live exercise environment (e.g., communication needs, better information exchange).
9	To develop the understanding of factors that may increase public compliance during CBRNe incidents.
10	To evaluate the extent to which ethical principles, dilemmas, operational factors, and assessment, as well relevant social issues, are considered by first responders and researchers in dealing with CBRNe incidents.

#### Table 2: Tactical Objectives for the Ranst exercise



#### Table 3: Tactical Objectives and Key Performance Indicators for PROACTIVE field exercises

No	Objective	Key Performance Indicator
1	To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercises with at least 15% of these representing vulnerable groups.	This was assessed by evaluating the number of individuals with vulnerabilities in the final volunteer sample. To categorise volunteers as vulnerable, the functional needs-based framework CMIST (Kailes et al. 2007) was used. This means individuals were considered vulnerable if one or more of the following functional needs was compromised; Communication, Medical Needs, Independence, Support, or Transportation. Examples of conditions rendering individuals vulnerable include old or young age, mobility impairments, and visual and hearing impairments.
2	To evaluate the effectiveness of First Responders to recognise vulnerable people during a CBRNe incident.	This was evaluated through: 1) focus group questions and prompts concerning volunteers' perceptions of responder effectiveness in recognising vulnerabilities, and 2) through the evaluators' observations focused on identification, prioritisation, and triage of individuals with vulnerabilities during the exercise. Q10 of the Observer Guide asked about this.
3	To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe incident phases, through response measures which are adapted to the needs of vulnerable persons.	The objective was evaluated using a multi-method approach. First, questions in the post-exercise questionnaire on the potential impact of accessibility on interactions with responders and (if applicable) undergoing the decontamination shower were included. In the focus groups, the perception of the volunteers on how they felt their vulnerability needs were, or were not, met was explored. Furthermore, observational data were collected on interactions between the responders and volunteers, particularly revolving around the assistance and support provided to volunteers. Q11, 13, & 14 of the Observer Guide asked about this.
4	To conduct an experimental trial of the efficacy of the PROACTIVE pre-incident information for influencing attitudes, perceptions and behaviours during an emergency incident response.	This was assessed through a mixed-factor experimental approach utilised during the exercise. Specifically, approximately half of the volunteers participating in the exercise received a briefing concerning pre-incident information while half did not. Responses to their post- questionnaire were compared (both between groups and over-time) to examine the effect of pre-incident information on measured outcomes. In addition, evaluators were explicitly tasked with observing any behaviours that may have resulted from pre-incident information during exercise play, and questions concerning the pre-incident information were included in the focus groups. While not considered part of the experiment, Q12 of the Observer Guide inquired on the helpfulness of the materials.
5	To evaluate if communication with the public during the incident is pitched at an appropriate level in terms of language, complexity, and channels.	This was assessed through multiple approaches. Firstly, through collaborative post-exercise questionnaire in which questions concerning responder communication were included. In addition, the focus groups included questions around volunteers' perceptions of responder communication. Furthermore, the observational data collection conducted by the PROACTIVE evaluators involved a focus on interactions between responders and volunteers. Q9 of the Observer Guide asked about communication.
6	To test the technical aspects of the PROACTIVE Crisis Communication System (App & Web Platform) in a live exercise environment.	This was assessed through monitoring of the Crisis Communications System performance during the exercise and recording key performance parameters, such as number of active users, App crashes, performance of iOS (Operating System for Apple) vs ANDROID, latency with reporting events, number of notification clocks, performance of App depending on the version of iOS or ANDROID. Summary of these evaluations was presented in the corresponding post exercise reports
7	To evaluate how useable and useful the PROACTIVE Web Platform is for practitioners in a live exercise environment.	The PROACTIVE web platform was used during the exercise by a PROACTIVE consortium Law Enforcement Agency partner. As such, this KPI was evaluated by the partner filling in a dedicated web platform questionnaire, with one section dedicated to usability and another to usefulness. The results from the survey are presented in Chapter 12.
8	To evaluate how usable and useful the PROACTIVE App is in supporting the needs of Civil Society in a live exercise environment (e.g., communication needs, better information exchange).	The PROACTIVE App is intended to be used by witnesses of a CBRNe incident and not by victims. As such, this KPI was evaluated via the inputs from observers. The Observer Guide questionnaire questions on the App were divided into two sections, one on usability and one on usefulness. While it was not expected that volunteers would use the App, those who would choose to do so were also given the opportunity to evaluate the usability of the App through volunteer questionnaires collected post exercise. Detailed statistics and observations of these assessments are presented in Chapter 10.5.3.



9	To develop the understanding of factors that may increase public compliance during CBRNe incidents.	This was assessed through several measures in the questionnaires, including: confidence and knowledge of actions, capability/ accessibility of response, perceived efficacy of the response, expectancy of receiving help from other volunteers, helping other volunteers, perceived responder legitimacy, anxiety, identification with volunteers, and identification with responders, perceptions of responder communication, perceptions of information provision, perceptions of responder competence, perceptions concerning privacy, perceptions of collaboration between volunteers, and expected compliance. Operational factors concerning the nature of decontamination and the exercise play were also considered as part of the PROACTIVE evaluator observations and are included as subsections within the results section of the report.
10	To evaluate the extent to which ethical principles, dilemmas, operational factors, and assessment, as well relevant social issues, are considered by first responders and researchers in dealing with CBRNe incidents.	As in the Rieti exercise, Ethical issues and dilemmas were addressed by employing a combined strategy. On the one hand, the strategy consisted of ensuring responsible research and respect for participants, including a Data Management Plan, informed consent, ethics risk assessment, preventative measures and briefing for participants detailed below. On the other hand, following the European Commission reviewers' recommendations, it included collecting specific information on first responders' performance regarding specific and predefined ethical concerns, variables and tensions between principles. The latest analysis is based on three main data collection tools. Firstly, fieldwork was conducted by ETICAS (information collected at two focus groups and observations). Secondly, ethical questions were included in the observer's guide and the analysis can be seen in Chapter 9 below. They were also analysed for the project Social Impact Assessment in D8.4 from a different perspective. Finally, the reporting of the External Ethics Advisory Board (EEAB), which is also fed by the theoretical-methodological approach built by ETICAS and CBRNE through the provision of an evaluation guideline. This combination of sources provided comprehensive data on the relative alignment of management of humans in the Campus Vesta scenario, including its initial response, triage and decontamination procedures.



## 4.3. PROACTIVE tools

## 4.3.1. Development of the PROACTIVE pre-incident information material

The full development of the PROACTIVE pre-incident information materials is documented in Deliverables D5.1 and D5.2. In short, pre-incident information material (designed to be distributed to the public in order to provide information about what to do in the event of an incident requiring decontamination) was developed based on the recommendations arising from WP1 and detailed in D1.1 (Hall et al. 2021a), D1.2 (Davidson et al. 2021), and D1.3 (Hall et al. 2021b) and workshopped across the lifetime of the project. Specifically, this process of review and iteration (through research and consultation with both representatives of the civil society and practitioners drawn from across the EU and beyond) resulted in an 8th iteration of the material for testing at the Ranst exercise. An example figure from the pre-incident information is presented below:



## Figure 2: PROACTIVE pre-incident information

Unlike the previous two exercises, the pre-incident information was not disseminated to the volunteers ahead of time (as the Ranst exercise contact did not wish to overload the volunteers with information) but was instead presented as part of a pre-exercise briefing to half of the attending volunteers. More detail will be provided in the evaluation methodology section (4.4), but this enabled PROACTIVE to conduct an experimental assessment of the utility of the pre-incident information by comparing responses and behaviours of those who did receive the pre-incident information with those who did not receive it.



# 4.3.2. PROACTIVE web platform and mobile App development for the Ranst Exercise

The PROACTIVE web platform and mobile App were significantly reviewed and modified for the Ranst exercise based on an iterative approach adopted by the project. Numerous iterations of the developed system were implemented as a feedback loop for system optimisation as shown in below diagram.



#### Figure 3: Iterative approach to mobile App development

As it is shown on this figure, initially focus of mobile App development was placed on the CSAB requirements, then the PSAB and the final exercise will amalgamate the two. The final phase of the development was dedicated to incorporation of the currently available content, effectively showcasing the usability and purpose of the developed mobile App during and post exercises, which produced recommendations for further optimisation, as an integral part of the overall iterative process.

As mentioned earlier, the PROACTIVE CBRNe mobile App is an integral part of the PROACTIVE Crisis Communication System therefore the development of mobile App was closely correlated with the development of the overall Crisis Communications System. Figure below illustrates the block diagram of the overall Crisis Communications System and highlights the interaction of the mobile App with all components of the overall system.



#### Figure 4: Mobile App as an integral part of the PROACTIVE CBRNe Communications System



As it follows from this diagram, the PROACTIVE CBRNe mobile App is a key component enabling bi-directional communications between the users and the administrators of the overall PROACTIVE CBRNe Communications System. When developing the PROACTIVE MA, RINISOFT understood that there isn't a single "most advanced" mobile App architecture, as the choice of architecture depends on the specific requirements, complexity, and goals of the application. More details about the mobile App architecture and rationale for selecting the final version are described in Deliverable D4.3

## 4.4. Evaluation methodology

The methodology employed for the third field exercise was built on that used for the first and second field exercises, as outlined in D6.3 and D6.4 respectively, but with one important addition: a betweensubjects experimental manipulation was introduced whereby half of the participants received a preexercise briefing concerning the pre-incident information material (and a copy of the material to read during the briefing) while the other half did not. When combined with the pre-post within-subjects method used in the previous exercises (i.e., participants receiving a questionnaire before and after the exercise, along with participating in a focus group post exercise), this yielded a two factor, mixed methods experimental design. In other words, a 2 (pre-incident information: received or not - between subjects) x 2 (time: pre-exercise and post-exercise - within subjects) mixed design.

The procedure for the evaluation on the exercise day was as follows. First volunteers completed a pre-exercise questionnaire (concerning expectations, see section 4.4.1) after which half of the volunteers (pre-selected randomly prior to the exercise day) were asked to leave the room while the other half received the pre-incident information briefing. This would ideally have been delivered by PROACTIVE staff, however, in the interests of expediency on the day, Campus Vesta delivered the briefing; it lasted approximately 5-10 minutes and ran through the steps outlined in the pre-incident information, informing volunteers that they could use anything they heard during the exercise if they thought it would be useful.

Following this briefing, all volunteers reported for the start of the exercise. During the exercise, observational data (concerning behaviours and interactions) were collected by the PROACTIVE evaluators (see section 4.4.2) Finally, after the exercise, volunteers completed a post-exercise questionnaire (see section 4.4.1) and participated in a focus group (see section 4.4.3) concerning their experiences and future intentions. Volunteers' pre- and post-exercise data were linked together using the locker numbers that they were allocated for their belongings (so that volunteers could list the number on the questionnaires rather than having to use their name). This number was also used to capture data concerning whether or not volunteers received the pre-incident information briefing.

In order to ensure that the children participating in the exercise were able to participate fully in the evaluation, different questionnaires and focus groups materials were developed and used for adults and children.

Lastly, the evaluation for this exercise was approved by UK Health Security Agency Research Ethics and Governance Group (R&D 499) and the PROACTIVE Project Ethics Officer (PROACTIVE/PEO no 19/24.04.2023

The following sub-chapters provide detail on each of the evaluation methodologies used.



### 4.4.1. Pre-exercise and post-exercise questionnaires for volunteers

#### Adult's Questionnaires

Questionnaires were completed by adult volunteers using pen and paper both before and after the exercise. The adults' pre-exercise questionnaire (Appendix 2) contained the following measures: confidence and knowledge, perceived responder legitimacy, expectancy of help, expectancy of helping others, identification with volunteers, identification with responders, levels of anxiety, and expectation of compliance. All items were rated on a scale from 1 (Strongly disagree) to 7 (Strongly agree). One yes or no question concerned whether participants had used the PROACTIVE app, and two open-ended questions regarding participants' expectations of the exercise were asked.

The post-exercise questionnaire (Appendix 3) contained measures in the following order: confidence and knowledge, capability/accessibility, response efficacy perceptions, perceived responder legitimacy, expectancy of help, willingness to help others, levels of anxiety, identification with participants, identification with responders, perception of responder communication, perceptions of information, perceived responder competence, perceptions of privacy, co-operation among participants, engagement in the exercise, behavioural expectations (including expectations of compliance), perceptions of the ethics of the exercise, and perceptions about the PROACTIVE App. All items were rated on a scale from 1 (Strongly disagree) to 7 (Strongly agree). There was a question pertaining to whether the participant had any disabilities (multiple response options allowed). Yes or no questions were included in the post-exercise questionnaire: "I went through decontamination in the exercise"; "Did you receive a briefing and pre-incident information sheet about actions you could take before the exercise?" (If participants responded "yes", they were subsequently asked whether they used and/or discussed the pre-incident information with other volunteers during the exercise). Open-ended questions were also included covering perceptions of the pre-incident information (if applicable, how it was used and why it was used or not used by the participant); perceptions of ethical response, and perceptions of the PROACTIVE App.

#### **Children's Questionnaires**

As with the adults, questionnaires should be completed by children volunteers using pen and paper both before and after the exercise. In the children's pre-exercise questionnaire, children were asked measures of perceived responder legitimacy and positive and negative affect. All items were measured on a two-point scale ("Yes (3)"/ "No (3)"), the smiley face was on the Yes when "yes" was positive (e.g. positive emotion) but was switched when negative. A two-point scale was used in order to maximise understanding among children. See Appendix 4.

In the post-exercise questionnaire, children should complete measures on perceived responder legitimacy, responder communication, trust in the responders, understanding decontamination and emotions. All items were measures on the same "Yes (3)" or "No (3)" scale. See Appendix 5.

#### 4.4.2. Observation guide for evaluators

As per the previous exercise, six PROACTIVE evaluators were tasked with collecting observational data concerning behaviour and interactions during the exercise. All six individuals were members of the UKHSA Behavioural Science and Insights Unit with experience in conducting observational data collection.



As in the previous exercise (and consistent with the recommendations in D6.2, the observational evaluation involved a mixed coding framework. This meant the inclusion of structured elements, drawn from the PROACTIVE objectives and experiences during previous exercises, to guide the observation (relating to communication, pre-incident information behaviours, non-compliant behaviours, helping behaviours, confusion, and adaptations for vulnerable individuals). These structured elements are presented in the observational data coding schedule included in Appendix 6. All evaluators producing free-text observational notes concerning these elements and anything else observed of relevance to the PROACTIVE strategic and tactical objectives. This approach enabled us to ensure that both: a) any late changes to exercise conduct, and; b) any unexpected behaviours or occurrences, could be observed.

Given the lack of advanced detail concerning the precise nature of the response, PROACTIVE evaluators were required to be very flexible, moving with the participants and emergency responders through the various stages of the response. Where possible, two individuals were allocated to evaluate each aspect of the exercise (at a bare minimum there was one individual at each element of the exercise as it was unfolding). Dynamic decisions were made by PROACTIVE evaluators during the exercise play in order to ensure maximum coverage of the exercise site. In addition, a number of video cameras and stills cameras were used to capture images/ video during the exercise for research purposes as stated in the consent form. This data was collected to support the evaluators while analysing the observational data, and to provide additional detail for the report (with all identifiable details obscured in the photos included herein). Following the Data Management plan and the Information sheet provided to participants, any video recorded data collected for research purposes will be anonymised before publication.

## 4.4.3. Focus group guide for focus group leaders

Following the exercise, participants were allocated to rooms to both complete the post-exercise questionnaires and also participate in the focus groups. Allocation to rooms for participants was random and determined by the time at which they presented to the focus group co-ordinator, with two exceptions: 1) due to issues with the elevators at Campus Vesta, individuals who were non-ambulant were co-located in one focus group room on the ground floor; 2) children and their parents/ accompanying guardians were allocated to children-specific focus groups with their own focus group guide. Five of the seven total focus groups were facilitated by native Flemish speakers from either KU Leuven or the University of Antwerp. These focus group facilitators had received briefings and training from the PROACTIVE evaluation lead on how to conduct focus groups. Of the two remaining focus groups, one was conducted by the PROACTIVE evaluation lead with live translation provided by one of the native Flemish speakers. The other included individuals with hearing impairments and was facilitated by a member of the PROACTIVE evaluation team, making use of both a sign language and Flemish interpreter. In this way, the focus groups were sufficiently accessible so that everyone who participated in the exercise and who wanted to take part in the focus group was able to do so.

In the short sub-sections that follow, further information concerning the scheduled questions for the adult and children's focus groups is provided.



#### Adult focus group schedule

The adult focus group guide (Appendix 8) contained questions relating to participants' experiences and perceptions during the exercise, including: their general experiences of the exercises (e.g., "tell me about your experiences of the exercise"); perceptions of responders' ability to understand and respond to vulnerabilities (e.g., "did the emergency responders make any modifications to how they dealt with the situation based on vulnerabilities?"); perceptions of responders' ability to manage the exercise (e.g., "generally, how do you feel the emergency responders managed the exercise?"); participants' communication and information needs (e.g., "what do you think of the information that you received during the exercise?"); perceptions of decontamination (if used in the exercise; e.g., "how did you feel about going through a decontamination shower during the exercise?); interactions between volunteers (e.g., "tell me about any interactions that you had with other volunteers, or observed between volunteers, during the exercise); and pre-incident information.

Due to logistical challenges associated with individuals finishing participation in the exercise at different times, it was not possible to separate out the focus groups into those who did and did not receive the pre-incident information. Therefore the questions asked in the focus groups varied depending on whether the individuals therein had received the information. Specifically, these questions either concerned the participants' perceptions of the information (for those who received it, e.g., "what did you think of the information you were provided with before the exercise?") or focused on what they saw/ experienced others doing (if they did not receive it – e.g., "did anyone who had received it discuss the pre-incident information with you?"), alongside more general questions about pre-incident information(e.g., "how do you feel about information like this being made available to people?"). The focus group guide was translated into Flemish and was available to the focus group facilitators in Flemish and English.

#### Children (and parents/ guardians) focus group schedule

A dedicated children's focus group guide was developed focused on themes relating to their experience of the exercise (Appendix 9). Specifically, their overall participation (e.g., "how did you feel during the exercise?"); perceptions of responders/ responder communication (e.g., "what did you think of the police and firefighters"), and perceptions of the exercise process/ behaviours (e.g., "how did you feel about what the police and firefighters asked you to do?"). These focus groups were also attended by the parents/ accompanying guardians of the children who were free to rephrase questions for their children and also to provide feedback based on their own experiences. As for the adult guide, the children's focus group guide was translated into Flemish and was available to the focus group facilitators in Flemish and English.



## 4.4.4. Observer guides

#### For invited PSAB, CSAB & EEAB Observers

In order to gain a further level of understanding of the exercise, invited observers from the PROACTIVE PSAB, CSAB, EEAB, alongside practitioners from the consortium, were asked to also self-report their observations. The four VIPs who attended the exercise on behalf of the European Commission were also invited to fill out the observer guide, at their own discretion. As such, an observer guide with 50 questions (Appendix 10) was developed that covered 5 sections to fill in:

- Information about the observer
- Questions about the exercise
- Questions about the App
- Questions on ethics
- Questions on the organisation of the event

Each section was composed of closed and open questions. The answers to the closed questions were provided on Likert-type scales and were accompanied by open questions which gave the observers the possibility to explain their answers and to give examples.

The observer guide was similar to the one used in the two previous exercises. It was developed by UIC and was updated based on feedback from the Rieti exercise to clarify certain questions which were perceived as confusing by respondents as well as some slight adjustments to better meet the Tactical Objectives for this specific exercise.

The observer guide was sent to the observers a week prior to the exercise and an online pre-exercise observer briefing was organised for the concerned PSAB, CSAB, EEAB observers, also a week before the exercise.

#### For EEAB and internal ethics observers

To support the Task 8.4 Ethical and Societal Impact assessment of the project, an ethical evaluation guide for internal and external ethics experts has been created. In line with the work done in Rieti, the focus of the ethics evaluators was to identify the ethics issues in CBRNe response, focusing on vulnerable groups, specifically during triage and decontamination operation.

With the purpose of properly addressing the ethical implications of preparedness and response protocols through PROACTIVE fieldwork, ETICAS developed an ethics conceptual framework. It followed the "modified consequentialist approach" proposed by Rebera and Rafalowski (2014). It is an on-the-spot ethical decision-making perspective which works by setting a central value or principle (i.e. saving lives) and using it as the basis of a "goal-oriented heuristic" (Rebera 2019: 42). Additional core rights and values are factored-in as side-constraints (cf. Nozick 1974, Kinslaw et al. 2009), i.e. "minimum standards beyond which any violation is unacceptable" (Rebera 2019: 42). This represents a flexible basic framework, but it should also be noted that:



- An ethos must recognise that priorities may change in the event of, or during, an incident (ACP 2012: 37).
- Significant and ongoing effort is required to ensure that the values given by an ethos can be readily operationalised, i.e. translated into actions and decisions in the field.

Taking the above into account, the methodology, of which the theoretical basis will be fully reflected in upcoming deliverable D8.4, considers the following type of ethical dilemmas and categories in Table 4:

Task	Overriding goal of the task and main principle	Side ethical constraints and principles	Choices and constraints (standard for violation of main principle)
Conducting disaster triage	I.e. mitigate impact on health	Vs relative impact on privacy	Water-curtains in public view
	I.e. avoid negative consequences and preserve equity	Vs decide the order of treatment of (patients or casualties)	Prioritise vulnerable groups (properly pre-established)
Conducting decontamination	I.e. save lives	Vs impact on respect for autonomy	Balance individual rights with social good
	I.e. follow consent	Vs when the patient is unconscious	Prioritise health and safety
	I.e. respect privacy	Vs rapid management and physical protection of individuals	To determine the use of water-curtains in public view
Evacuations, dealing with the public	I.e. save lives	Vs physical and psychological impact	Help and information points outside targeted area
Effective communication while in PPE and at a general level	I.e. prevent risks and complications and to increase public compliance	Vs physical and psychological impact	Factual, trustworthy and timely information to the public
Management of volunteers and healthcare workers	I.e. reduce harm	Vs restriction of individual liberty, proportionality, reciprocity, clarity, transparency and trust, solidarity, and respect for human dignity, non- discrimination and equity	Provide timely and comprehensive information on side effects of policy action

Table 4: Type of ethical dilemmas and categories

The above elements were translated into a set of variables and indicators for data collection, which worked as a guideline for adequately spotting key ethical dilemmas and issues in the behaviour of first responders. Data on these dimensions were collected on-site by two researchers from ETICAS through participant observation and the intervention in two focus groups. Moreover, to ensure coherence in data collection and properly triangulate information sources, questions concerning the above issues and ethical dilemmas were included in the observer's and EEAB guides.



## 4.5. Scenario overview

The following sections describe how the final version of the two scenarios used during the exercise were elaborated through iterative discussions between PROACTIVE and Campus Vesta. The decision to have the exercise include two separate but interrelated scenarios was made by Campus Vesta as a result of the large number of PGDM students who needed to undergo examination. PROACTIVE was only involved in one of the scenarios, a decision which enabled Campus Vesta to develop the other scenario without restrictions or concerns related to vulnerable participants.

### 4.5.1. Scenario development

Initial scenario discussion started in early autumn 2022. Since the collaboration between the two projects, eNOTICE and PROACTIVE, was based on the premise that CBRNe is a common denominator, a CBRNe component was a compulsory element of the scenario. From Campus Vesta's side it was immediately made clear that the scenario would under no circumstances include a terrorist component as this would trigger a federal response mechanism according to Belgian response procedures and effectively end the exercise prematurely. There was no further explanation or definition provided, regarding what constitutes a terrorist attack. From PROACTIVE's point of view there were no objections to this requirement as long as a type of CBRNe threat was involved. A requirement from PROACTIVE was that the scenario included a situation that would call for some form of decontamination of members of the civil society. The decontamination procedure has been present in all three of the PROACTIVE exercises and is a process that necessitates substantial interaction between the first responders and the civil society volunteers. This interaction is essential since two of the PROACTIVE tactical objectives were to evaluate the interaction between first responders and civil society volunteers and also the first responder's ability to identify vulnerable volunteers. Thus, incorporating a decontamination process into the exercise scenario was a way to ensure that 1) the first responders had to engage with the volunteers, providing them information and instructions regarding the decontamination procedure, which provided the evaluators with situations of interactions to observe and evaluate and 2) that the data would be comparable between the three exercises. Campus Vesta was receptive to adapting the scenario so that decontamination would be included.

The PROACTIVE core planning group visited Campus Vesta February 27-28, 2023. During this meeting, the decision was made to only participate in one of the two scenarios which would constitute the wider exercise and PGDM examination. Following this decision, the two scenarios were developed further. Scenario 2, in which PROACTIVE was not involved, was elaborated to include dynamic elements such as fighting and stabbing which would have been unsuitable for PROACTIVE's profile of civil society volunteers, especially children and minors. Ultimately, the decision to focus only on one scenario allowed PROACTIVE to use resources more effectively and assure adequate attention to participant safety and well-being. At the same time, it enabled Campus Vesta to incorporate additional aspects and conditions to the students' examination.

Following the February meeting, no major changes to the scenario were made. About a month before the exercise, UMU was provided a copy of the final scenario. At that point, the PROACTIVE core group could move on with the final preparatory actions.

The suggestion to include professional actors in the exercise was introduced by Campus Vesta but welcomed by PROACTIVE. It was a lesson identified in previous exercises that during prolonged



waiting sessions caused by time consuming segments, such as erecting the decontamination tents, volunteers could start to fall out of character and deviate from the scenario. The inclusion of professional actors was thought to be a good way to raise the tension as needed. Campus Vesta had experience using professional actors and needed them for elements of both scenarios, namely stabbing, fighting, and symptoms of food poisoning.

## 4.5.2. Final scenario

The final version of the scenario with PROACTIVE was as follows:

A fictitious bio-technical university is having an event where students, family and friends, in total about 50 people, are gathered in a larger classroom style venue. A small group of students have recently been expelled from the institution and are about to use the event to seek revenge. Part of the festive gathering is a fundraiser to benefit local charity organisations and representatives of these organisations are also present. As the scenario begins to unfold, guests are served coffee and cheesecake. What they don't know is that the cheesecake has been purposely contaminated with Staphylococcus, a fast-acting bacteria causing symptoms synonymous with food poisoning. Some of the guests are starting to experience severe discomfort about 20-30 minutes after eating the cake. At this time, a perpetrator enters the room and throws an unknown white powder on members of the crowd before quickly making an exit. First responders are alerted and called to the scene by one of the participants. As they arrive, the scripted part of the scenario is done and what ensues is essentially up to the responders, the PGDM students directing the units, and the volunteers. The volunteers have been instructed to act as they believe they would in a real incident. Overseeing the scenario and the development of the exercise at all times is the exercise control, led by Campus Vesta's Exercise Director.

The second scenario is of limited relevance to PROACTIVE but is worth mentioning because units allocated to the first scenario were potentially limited by the fact that the second scenario unfolded in close succession to the first. Part of the examination for the PGDM students was to evaluate resources and assign first responder units accordingly. The premise for the second scenario was a party for students of the same fictitious university. During the party, which is attended by about 100 students and includes loud music, dancing and disco fog, the same perpetrators from the first scenario enter and cause a violent fight to break out, where some students are stabbed with a knife or other sharp objects. The execution of scenario 1 is described in detail in section 10.4.1.



## 5. METHOD

The focus of this chapter is the exercise management as well as the planning process for the exercise. Furthermore, different roles and responsibilities for the exercise are described. This also includes the volunteer recruitment process. The last part of the chapter addresses the method for testing the PROACTIVE tools (Pre-Incident Information and PROACTIVE App) in the framework of the exercise.

## 5.1. Applying good practices identified in previous exercises

Several challenges were identified in previous PROACTIVE exercises, and a corresponding number of key takeaways have been established (see chapter 11 in D6.3 and D6.4). These challenges and takeaways were considered by the exercise planning group when organising the Ranst exercise.

Takeaway	Content	Considerations described/discussed in sections
Key Takeaway 1	Compensate for insufficient public connections using own resources as much as possible and as little as necessary	See section 6.6.2 Exercise sites are often quite large and not always centrally located. The availability of public transportation must be weighed against the cost of catered transportation options.
Key Takeaway 2	Engage with the exercise host early on to identify necessary procurements and storage options	See sections 5.1.1 and 6.7
Key Takeaway 3	Engage with the exercise host early on to identify necessary security and vetting requirements	See section 6.2.1 for an explanation of how this was a minor issue in Ranst compared to Rieti
Key Takeaway 4	Recruit children in groups to increase numbers	The recruitment of volunteers was successfully managed by Campus Vesta as described in sections 6.2.1 and 6.2.3
Key Takeaway 5	Consolidate consent forms as much as possible	See sections 3.1 and 9.3 for descriptions of how a consolidated consent form is desirable, yet not always practical
Key Takeaway 6	Make age restrictions around consent clearer in the information sheet and consent process	See 9.3. All minors participating in the Ranst exercise were provided Assent forms for children
Key Takeaway 7	Incorporate actors into the volunteer group during the exercise	See sections 4.5.1, 5.3.2 for why and how professional actors were included in the Ranst exercise
Key Takeaway 8	Find balance between proximity of observers to exercise and necessary distance to volunteers and first responders	See sections 5.3.1 and 6.5.1 for descriptions of how this was managed during the Ranst exercise
Key Takeaway 9	Clearly define the role of the narrator to meet the respective needs of the observers	See sections 5.1.2 and 5.3.1

#### Table 5: Takeaways from previous PROACTIVE exercise (Rieti)



## 5.2. Exercise management

This section describes the Ranst exercise management in three phases (pre-exercise, exercise, post-exercise). For the previous two exercises, PROACTIVE has been the organising partner, alongside management from FDDO and the NBC School respectively. This was not the case with the Ranst exercise where Campus Vesta was the organiser, ultimately responsible for e.g. recruitment, safety, scenario development. Campus Vesta appointed one main point of contact, representing both Campus Vesta and eNOTICE. This person was not the exercise director. Navigating this new arrangement took some readjustment on behalf of PROACTIVE, mainly in terms of roles and responsibilities. Even though PROACTIVE had no real commander authority, the roles were defined as in the previous two exercises, including exercise director and deputy director.

### 5.2.1. Pre-exercise

As task leader, UMU had the main responsibility for organising the PROACTIVE elements of the Ranst exercise, making them the hub for the communication between Campus Vesta and PROACTIVE partners. The exercise director from UMU was supported by a deputy director from work package lead CBRNE Ltd.

A PROACTIVE core exercise planning group was established in January 2023, and consisted of members from UMU, CBRNE and UKHSA. This included the exercise directors of the two previous PROACTIVE exercises, one of them also being the leader of WP6 (joint exercises, evaluation and validation of the tools). This group was responsible for the coordination and planning of all aspects of the exercise, including setting up strategies, creating process maps and time- and work schedules. A planning group with additional team members was also created, which included core group members along with UIC, ETICAS, RINISOFT and DHPol. Internal meetings were arranged at regular intervals, increasing in frequency during the time leading up to the exercise. These internal meetings were interspersed with joint planning meetings with the host organisation of the Joint Activity - Campus Vesta at Ranst. The planning meetings were a combination of virtual and face to face, including the visit to the Campus Vesta training centre in February prior to the exercise. All core group members attended the on-site meeting which also included the Campus Vesta exercise director and the General Manager. This visit provided the opportunity to get familiar with the exercise site, discuss and finalise participation regarding the potential scenarios, clarify PROACTIVE requirements for the exercise, apportion tasks and responsibilities between organisations, and plan the logistical arrangements. As identified through best practice, and to ensure effective communication and dissemination of information within the PROACTIVE consortium, bi-weekly meetings were set up with Campus Vesta and PROACTIVE planning groups. These were used to update and consult with respect to the Ranst field exercise planning; these meetings were also used to allocate exercise roles and responsibilities to consortium partners.

As per the first field exercise, the IIMARCH methodology was utilised to conduct internal planning meetings, with an IIMARCH checklist adopted to ensure all aspects of exercise planning were considered. Notes and action points were recorded at planning meetings with responsible members providing updates. These notes and actions were recorded by UMU and CBRNE. An "action log" and "to do list" were created and covered during meetings.

Building on the success from previous exercises, the process maps were further developed and eventually consolidated into volunteer- and observer flow charts and handling of personal property.



Furthermore, the spreadsheets outlining roles and responsibilities, and detailed timelines were refined to facilitate pre-exercise management.

To support the final planning and preparations, a lecture room was rented at Campus Vesta the week before the exercise. This provided an exercise planning office where the PROACTIVE equipment could be stored, forms and promotional material put together, and exercise run throughs could be conducted to test procedures and processes and deliver briefings to PROACTIVE staff. The activity was coordinated by the exercise director and supported by the rest of the planning group from UMU, CBRNE Ltd and DHPol. As additional staff and resources arrived, multiple tours were arranged in the areas of the training centre. It was important to explain the flow of volunteers and observers in detail to everyone, to finalise plans, and to instruct all present PROACTIVE members as to what would be expected from them throughout the day of the exercise.

#### 5.2.2. Exercise

As in the previous two field exercises, a clearly defined command structure was established within the PROACTIVE group, starting with the exercise director and the deputy. These were supported by task leaders assigned to identified exercise functions which are set out below. The exercise director took overall command and coordination of the PROACTIVE staff and tasks whilst the deputy provided a backup in ensuring resilience and support to the various functions.



Figure 5: Organisation of key tasks and appointed leaders


Most task leaders were supported by Flemish speakers in the form of interpreters, previously recruited through two local universities, or narrators provided by Campus Vesta. The interpreters were there to facilitate communication with volunteers and the narrators to inform observers about the response of first responders during the exercise.

Building on what worked well in the previous two field exercises, all PROACTIVE partners acting as facilitators were provided with orange tabards so they could be easily identified (see Chapter 5.4). Initially, Campus Vesta did not see the necessity of facilitators supporting volunteers throughout the exercise, but this changed once the PROACTIVE exercise planning group shared experiences from previous exercises and assured them that facilitators would not interfere with the activities of first responders. Orange was also added to the colour scheme usually used during Campus Vesta exercises. The orange tabards allowed wearers access to the exercise site to support the management and transportation of volunteers around the site. The orange tabards also ensured that all the volunteer property could be recovered and returned in a timely manner. For Campus Vesta, PROACTIVE, and eNOTICE alike, the tabards played a key role in identifying who belonged where.

Colour of tabard	Campus Vesta Role		PROACTIVE Task
Orange	Not Used	Facilitators	Support, logistics
Yellow	Visitors	Observers	Observational data collection (See 5.3.3.)
Blue	Observers	Evaluators	Observational data collection (See 5.3.3.)
Green	Exercise Staff	Exercise Management	Management of PROACTIVE staff and tasks

Table 6: Colours of tabards used at Campus Vesta for PROACTIVE participants

### 5.2.3. Post-exercise

As was established in the first field exercise, and identified as good practice, the command structure remained in place post-exercise whilst the site activities were scaled down. The exercise director was responsible for ensuring the arrangements for the focus groups were in place and that the volunteers were able to attend having had any welfare needs met. Focus groups could only be conducted once interpreters were available, as they were held in Flemish, and PROACTIVE partner UKHSA responsible for conducting the focus groups had no Flemish speakers. As interpreters were used to support the interactions between staff and volunteers throughout the exercise site, it was important for management to ensure these were transferred to the area where the focus groups were conducted on time. PROACTIVE was responsible for ensuring food and refreshments were in place, and for supervising the dismantling of the physical assets on the exercise area; this meant all property and equipment was accounted for. Once all the activities were completed all volunteers were given gift certificates and a PROACTIVE tote bag as a sign of appreciation for their participation. PROACTIVE checked their names off the registration list to ensure that they had received their gifts and personal properties, and that they were officially leaving the Campus Vesta perimeters. No PROACTIVE staff were permitted to officially leave their role until permitted to do so



by the exercise director. The exercise directors finished with a site inspection before formally handing it back to Campus Vesta.

Exercise management responsibilities continued after the exercise, incorporating both logistics and wellbeing. There was ongoing engagement with the videographer to create the dissemination videos, and follow-up with the civil society volunteers and organisations to check on their welfare and wellbeing and establish whether there were any ongoing issues that needed to be addressed. The exercise management group also coordinated the gathering of material for the D6.5 report and was responsible for contributing to and overseeing the production of the report.

# 5.3. Exercise timeline and processes

# 5.3.1. Exercise planning process

As mentioned, due to the large number of PGDM students, Campus Vesta decided to create two interrelated, but separate scenarios. This decision initiated conversations, both internally within PROACTIVE and with Campus Vesta and eNOTICE representatives, regarding the potential involvement of PROACTIVE in one or both scenarios. Opportunities related to participating in two scenarios were weighed against practical limitations of attempting to organise, observe, and evaluate two separate scenarios. To facilitate the communication and negotiation process surrounding the scenarios, two key documents were created. Campus Vesta formulated an itemised list labelled 'OK/Not OK', which essentially broke down the rights and responsibilities of each tri-partied partner. PROACTIVE on the other hand, created a list of 'Must Haves/Nice to Haves', to clearly indicate what elements were necessary for the project to meet its strategic and tactical objectives. The 'Must Haves' included elements such as a decontamination procedure, the necessity to be able to compare first responders' interaction with the civil society volunteers across the three exercises, and a minimum of 15% vulnerable volunteers, as specified in the PROACTIVE Description of Actions.

The PROACTIVE core group went through the 'OK/Not OK' list and initially marked statements with OK, Needs Clarification (C), and Needs Discussed (D). The items marked C were clarified in an online meeting prior to the site visit in Ranst and the items marked D were discussed in person during the February visit where the PROACTIVE core planning group visited Campus Vesta. During that same physical meeting between PROACTIVE and Campus Vesta, it was mutually agreed and decided that PROACTIVE was to only participate in one part of the exercise. This part was called scenario 1 and in the context of this document, it is also referred to as the PROACTIVE scenario.

The Campus Vesta team accepted the list of Must Haves and effectively incorporated a decontamination component in the scenario relevant for PROACTIVE.

The core group was introduced to Campus Vesta's timeline for the exercise day during the February visit. This initial timeline became the basis for a number of internal PROACTIVE documents that were used to plan various aspects of the exercise, examples being early versions of volunteer- and observer flow charts. These documents enabled PROACTIVE exercise management to have an overview of required tasks to be performed prior to, during, and after the exercise and to estimate the required time. The process flow charts proved to be useful tools during internal planning meetings with PROACTIVE partners and it became clear that more time was needed to perform all tasks in the pre-exercise phase. In meetings with Campus Vesta, the flow charts also served as a framework to identify and address issues in the existing plans. For example, based on lessons learnt from



previous exercises, PROACTIVE insisted that the volunteers arrive earlier and following discussions they were re-scheduled to arrive 30 minutes earlier than originally planned. More detailed process maps were later developed, focused on the overall handling of volunteers throughout the day and the handling of their personal property. During the exercise day they were further used as information aids for the involved partners in active roles.

Campus Vesta had a limit for the amount of consortium members PROACTIVE could bring to the exercise. Initially this number referred to the total number of consortium members, regardless of their role and function. As planning advanced and the exercise drew nearer, PROACTIVE was able to demonstrate the need for support staff who would remain inside the main building and the original number allocated to PROACTIVE was only applicable to those those PROACTIVE members who were positioned outside the main building and closer to, or in, the exercise area. These restrictions led to the development of a document that clarified roles and number of persons required to be outside. This document became the basis for the planning of PROACTIVE staff, regarding their roles and responsibilities. A detailed exercise timeline was later developed based on the identified key tasks and their subtasks (Appendix 12).

Discussions with Campus Vesta during the days leading up to the exercise preceded detailed plans that were based on maps of the exercise area (see figures 6 and 7). These plans included names, number of interpreters needed, places and routes, and were used to clarify volunteer flow to PROACTIVE staff prior to the exercise.

# 5.3.2. Planning the flow of volunteers

A key aim of PROACTIVE is to enable members of civil society (vulnerable and non-vulnerable) to participate in CBRNe exercises and to observe the interactions between volunteers and first responders. For that reason, plans had to be set to assure a safe and effective flow of volunteers prior to, during and after the exercise. Plans were created to fit the requirements of PROACTIVE (i.a. the observation/evaluation of interaction between volunteers and first responders) and Campus Vesta (i.a. being the final examination of Campus Vesta's Post Graduate Disaster Management course). Any changes in scenarios or plans made by Campus Vesta often led to amendments in volunteer flow plans.

#### Exercise pre-conditions

Several factors and pre-conditions affected plans made by the exercise management for the Ranst exercise. These were based on the OK/Not OK and Must have/Good to have lists described above, agreements with, and directives made by, Campus Vesta.

Agreements included: when and where volunteers would be handled by PROACTIVE staff, registration requirements (signed consent form included), dressing rooms and storage of personal valuables, content of pre-exercise briefings, key aspects of post-exercise redressing and the need to include facilitators throughout the day of the exercise.

Campus Vesta prescribed the following points which the PROACTIVE exercise management could not negotiate, namely:

• all communication with volunteers would be conducted by Campus Vesta



- place of registration, building for dressing/redressing and storage of personal items
- place and number of persons attending parts of pre-exercise briefings
- place of exercise
- place where volunteers would be released and their role in the exercise officially over (volunteer EndEx)

#### Exercise plans for the flow of volunteers

Based on the above-mentioned circumstances and conditions, PROACTIVE exercise management developed the following plans for the process of the volunteers throughout the exercise day.

In order to save time in the process prior to the exercise, volunteers were instructed to arrive dressed in swimwear underneath clothes that they would wear throughout the exercise.

All volunteers were to arrive at the exercise site by their own means and be greeted and directed by Campus Vesta representatives. PROACTIVE facilitators would then register volunteers and check and collect their signed consent forms (building 1, see figure 6). Facilitators would then chaperone volunteers to locker rooms situated in building 3, where additional facilitators would collect personal property and valuables of volunteers to store them throughout the duration of the exercise. Volunteers were then to be escorted to a briefing room in building 1 where refreshments would be served. This was to be followed by a safety briefing conducted by a representative of Campus Vesta. Half of the volunteers were to be given the pre-incident information (see section 5.5.1) by PROACTIVE staff whilst the rest were to be moved to a room at building 3 which was to be the initial site for the exercise. Once this final briefing was finished the remaining group would join the rest of the volunteers and from a PROACTIVE point of view, the exercise was ready to start.



Figure 6: Pre-exercise phase plans for facilitating volunteers



Once the exercise had commenced, PROACTIVE staff were not to intervene with the volunteers until they either had chosen to end their participation in the exercise themselves or first responders or Campus Vesta personnel declared the end of their involvement. During the exercise itself, PROACTIVE staff acted as managers, evaluators, facilitators, and to accompany observers and VIPs. The facilitators were actively engaged throughout the exercise or preparing for coming tasks connected to the assistance of volunteers. A number of facilitators were always to be in the vicinity of the exercise to support volunteers if needed. Prior to the exercise, the Campus Vesta management team informed the PROACTIVE exercise director that volunteers would be transported to building 24 and 25 (see figure 7) during the exercise, and that their participation would end there. This required all volunteers to be transported to the locker rooms situated in building 3 so that those volunteers that had undergone a decontamination process could be redressed and all volunteers could collect their personal possessions and valuables. The assumption was that a number of volunteers would be decontaminated during the exercise (thus not wearing normal shoes), and several vulnerable volunteers had physical limitations. Additionally, Campus Vesta management did not want volunteers to walk around the site unescorted. Therefore, the PROACTIVE exercise management together with Campus Vesta set up plans to drive all volunteers from buildings 24 and 25 to building 3 (see red line in figure 7). Two minibuses were provided by Campus Vesta for this task.

Once volunteers had received their personal possessions and valuables, and if needed showered and redressed, they were to be transported to building 1 with an additional minibus (see blue line in figure 7). This was because the area between the two buildings (1 and 3) was deemed off limits by Campus Vesta. Once at building 1, volunteers were to be organised into groups of 8-10 persons and escorted to rooms for focus group sessions. The final element of the exercise agenda was a gathering in the briefing room where, amongst others, the exercise director and the PROACTIVE project coordinator were to thank all volunteers for their participation.

Six interpreters provided translation support to facilitate the interaction between PROACTIVE staff and volunteers throughout the day. This function is explained under Chapter 5.4.1



Figure 7: Exercise and post-exercise phase plans for facilitating volunteers



# 5.4. Exercise contributors and support functions

The exercise involved many participants with different roles and responsibilities. The following sections describe the supporting roles in more detail.

# 5.4.1. Support functions

#### Child Welfare Officer

The role of Child Welfare Officer was introduced during the second PROACTIVE exercise to ensure special attention to the attending minors. Since the Ranst exercise included no less than 7 volunteers under the age of 18, two child welfare officers and one volunteer liaison were appointed in coordination with Campus Vesta. All three individuals holding these roles were family members of participating minors and were in fact also participating in the exercise themselves, allowing them to stay close to the participants and support their needs. Additionally, they all had a professional background working with children in some capacity.

#### Interpreters

Since no PROACTIVE partner was located in Belgium or had any Flemish speaking abilities, the need for translation/interpretation services was identified early in the planning process. PROACTIVE needed interpreters who could help facilitate the registration process in the morning when all volunteers would arrive at Campus Vesta, the volunteer briefing, the pre-exercise survey, and perhaps most importantly, the focus groups. Campus Vesta facilitated initial contact with two local universities, and PROACTIVE was able to recruit six interpreters. They arrived at Campus Vesta before the volunteers on the morning of the exercise and stayed until the last volunteer had left, assisting with interpretation as needed in the various tasks.

#### Narrators

The narrators were recruited and instructed by Campus Vesta. Their role was to guide the observers from PROACTIVE and eNOTICE, along with other guests, and explain to them, in English, what was happening during the exercise. The narrators were also to assure observers did not get too close to the exercise and stayed out of any restricted areas. Additionally, they were supposed to address any questions the guests and observers may have and have the ability to explain details about Belgian rescue services and their standard operating procedures.

### 5.4.2. Exercise players

The main exercise players were the first responders managing the response to the CBRNe incident and the volunteers exposed to it. But the exercise involved other parties as well. The following section details the different players involved in the exercise, along with their roles and responsible agency.

#### Volunteers

The volunteers group for scenario 1 broadly consisted of two main categories; vulnerable and nonvulnerable volunteers. The vulnerable individuals were recruited by Campus Vesta through communication with an organisation to which they belonged or had contact with. Examples of such organisations include elderly homes, schools, and support organisations for the blind/visually



impaired and individuals with mobility restrictions. These individuals all had no or very minor prior knowledge on the subject of CBRNe. For a detailed breakdown of the vulnerable volunteers, see Table 7. The non-vulnerable volunteers were the volunteers with no pre-identified vulnerabilities according to the CMIST framework further explained in section 6.2.1. This sample was also recruited by Campus Vesta and consisted of friends and family members of Campus Vesta staff as well as a few police cadets. The police cadets were not educated in CBRNe response and had limited knowledge of multi-agency response.

#### **Professional actors**

There were professional actors included in the exercise. In scenario 1, their role was to simulate symptoms of the Staphylococcus, such as vomiting and diarrhoea, which would have been difficult to include in the exercise otherwise. They did portray any specific vulnerabilities.

#### Responders

The selection and recruitment of the participating responders was the responsibility of Campus Vesta, as exercise organisers. This was an inter-agency exercise and the scenario allowed for all five Belgian disciplines for emergency response to be involved, fire brigade, medical services, police, civil protection and communications. On the day of the exercise, four of the five disciplines were present. And as previously described, the first responders were only instructed to perform their duties just as they would in a real incident.

### 5.4.3. Evaluators and observers

To scientifically evaluate the behaviour and interactions between volunteers and first responders, PROACTIVE partner UKHSA provided a team of six evaluators. These were all professionally trained behavioural scientists, experienced in collecting observational data during field exercises. During the exercise they were allowed unrestricted access to move freely around the exercise site. After the exercise, the evaluators led the volunteers focus groups, with the assistance of an interpreter.

To collect additional observational data based on the experience of European Practitioner Stakeholders, Civil Society Agents and Ethical Experts, PROACTIVE further invited PSAB, CSAB and EEAB members, alongside consortium practitioner partners, to participate in the exercise as observers. The observers were allowed to watch the exercise from a distance, whilst accompanied by a narrator. The observer role is vastly different from the evaluator role, therefore the observers had significantly less access to the exercise area. Their observational data was collected through the Observer Guide, as described in section 4.4.4.1.

The observers had two main tasks, to fill out the Observer Guide and to report the incident in the PROACTIVE mobile App, as a witness.

The full description of the role of an observer can be found in the introduction to the observer guide in Appendix 10. In total 21 observers filled in the observer guide.

The observers covered a wide area of expertise in line with the overall structure of the PROACTIVE Advisory Boards. The Ranst observer group included a variety of practitioner categories as well as CSO representatives and niche experts in ethics and public health (Figure 8).





#### Figure 8: Type of observers that completed Observer Guide (Other category is made up of 1 public health observer, one who didn't state, and one who described themselves as a consultant)

Most observers declared they were either very or rather familiar with the CBRNe topic (76%). Two thirds of the observers had attended a previous CBRNe exercise. All observers except two had previously read the PROACTIVE Pre-Incident Information Materials and around 85% of the observers had some knowledge of the PROACTIVE Mobile App (Figure 9).



# Figure 9: Observers' reported familiarity level with the PROACTIVE App prior to the exercise



# 5.5. Role of PSAB, CSAB, EEAB members

The PSAB, CSAB and EEAB members contributed to the success of the exercise through different activities:

- Observers were drawn from the pool of PSAB/CSAB members and invited within the seat limits indicated by Campus Vesta.
- A call for Expressions of Interest email was sent out on 23/03/2023. Over 20 Advisory Board members replied to express their interest, which was more than PROACTIVE was authorised to invite as an observer;
- Therefore, invitations were sent out based on the priorities of the project which included inviting local stakeholders, Flemish speakers in general, representatives of children's, Muslim and deaf organisations for the CSAB, to reflect well the different vulnerable categories which would be represented by the volunteers, and several different practitioner categories for the PSAB.
- The PROACTIVE PEO invited all 4 members of the EEAB to participate in the exercise, however none were available to attend. The PROACTIVE project therefore recruited two new experts to the EEAB. Both ethics experts supported the ethics evaluation of the exercise: they were asked to observe and evaluate the exercise from an ethics point of view and to fill in the Ethics observation and evaluation sheet.
- Following the exercise, the data from the observer guides will be used to improve the PROACTIVE App and influence the final PROACTIVE recommendations. The advisory board members will support the project in disseminating the first lessons learned within their networks to inspire similar exercises, if applicable.

# 5.6. Use of PROACTIVE tools and SOPs

This chapter describes the use of the PROACTIVE Pre-Incident Information as well as the PROACTIVE App during the exercise in Ranst.

# 5.6.1. PROACTIVE pre-incident information material during the Ranst exercise

Further detail concerning the way in which the PROACTIVE pre-incident information was used during the exercise is included in the overview of the evaluation methodology (see section 4.4). As a summary, the experimental methodology employed meant that half of the participants (pre-selected randomly prior to the exercise day) received a pre-incident information briefing, led by Campus Vesta, before the exercise. This briefing lasted approximately 5-10 minutes and ran through the steps outlined in the pre-incident information, informing participants that they could use anything they heard during the exercise if they thought it would be useful. The other half of the participants were taken immediately to the exercise start and did not receive this information. Both perceptions of the pre-incident information material and whether or not the information informed behaviour was collected throughout the remainder of the evaluation (including through direct observation of behaviour, through responses to questions about pre-incident information in the focus groups, and



through statistical comparison of responses to the post-exercise questionnaire between the individuals who did receive the pre-incident information and those who did not).

# 5.6.2. PROACTIVE web platform and mobile App during the Ranst exercise

During the exercise, a live map of the incident along with a summary of incident status was constantly updated. Registered App users had the capability to report an incident in their area. Basic details including date logged, status, and type of incident were required in addition to the location. All reported incidents were moved to a holding queue, in which a specially appointed PROACTIVE LEA representative had direct access and could review and verify each incident. Once validated, the LEA representative could release an update on the incident utilising the map functionality available in the Mobile Applications. As an additional feature, LEAs will have the option to monitor and update reported incidents using the live notifications functionality once incidents have been investigated. Figure 10 below shows an incident list as a LEA would see it.

Each of these reported incidents include detailed description, location coordinates and supporting audio/video data which help LEAs to classify the incident and decide about the next steps for dealing with it.

pr <b>êa</b>	ctive	š.					Home	Log Out English ◄ =
				Incide	nts List			
Filter Incide	ents by Locatio	n						+ Create
Inc	ident Id	Location	Date Occurred	Headline	Description	Live Update	Status	Actions
	468	Unknown	25.05.2023 at 14:47 UTC	Admin test	this is test incident!	this is test incident! with additional update	Awaiting Information	O View ♪ Edit
	467	Unknown	23.05.2023 at 07:05 UTC	Conference call	Conference call took place, no casualties	No update yet	Ongoing	O View ♪ Edit
	466	Unknown	13.05.2023 at 10:48 UTC	preliminary triage done	victims were separated. some are still on their own. please send medical help	No updates reported	Awaiting Information	O View ✓ Edit
	465	Unknown	13.05.2023 at 10:36 UTC	firefighters set up their gear	looks like equipemnt is being installed on the ground	No updates reported	Ongoing	O View ♪ Edit
	464	Unknown	13.05.2023 at 10:19 UTC	First reponders on site	Police ambulance and fire engines on site	Police ambulance and fire engines on site	Ongoing	O View ♪ Edit

Figure 10: LEAs perspective of Incident List



# 6. ADMINISTRATION

The following chapter describes the administrative aspects of the exercise. This includes the registration process (sign-up for the exercise, volunteer dress code check, etc.) and the briefing of all involved participants in the exercise (briefing of the volunteers, briefing of the observers, etc.). Based on lessons learned from previous exercises, a list of items was procured ahead of the exercise and the arrival and departure of all parties involved had to be organised. These processes are described in more detail below. Moreover chapter 6 gives an overview of the Exercise Area.

# 6.1. Command and control

The command team was established at the beginning of the exercise planning process and was represented at all internal and external planning meetings.

# 6.2. Administration of volunteers

The following section shows the ultimate number of exercise volunteers (age group, gender, vulnerability status, etc.).

# 6.2.1. Civil society volunteers

In total, 55 civil society volunteers participated in the exercise. The number is a great advancement from Dortmund (18) and Rieti (32). The large number of participants is in part due to successful recruitment efforts of Campus Vesta, and in part due to their ability and flexibility for bringing members of civil society onto the training premises. In comparison to the NBC School in Rieti, which is a military site, the restrictions and regulations concerning civilian guests were much more rigid there. The age span of volunteers in Ranst ranged between 10 and 73 years of age. 25 participants identified as male (44%) and 32 as female (56%). The proportions are similar to Rieti where a slight majority was female as well.

Minors, individuals under the age of 18, were considered a vulnerable group, as were people over the age of 65. It should be noted that while minors have the strict limit of 18 (in Belgium and many other countries), legally making them unable to autonomously make certain decisions and function completely independently from their guardians, there is no such finite age limit rendering older persons vulnerable. The standard retirement age in Belgium is 65, which is why this age was chosen as an indicator for older persons, but obviously there are substantial individual factors impacting how vulnerable a person over 65 years of age actually is. The volunteers without previously known vulnerabilities were recruited through friends and family members of Campus Vesta staff and through a local police training academy



# 6.2.2. Vulnerable groups and supporting parties

It is easy to argue that in the event of a CBRNe incident, everyone is vulnerable. To categorise people as vulnerable and non-vulnerable is therefore somewhat problematic. PROACTIVE uses the functional needs-based framework CMIST (Kailes et al. 2007) to help define and contextualise vulnerability, which in short argues that vulnerability is always depending on the specific situation and context. For this context, a CBRN scenario-based disaster exercise, the following categories of vulnerabilities were identified in the sample of recruited volunteers:

Vulnerability	CMIST	Comment
Wheelchair user	M- mobility T- transportation	Mobility includes various physical functions such as writing, grabbing/holding items, and walking. Transportation may include both the ability to transport yourself without additional means, as well as access to public transport, car, bike, etc. and could be compromised for wheelchair users if separated from their chair during e.g. a decontamination process.
Blind / visually impaired	C – communication M – mobility I - Independence	Communication for the visually impaired can be compromised if messaging is provided via signs, texts that are not available in braille. Both mobility and independence can be affected for the visually impaired may be affected during an emergency situation if they are stripped of walking sticks/guide dogs/other aids.
Deaf / hearing impaired	C – communication I - independence	Similar to the visually impaired, the hearing impaired needs communication to be written or signed. If stripped of hearing devices, their independence may be severely compromised.
Minors (<18)	I – independence	Excluding individual factors, and obviously depending on the age of the child, the main vulnerability category for minors is the fact that they are depending on a parent or guardian for such things as supervision, decision making, care and comfort.
Seniors (>65)	CMIST	Older individuals are considered a vulnerable group because of the high probability that they experience issues related to one or more of the CMIST categories. Older people are more likely to experience hearing and vision loss, compromised mobility, and be dependent on medical aids and medicine, which they could be left without in an emergency situation. The time needed to understand and process written and spoken information also increases with age.
Intellectual Disability	I - Independence, S - Support	Individuals with compromised cognitive abilities, and individuals diagnosed with autism are in greater need of emotional and sometimes practical support and have less practical independence.
Parents / caregivers	I - Independence, S - Support (providing)	Guardians with children can be considered vulnerable because they need to care and provide for somebody besides themselves. They may need to physically carry a child, and/or assist them and provide care, comfort, decision making, etc.

#### Table 7: CMIST



The vast majority of the participating volunteers had one or more identified vulnerabilities:

Category	Total number	% of total sample	CMIST
Wheelchair users	4	10%	М, Т
Blind/visually impaired	4	10%	C, M, I
Deaf/hearing impaired	4	10%	C, I
Minors (<18)	7	18%	I
Seniors (>65)	9	23%	C, M, I, S, T
Intellectual Disability	2	5%	I, S
Parents/caregivers	10	25%	I, S
Total	40	100%	

# Table 8: Vulnerable volunteer by type of vulnerability

# 6.2.3. Recruitment process

Unlike the previous two exercises, PROACTIVE did not recruit the civil society volunteers in Ranst. In Dortmund and Rieti, PROACTIVE exercise management (DHPol and CBRNE Ltd.) was responsible for the recruitment of all volunteers and utilised various means including newspaper ads, social media, radio, and word of mouth. Both times it was an extremely time consuming and challenging task made more difficult by factors including Covid-19 restrictions (Dortmund), geographical distance, and language barriers (Rieti). In Dortmund the total number of volunteers was 18 and in Rieti 32. The target number for volunteers for the Ranst exercise was 60. PROACTIVE task leader UMU is based in northern Sweden and unable to communicate in Flemish. Campus Vesta's willingness to recruit the volunteers was therefore crucial in reaching the target numbers and meeting the PROACTIVE objectives. UMU and CBRNE Ltd. attended a meeting, facilitated by Campus Vesta, with representatives of local CSOs in May 2022 during the visit to Campus Vesta to observe that year's PGDM examination exercise. That was in many ways the start of the recruitment process although it was not confirmed until later that Campus Vesta would take on the responsibility to recruit the volunteers, including the vulnerable volunteers. UMU was in close contact with Campus Vesta throughout the recruitment process, ensuring the minimum of 15% vulnerable participants was met and that an appropriate mix of categories were represented. Recruitment progress was tracked in a spreadsheet which Campus Vesta continuously updated and shared with UMU.

During the February on-site meeting the PROACTIVE planning team also met with three local CSO representatives, two of which later went on to provide participants. After the February site visit and planning meeting at Campus Vesta, when fortnightly meetings between PROACTIVE and Campus Vesta were held, status update of volunteer recruitment was a constant agenda item. Campus Vesta maintained all communication with the volunteers, which was conducted exclusively in Flemish.

The inclusion of vulnerable volunteers was never argued against or met with any objections from Campus Vesta. However, the level of anticipated participation of the vulnerable individuals should have been better communicated by PROACTIVE. For PROACTIVE, the active involvement of vulnerable individuals means they are subject to all aspects of the exercise, on the same premises as had it been a real life CBRN incident. All participants, vulnerable or not, are clearly instructed that they are free to interrupt their participation at any time and be removed from the exercise without



question or repercussions. But unless agreed upon beforehand, the premise is that everyone is subject to the treatment of the first responders on site. These unscripted interactions are what constitute the basis of the PROACTIVE research data.

The uniqueness of this approach and its purpose and value was something PROACTIVE did not successfully communicate to Campus Vesta. Even days before the exercise, members of the Campus Vesta planning team were surprised to learn that the vulnerable volunteers were supposed to be subjected to decontamination along with everyone else. During the recruitment process, the volunteers had been informed that unless they wanted to be subject to decontamination, they could easily avoid this by wearing red wristbands. For PROACTIVE this was not ideal, but a lesson learned regarding communication and messaging, both vis a vis external projects and the civil society.

Another aspect of volunteer involvement which was likely the result of miscommunication was the definition of participating volunteer and supporter. For PROACTIVE it was desirable that all individuals present in the exercise area were involved as volunteers, first responders, exercise, management, or evaluators. During the very final stages of preparation, it became evident that some vulnerable volunteers were to be accompanied by carers or parents whose level of participation had not been clearly defined and agreed upon between Campus Vesta and PROACTIVE. This led to some confusion and frustration, mainly during registration, which probably could have been avoided. However, PROACTIVE had been unable to predict it as this was the first exercise where recruitment was outsourced.

# 6.3. Registration process

The registration process was coordinated as a mutual activity among PROACTIVE and Campus Vesta. Campus Vesta managed the communication with the volunteers prior to the exercise and provided PROACTIVE with a volunteer participation list.

### 6.3.1. Volunteer registration

Due to the fact that this exercise consisted of two scenarios and PROACTIVE only participated in one of them, it had to be ensured during attendance registration that PROACTIVE only registered its own volunteers.

An important lesson learned in this regard is the need for a clear physical separation of participants during this process. Despite information sent to scenario 2 participants by Campus Vesta ahead of the exercise, instructing them where to go upon arrival, some still joined the que for the PROACTIVE volunteers, complicating the process considerably.

The registration process required the volunteers to first sign a Flemish version of the Consent Form on site and then confirm the signature on the registration list. Legal guardians of participating children additionally received a child consent form. After confirming their attendance, volunteers received one of two playing cards assigning them to volunteer group A (no prior briefing about the topic of CBRNe) or group B (briefing). In addition, those volunteers who wanted to opt out of decontamination in advance were given a red wristband for identification purposes. Some volunteers had already decided they wanted the red wristband, others made the decision during registration. Both options were of course accepted, but since PROACTIVE had not had any communication with the volunteers prior to the registration, it was difficult to assess how much they knew about the exercise and the



scenario. This meant the PROACTIVE facilitators at registration spent quite some time making sure every volunteer had their questions answered and sufficient information about the decontamination process, which of course took some time and further congested the registration process. What was thought to be the final list of participants was given to PROACTIVE by Campus Vesta the night before the exercise. But as is often the nature of these kinds of events, there were last minute changes. Some volunteers cancelled at the last minute and others had to fill in for participants who had fallen ill and these had therefore not received any pre-exercise briefing. The attendance list was later used to sign out volunteers.

The consent forms were checked once the attendance registration process was completed and it was then discovered that some participants had rejected some items. These individuals were then identified so that PROACTIVE facilitators could explain the consent form and verify their stance on the specific issue. One experience in this context is that asking volunteers to sign the consent form in advance, as was done in the first two exercises, saves a lot of time. Unfortunately this was not possible this time as PROACTIVE could not communicate with the volunteers prior to exercise day.

## 6.3.2. Observer registration

For the registration of the PROACTIVE observers, UMU and UIC worked with Campus Vesta's front desk staff to facilitate the registration of all observers riding the chartered bus en route to the exercise site in the morning. That way the majority of the observers arrived pre-registered and with their ID badges on, which saved time and avoided an additional 30 people going through registration upon arrival. Two observers did not ride the chartered bus and arrived at Campus Vesta by car. They were checked in and provided their ID badges by PROACTIVE facilitators.

### 6.3.3. General dress code

As this exercise involved a number of different operational organisations, as well as members of the exercise planning, guests and volunteers, an extensive identification system was developed.

#### **ID** badges

All PROACTIVE and eNOTICE partners, observers and VIPs received ID badges with the logos of PROACTIVE, eNOTICE and Campus Vesta.

#### Tabards

PROACTIVE incorporated the tabard system from the previous exercise at Campus Vesta. See section 5.1.2

#### Wristbands

In previous exercises, clear wristbands were used to mark volunteer numbers. In Ranst only those volunteers who had decided they did not want to participate in the decontamination process received a red wristband. This was provided during the registration process.



#### Armbands

Red armbands were worn by first responders in the exercise who did not want to be filmed or photographed.

#### Uniform

First responders followed the dress code of their respective unit. The uniforms not only marked them as first responders, but also allowed for differentiation between units.

#### PPE

As with the uniforms, the first responders followed the PPE rules of their unit. These included CBRNe hazmat suits in different designs as appropriate to their duties.

### 6.3.4. Volunteer dress-code check

In Ranst, unlike the previous two exercises where clothing was provided, all volunteers were informed in advance to wear clothes they didn't mind getting wet or dirty with swimming costumes underneath when participating in the exercise. As a contingency strategy, charity clothing was procured to offer volunteers that did not follow the order. No distinction was made between volunteers and actors in this regard.

# 6.4. Briefing

To prepare the different parties for the exercise, several briefings were conducted, both on the day of the exercise and beforehand. PROACTIVE was the main responsible partner for the majority of briefings, but Campus Vesta insisted on taking the lead for the briefing of the volunteers. The briefings will be described in detail below:

### 6.4.1. Briefing of exercise planning, management, and support team roles

A final briefing was held the day before the exercise for PROACTIVE staff that were to be included in the exercise. This briefing covered the flow of volunteers, and with the use of figures 6 and 7, the main events of the day were presented and the roles and responsibilities of each task leader and staff member were addressed. An internal communication plan, between staff members in key positions, was presented and each task leader was given the possibility to ask questions and address potential issues. Important topics, like ethics, safety/risks, evaluation, transportation, registration, clothing & property and media and video crew were in this way covered anew the day before the exercise. The briefing was led by the exercise director and the deputy exercise director and proved to be a good way to establish a common understanding of the plan as well as collecting last-minute feedback regarding potential issues of key elements of the execution of the exercise.

### 6.4.2. Briefing of volunteers

Prior to the exercise, all volunteers were briefed on what was expected of them, including arriving at Campus Vesta wearing clothes which would be worn during the exercise with swimwear underneath. This information was sent out in Flemish by Campus Vesta.



Campus Vesta prepared and conducted the volunteer briefing on the day of the exercise. Main reason for this being that it was to be conducted in Flemish which no PROACTIVE staff mastered. PROACTIVE offered to support the briefing with the help of translators, and content used in previous volunteer briefings was shared with Campus Vesta. This so that important content could be integrated into the briefing.

The presentation included the following information:

- Courtesy and behaviour on site (e.g. follow instructions)
- Safety (e.g. introduce emergency assembly areas, codewords, handling of real-life emergencies)
- Welfare (e.g. present the use of locations on site)
- Ethics (e.g. participation framework)
- Description of survey (e.g. introduce questionnaire)

## 6.4.3. Briefing of PROACTIVE observers and guests

A month prior to the event, UIC shared a comprehensive Logistics Pack with all observers to support their travel arrangements and present the framework of the event. PROACTIVE also organised a virtual briefing of observers one week prior to the exercise. The briefing repeated information about travel arrangements made by PROACTIVE to facilitate their stay. It also included relevant information concerning their observation tasks during the exercise and a presentation of the observer guide. As part of the briefing, RINISOFT introduced the PROACTIVE App, its features and what observers were asked to do, and provided technical support for the download.

At the day of the exercise, all PROACTIVE observers received a final on-site briefing at Campus Vesta on the following aspects:

- Courtesy and behaviour on site (e.g. to prohibit the interfering with volunteers and first responders during the exercise and the use of cameras for ethical reasons)
- Safety (e.g. introduce taped-off areas and the tabard system; during this point observers were provided their yellow tabards)
- Welfare (e.g. present the use of locations on site)
- Observer Tasks (e.g. once again remind observers of their tasks)

The briefing was held in English by the PROACTIVE Coordinator.

Immediately after, a joint briefing for all eNOTICE and PROACTIVE guests was delivered by Campus Vesta. Alongside the PROACTIVE observers, all additional guests of the training facility participated in this briefing. After these two on-site briefings, the observers were escorted to the main observation area where they were assigned to different narrators.



# 6.4.4. Briefing of third parties

The videographer team was briefed by the UIC planning team during several online meetings/calls prior to the exercise. Particular emphasis was placed on how to deal with the volunteers in terms of ethical standards, dignity and data protection. The video team also had meetings with the Campus Vesta to understand their restrictions in regard to filming and photographing. On the morning of the exercise, the videographer team was further briefed with the last details for the day including a time schedule for the interviews to take place. They were also introduced to the assigned point of contact for Campus Vesta.

# 6.5. Exercise Area

As briefly mentioned in section 3.4, Campus Vesta is a relatively large exercise area with diverse types of buildings which creates a great number of possibilities to conduct exercises. Like in previous PROACTIVE exercises it was important that the buildings provided the necessary infrastructure (e.g. changing rooms for the volunteers, sufficient rooms for the focus groups, etc.) and that the volunteers were physically separated from the observers until after the exercise. To achieve the latter, observers were scheduled to arrive after the volunteers, and the majority of them were also registered while on the bus. Once they arrived at Campus Vesta, they were directly brought to a classroom to receive the observers briefing. Whilst the possibility of the PROACTIVE management group to influence which buildings or rooms to be used in the exercise was limited, Campus Vesta did make some adjustments based on requests made by PROACTIVE.

# 6.5.1. Restricted areas and demarcation protocol

There were no areas in the vicinity of the exercise that were deemed to be a risk for volunteers, observers and PROACTIVE staff, and were therefore not included in any safety briefings and were not cordoned off.

Prior to the exercise, Campus Vesta emphasised that no volunteers were to be unescorted in the training area. This was managed by placing PROACTIVE facilitators in key positions and through organising minibuses that would transport volunteers cross the exercise area.

The exercise area was not cordoned-off prior to the exercise, meaning that PROACTIVE observers were instructed to pay extra attention to stay close to their narrators. First responders later used barrier tape to cordon-off sections of the exercise area.

Prior to the exercise, the PROACTIVE exercise management group was informed that the plaza between buildings 3 and 1 was to be off limits for passage during the exercise. This meant that volunteers were to use a different route when being transported between locker rooms and the location set for focus groups.

# 6.5.2. Signage

PROACTIVE created signs in Flemish and English for visitors of the exercise site to mark key areas (restrooms, briefing rooms, focus group rooms, etc.) where otherwise missing.



# 6.6. Logistics

As with the previous exercises, a key element of the exercise in Ranst was various logistical aspects. These are described in more detail below.

## 6.6.1. Site management

Site management was the responsibility of Campus Vesta. But since this was a Joint Activity, a pragmatic approach to incidents in need of attention was adopted. For example, on the morning of the exercise, it was discovered that the elevator was out of commission. Campus Vesta's main building is three stories high and the focus groups were supposed to be held on the second floor. Since some volunteers would have obvious difficulties getting to the second floor without an operational elevator there was an imminent need to identify new rooms suitable for focus groups. This problem was jointly solved by PROACTIVE and Campus Vesta staff.

# 6.6.2. Transportation to Campus Vesta

Campus Vesta is not easily accessible by public transportation. All volunteers were instructed by Campus Vesta to get to the exercise site on their own. Those vulnerable volunteers who had difficulties doing so were provided options, such as taxi, which would be paid for by PROACTIVE. A bus was chartered for the PROACTIVE observers, who were predominantly from outside the local area.

The PROACTIVE observers coming from countries other than Belgium were all assisted by UIC in their travel arrangements and stayed in the same hotel in Antwerp. Other locations, such as Lier or Ranst are closer, but there were no hotels with enough available rooms in those places. To avoid the risk of getting stuck or delayed between Antwerp and Campus Vesta, the observers all took the train to Lier, escorted by PROACTIVE coordinator UIC on the day of the exercise. The core planning group had chartered a bus that waited for the observers at the Lier train station and delivered them to Campus Vesta. The same procedure was implemented in reverse at the end of the day. Providing these arrangements for the observers allowed PROACTIVE control of their registration, as outlined in section 6.3.3, minimised the risk that they were delayed, and enabled the observers to focus more on their task as observers and less on logistics and practical arrangements.

# 6.6.3. Property Management and Changing Areas

PROACTIVE managed the personal belongings of the volunteers on the day of the exercise. In the previous two exercises PROACTIVE provided spare clothing to the volunteers since it could not be guaranteed that their clothes would not be damaged during the decontamination process (e.g. cutting of clothing). But since Campus Vesta assured the PROACTIVE planning group that no clothes would be cut off of volunteers, and since having approximately 60 persons select and change into new clothing would be extremely time consuming, this was not done in Ranst. Instead, as described above, volunteers were instructed to wear clothing they were not concerned with getting dirty or wet, and bring as few valuables as possible to Campus Vesta. Those valuables that had to be brought along, such as car keys and mobile phones, were stored securely in the changing rooms during the exercise, under the strict supervision of PROACTIVE facilitators. PROACTIVE also had facilitators close to the exercise area ready to collect hearing aids or other valuables which the volunteers still



had on and would have to be removed in case of decontamination. There was never a need for this step to be implemented, but the option was there.

PROACTIVE volunteers were assigned changing rooms in a different building (3) than the main building (1) where registration and briefing took place. This provided some logistical challenges as volunteers had to register first, then head to the changing rooms to drop off valuables and their spare set of clothes, before coming back into the main building for the safety briefing and pre-exercise survey. Volunteers were not allowed to walk between the buildings unescorted which meant PROACTIVE facilitators had to walk back and forth between the buildings with small groups of volunteers, a simple but time consuming activity. The reason the visit to the changing rooms had to take place prior to the briefings was of course that the volunteers needed to be assigned their individual participant number, corresponding not only to the locker containing their valuables but also to their pre- and later post- exercise survey. Because registration took longer than expected, not all volunteers had been to the changing rooms at the time Campus Vesta needed to commence the safety briefing in order to start the exercise on time. This of course caused some challenges with the paperwork, but these were sorted during the rest of the day.

In the previous two exercises the volunteers were all given a wristband with their individual number assigned to their locker, valuable belongings, survey material, etc. Since Campus Vesta decided to use wristbands to identify those who were to be exempt from decontamination, they did not want any other wristbands to be used as this could cause confusion. This was a challenge for PROACTIVE as it was a priority that the volunteers all knew their individual participant number. A system with wristbands marked with the participant numbers had been used with good results in both Dortmund and Rieti but now a new method needed to be created.

The solution was to hand each volunteer a piece of paper with their number, which they could put in their pocket, and also present them with the option of writing their number on their hand or in their palm. Although wristbands were previously used with good results, there are obviously other ways in which this could have been made more efficient, including providing the volunteers their individual numbers at registration, or even prior.

The PROACTIVE planning group had asked to get access to the changing rooms the evening before the exercise to be able to set up a structure for the management of volunteer property. Instead, the PROACTIVE facilitators responsible for the changing room activities were allowed to enter the rooms the morning of the exercise, to find that not all lockers were emptied and the number of available lockers was not consistent with the number they expected. This meant they had to adapt and create an improvised system, which in the end caused some stress and confusion, but worked alright. No volunteer property was damaged or lost.

# 6.6.4. Catering and welfare

All food and refreshments, except for bottled water and snack bars for the children purchased and distributed by PROACTIVE, was ordered through Campus Vesta's own kitchen/cafeteria as this was their preferred process. PROACTIVE only ordered food and supplies for the participants in scenario 1, but the exercise site of course contained a large and mixed group of people, comprised of various participants. This inevitably caused some confusion and although everyone was provided food and drinks in the end, it was somewhat chaotic trying to ensure all volunteers, observers, and other non-consortium members invited by PROACTIVE had had their needs met.



Because the weather on exercise day was predicted to be warm and sunny, PROACTIVE purchased around 80 bottles of water to have strategically placed in and around the exercise area to make sure no volunteers went without enough water to drink. Sunscreen was also purchased and made available to those needing it.

# 6.7. Procurements

As during the recent two joint field exercises, PROACTIVE procured several items to support its activities in line with the tripartite agreement. PROACTIVE aimed to reuse as many stored items as possible, examples being a printer, orange tabards, tote bags, and spare swimsuits. Vouchers and office supplies such as ink cartridges for printing, binders, tape, etc. were purchased on site around Ranst.

Overall, there were several lessons learned in regards to procurement strategies that proved valuable in all three exercises:

- Plan at least one day for last minute procurements in the vicinity of the training site. A procurement list as used in all three exercises can help to coordinate the processing status of all procurements within the team and keep track of necessary last-minute trips.
- Catering costs can range greatly depending on the catering company and the agreed scope. However, it should always be ensured that all guests have enough food and drinks throughout the day, especially during hot weather conditions.
- Depending on the location of the training facilities, transportation costs can require a high proportion of the overall budget. A well-organised group transportation (e.g. group train tickets, rented bus) can reduce the overall financial costs, unlike individual solutions (e.g. taxi).
- Two printer options should be available: A project's own printer to ensure independence, and a redundancy should this printer not be sufficient or if technical problems arise. A redundancy can be a local copy shop contacted in advance (caution; higher costs) or the business printer of the exercise host. A flat rate and utilisation hours should be clarified in advance.
- Stable folders proved to be very effective for storing documents such as surveys and consent forms after printing and transporting them in their final stage. This way, no important personal data can get lost.
- Items no longer used after the exercise can be donated afterwards, especially to charity organisations that previously provided spare clothing for a small budget (e.g. spare clothing, towels, smaller office items).
- Acquiring a thank-you present for valuable non-project supporters can strengthen the good working relationship for future cooperation.



# 7. RISK

The following chapter describes the risk assessment for the Ranst exercise as well as mitigation measures and contingency plans.

# 7.1. Risk assessment

The approach taken to the management of 'risk to' or 'arising from' the exercise was set out initially during the early planning for the first field exercise and second field exercises (Hale, Godwin and Kelly 2020),.This approach was maintained at the initial phase of the planning for the third field exercise in Ranst but was modified to compliment the comprehensive risk assessment processes established by the exercise hosts for field exercise, Campus Vesta. The plan set out the requirement to consider risks in two parts (Table 9):

# Table 9: Risks to and from the Campus Vesta field exercises identified during thePROACTIVE risk assessment.

Risk to What?	Risks from Where?	Comment
Risk to exercises	From internal hazards / Events or external hazards / Events	For the purpose of this exercise, risks to exercises are those events (potential or actual) which could result in complete or partial failure of the exercise – i.e., cancellation or only partial fulfilment of its goals. Internal hazards are things that are largely under the direct control of the project (arising from the site or the activities undertaken in the exercise) while external hazards are things like extreme weather and natural disasters which are largely outside of the control of the project.
Risk to Others / Participants	From exercises	Risks may arise as a result of the exercise itself– i.e., adverse events or potentials for adverse events which would not exist in the absence of the exercise, or which could be exacerbated by the exercise (for example, the additional traffic associated with people travelling to the exercise site), or Slips/Trips/Falls during the exercise. These will largely be under control of the exercise.

Risks were identified through several processes including board blasting at planning meetings, walkthroughs, reviews of previous experiences, and through consultation and discussion.

# 7.2. Risk registers

Two formal Registers of the risk assessments were produced, an Exercise Risk Register (which covered 'Risk to Exercises' as described in Table 9) and a Health and Safety Risk Register to cover 'Risks to Others and Participants' as described in the same table.

For the purposes of screening and prioritisation in the planning process, as in the first two exercises, risks were categorised using a simple semi-quantitative process that assigned them as 'High', 'Medium' or 'Low' priority using the risk matrix shown in Figure 11.



		Impact		
		High	Medium	Low
P r o	High	High	High	Medium
a b i	Medium	High	Medium	Low
i t y	Low	Medium	Low	Low

### Figure 11: PROACTIVE Risk Matrix of the joint Ranst exercise

Extracts from each of the assessments are presented in Appendix 13.

# 7.3. Mitigation

For each identified risk, the possibility of removing that risk completely was first considered (e.g., by change of approach or method) and then residual risks were addressed by appropriate mitigation measures. Example mitigation measures included provision of translators, provision of bottled water, storage of valuable property, escorting of volunteers, provision of rest and recovery areas and catering, site inspections and the provision of barriers.

# 7.4. Emergency procedures

An Exercise Day Contingency and Response Plan was developed that addressed potential emergencies. This was undertaken by the exercise host, Campus Vesta, in consultation with the PROACTIVE safety representative.

### 7.4.1. Evacuation plan

It was Campus Vesta's responsibility to take care of the evacuation arrangements. As well as the structural labelling of escape routes within the closed parts of the building, Campus Vesta also specified the emergency assembly point. In the event of an emergency, Campus Vesta would have carried out the evacuation with the support of the PROACTIVE partners.

### 7.4.2. Fire

The same procedure as for an evacuation also applied in the event of a fire outbreak at Campus Vesta.



# 7.4.3. First aid

In case of any personal injury that required first aid or emergency support, PROACTIVE would contact Campus Vesta staff for support and follow their guidance; they were easily identifiable in green tabards. The firefighter units are all first aid trained as a minimum and paramedics were on site. Additional emergency support was available at the site including an equipped ambulance car. If a volunteer required first aid, he or she was briefed to refer to the code words 'THIS IS A REAL INCIDENT' and/or use hand signals. While Campus Vesta would take care of the injured, PROACTIVE's responsibility was to document the incident using the developed Accident Book. For further details on live incidents see Chapter 7.5.2.

# 7.4.4. Criminal activity

Great importance was given to the safety of all participants (see Chapter 9). One item dealt specifically with the possibility of theft or other serious ethical issues. Potential situations to be avoided included theft of belongings, physical and/or sexual abuse as well as unauthorised photography, data breach and the like. Any such instances were to be investigated fully and recorded. In the event of any actual or suspected criminal incidents, the police were to be contacted immediately.

The following procedure should be applied if necessary: Aggrieved parties should be interviewed about the situation by an assigned PROACTIVE partner with a police background. This interview should always be conducted in cooperation with a member of Campus Vesta staff, and if appropriate, with the involvement of the PROACTIVE project's data and ethics officers. A full written record should be produced, and evidence secured where necessary. In case of a serious criminal matter, the local police should be contacted.

# 7.4.5. Damage to personal property

In the case of damage to personal property, a report including records of proof should be produced for the PROACTIVE insurance company that was involved for the exercise. In this case, the PROACTIVE partner CBRNE would be the intermediary party between the injured party and the insurance company (see Chapter 9.10.).

# 7.5. Other Contingencies

Exercise Contingencies are outlined in the following chapters.

# 7.5.1. Weather contingency plan

The disruption to earlier exercises caused by the Covid-19 pandemic was no longer an issue as the Ranst exercise was able to run at the usual time of year albeit a year later than originally planned. With this in mind, an adverse weather contingency plan was not such an important requirement especially given the compact nature of the Campus Vesta site. However, temperatures in May can be high in Ranst so provision was made for sheltered changing and rest areas, and large quantities of bottled water were provided for the volunteers.

# 7.5.2. Live incidents contingency plan



The field exercise involved the inclusion of a significant number of CBRNe first responders from Police, Fire and Medical services. Horizon scanning was conducted in the run up to the exercise to allow for the potential for increased threat levels or emergencies that might impact on foist responder attendance.

For any live incident taking place during the exercise, Campus Vesta defined the codeword 'NO PLAY NO PLAY NO PLAY" in English and repeated in Flemish. In this case, the exercise would be stopped before a decision on management level would determine whether to continue or stop the exercise. The Campus Vesta exercise director and PROACTIVE exercise director were on site and identifiable at all times during the exercise. For any physical injury, a paramedic unit consisting of an ambulance team located on the exercise site would be deployed.

# 7.5.3. Covid-19 contingency plan

The threat from Covid-19 was monitored during the planning phase and deemed to be low. The likelihood of exercise cancellation was extremely low and planning meetings discussed the requirements for Covid-19 testing and it was deemed unnecessary given the threat assessment.

# 7.5.4. Participant absence contingency plan

Consideration was given to participant absence as learning from the previous exercises demonstrated that recruitment of civil society volunteers was a significant challenge. For this exercise the recruitment of civil society volunteers was coordinated by Campus Vesta who had close links with the local community, and in particular a number of civil society organisations representing vulnerable groups. The recruitment process was carefully monitored at each of the planning meetings and close contact was maintained with the volunteers in the weeks and days before the exercise. Campus vesta were also able to hold a number of volunteers in reserve to call on at short notice if required.

# 7.5.5. Communication Failure

Communication failures among the Campus Vesta and the PROACTIVE management team were discussed as part of the planning process. The area identified for the exercise was relatively compact so there was no requirement for direct radio contact. A group WhatsApp was identified as the primary source of communication between the PROACTIVE facilitators and in the event of signal failure sufficient resources were put in place for human relays to convey messages between key individuals.

# 7.5.6. Mismatch of PROACTIVE Objectives and Host Objectives

Campus Vesta presented strict parameters for the exercise which early on caused PROACTIVE to question whether the project would be able to meet its objectives. Campus Vesta's primary objective was to deliver an exercise that was a final exam for the Post Graduate Disaster Management students. PROACTIVE's primary objective was to carry out research activities in line with the project Description of Action and Strategic and Tactical Objectives from previous exercises. Whilst negotiations were ongoing with Campus Vesta with a view to finding a compromise, alternatives were considered as well should an agreement with Campus Vesta not be possible.



# 8. COMMUNICATION

The following section describes all aspects of communication related to the exercise including internal and external communication prior, during and after the exercise.

# 8.1. Communication strategy

PROACTIVE put in place dedicated communication strategies for internal communication, external communication, including media, protocols with exercise participants and communication about the project during the exercise. PROACTIVE members on site communicated through regular phone calls as well as through various WhatsApp groups created specifically for the exercise planning and execution phases. These included a group for drivers, a group for the core team, etc.

## 8.1.1. Protocols with exercise participants

As PROACTIVE members had no contact with volunteers other than direct contact on exercise day there was no external contact list created or protocol established for reaching out to the volunteers, actors, or responders. This was managed by Campus Vesta. UIC handled communication with the PROACTIVE observers and VIP guests. UMU and UKHSA managed communication with the interpreters.

#### Safety code word (covered under 7.5.2)

Translation (covered under 5.4)

#### Interpretation (covered under 5.4)

### 8.1.2. Communication about the project during the exercise

Apart from members of the PROACTIVE consortium and its advisory board members, the project engaged with participants of the exercise that were unfamiliar with the project or only to a limited extent aware of its aims and objectives (such as the police cadets or other first responders). Therefore, PROACTIVE aimed to communicate about the project during the exercise as part of its communication activity in WP7.

To communicate the PROACTIVE project, PROACTIVE staff wore an orange tabard with the PROACTIVE logo. Furthermore, the visitor tabards also had the PROACTIVE logo on them. PROACTIVE dissemination material was put into the PROACTIVE tote bags (which have the project logo printed on them). In all bags, further items with the PROACTIVE logo could be found including a FFP2 mask, hand sanitizer and pens. These bags also contained newly created printed materials based on the Key Exploitable Results of the project: the final Pre-Incident CBRNe Public Information Materials, the Aide Memoire in both A4 & 3fold formats, and How To flyers for both the PSAB and CSAB. These bags were given directly to all observers and made available to all exercise participants post-exercise. The PROACTIVE pin was also handed out. Furthermore, the PROACTIVE planning team ensured that on all used documents and presentations the PROACTIVE logo would be placed, and the dedicated design of the project properly represented to increase the brand recognition.



The PROACTIVE App was communicated through the QR codes. There was also a dedicated session for the App during the online, pre-exercise observer briefing as well as an App help desk throughout the day.

# 8.1.3. External communication & media

PROACTIVE drafted a "PROACTIVE & eNOTICE Joint Activity Communication & Dissemination Plan for Ranst Exercise 2022" (CDP) which was shared with Campus Vesta for review. The CDP was composed of established ethical and legal obligations, relevant audiences, types of messages, tools for communication and types of communication channels used. A bilateral meeting was held to go over some critical aspects of the CDP and a new CDP, taking into account Campus Vesta's required changes, was produced.

This included the fact that Campus Vesta must review before publication:

- All photos and videos
- The PROACTIVE Press Release

However, unlike the previous two exercises, Campus Vesta did permit PROACTIVE to live-tweet the exercise, under the condition that no photos were shared. The live tweet thread can be viewed: <u>https://twitter.com/PROACTIVE\_EU/status/1657296447346204673</u>

The Press Release was sent out on 25/05/2025 by UIC, as well as shared on PROACTIVE digital media channels: <u>https://uic.org/com/IMG/pdf/press\_release\_n-2.pdf</u>

The full CDP can be seen in Appendix 14.

# 8.2. Dissemination

# 8.2.1. Filming/Recording

PROACTIVE was asked by Campus Vesta to use the same videographer/photographer company as the eNOTICE project so as to reduce the number of persons on site the day of the exercise. This was agreed, with the condition that PROACTIVE had a dedicated camera person and photographer who could stay with the PROACTIVE scenario the entire time.

It was agreed with the media team that footage would be taken of the:

- Arrival and registration process of the volunteers
- Preparation process of the practitioners, the volunteers and the observers for the exercise
- Unfolding of the exercise
- The observers' watching the exercise and using the PROACTIVE Mobile App
- The practitioners using the PROACTIVE Web Platform



- The PROACTIVE Web Platform & Mobile App help desk
- The PROACTIVE Pre-Incident Information Materials
- The debriefing rooms when the focus groups, with participants but before the focus group starts
- The hot debrief between PROACTIVE observers
- Any hot debriefs between PROACTIVE observers and exercise participants
- The Exercise End ceremony
- Short interviews with participants of the exercise (participants of the decontamination, project managers, etc.)

In the public edited photos and videos, the following element should not appear:

- The volunteers' faces
- The volunteers' naked bodies during sensitive processes as part of the exercise (e.g., undressing process, decontamination process, etc.)
- Keep first responders as unrecognisable as possible:
  - Film from the back
  - Film from a distance
  - Blur faces where necessary
  - Police that do not want to be filmed will wear a red armband

Furthermore, photos/videos went through a strict ethical screening from the PROACTIVE project. The PROACTIVE project also ensured that the video reflects the project's goals and objectives. Campus Vesta approved of the finalised video and photographs as well.

The professional photographs have been published on the PROACTIVE website:

https://proactive-h2020.eu/2023/07/13/photos-from-our-ranst-cbrne-training-exercise-out-now/

The two promotional videos are published on the PROACTIVE website and social media accounts:

Short version: <a href="https://youtu.be/yxuLUFXMxZQ">https://youtu.be/yxuLUFXMxZQ</a>

Long version: <a href="https://youtu.be/CneuezUQ1ZQ">https://youtu.be/CneuezUQ1ZQ</a>

As part of the promotional videos, PROACTIVE had planned the interviews according to an Interview plan for the exercise (Appendix 15)



# 9. HUMAN RIGHTS, ETHICAL AND LEGAL ASPECTS

This section describes in detail all key elements considering the exercise's human rights, legal and ethical aspects. The exercise was organised and executed in line with ethics requirements and principles detailed in D8.3, which generally align with the ones set out in the European Convention on Human Rights and the Universal Declaration on Human Rights, embedding values such as the right to integrity, liberty and no discrimination. In particular, the following principles in the Belmont Report (1979)<sup>2</sup> have been observed when carrying out research activities:

- **Respect for people:** research subjects must be treated to protect their safety, respect their autonomy, and ensure their consent on an informed basis
- **Beneficence:** possible benefits for the participants will be maximised while possible harm or risk will be minimised
- Justice: any benefits and burdens derived from research must be balanced
- **Competence:** the limitations and boundaries of the researchers' competence must be recognised and made explicit

Such principles were operationalised in several protocols and activities aimed at protecting human participants in the Ranst fieldwork and their personal information, detailed below.

# 9.1. Information sheet

All participants in the Campus Vesta field exercises were given information sheets attached to their consent forms, setting out clearly what was expected of them as part of the exercise instruction package. Following D8.3, the PROACTIVE consortium drew up comprehensive information sheets that include the information required by the GDPR, conveying it in a way that was clear and understandable for the kind of participants to be involved in the field exercises, allowing them to give consent in a form compliant with the GDPR. Following Article 13 of GDPR, the information sheet reflects a thorough description of the Campus Vesta exercise goals and site, the implications of participation in it, and the risk and benefits derived from the process. It also comprises:

- A statement that the exercise involves research participants, an explanation of the purposes of the research and the expected duration of the subject's participation, and a description of the procedures to be followed
- A short explanation of the recruitment method and participants' selection rationale
- A description of any reasonably foreseeable risks or discomfort to the subject
- Insurance guarantees provided to participants

<sup>&</sup>lt;sup>2</sup> Available at: <u>https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html</u>



- A statement describing the extent, if any, to which confidentiality of records identifying the subject will be maintained
- An explanation of whom to contact at any time for answers to pertinent questions about the research and research subjects' rights, and whom to contact in the event of a researchrelated injury to the subject
- A statement that participation is voluntary, that refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled, and the subject may discontinue participation. In case the volunteer decides to withdraw from the activity, they can request to have the personal data relating to them removed, and the request will be granted by the data controller

This information was provided to data subjects when their personal data was collected directly from them. As for the specifics regarding how the informed consent process was achieved, see below.

# 9.2. Briefing on human rights, ethical and legal aspects

Following the project Ethics Briefing Pack requirements and as detailed in D6.2 and D6.3 for previous exercises, prior to and during the exercise day, different briefings were held for everyone involved in the exercise (see Chapter 6.4.). In this context, human rights, ethics and data protection were stressed in several stages of the invitation and registration progress. The volunteers were reminded again about their rights as volunteers and about the ethical and personal data-related aspects of the exercise. The main focuses were on:

- the aspect of safety (do not walk around the site unaccompanied, what to do in case of an emergency situation, etc.),
- ethics (participation is voluntary / can be terminated at any time)
- data protection (data use, data protection rights, etc.).

Everyone was given the opportunity to ask questions before the start of the exercise. The same recap approach was followed for the briefing of observers.

The third parties were briefed as well. A special focus was paid to the briefing of the videographer team as they were expected to film the volunteers during sensitive processes (e.g. undressing, showering). PROACTIVE additionally briefed the team on what shots should be taken and other ethics-related considerations.

# 9.3. Informed Consent

It was agreed between the three parties eNOTICE, PROACTIVE and Campus Vesta that there would be one single and joint consent form for the volunteers participating in the exercise to sign. Since the Campus Vesta exercise was to conclude both projects (eNOTICE and PROACTIVE) and both projects intended to have professional videos made based on the exercise, and as a measure to reduce the number of forms and documents for volunteers to read and sign it was decided the parties would agree on a single form.



This also meant combining the requirements from PROACTIVE partners UKHSA, and UIC/ETICAS who previously had separate forms.

PROACTIVE partners formulated an Informed Consent Form (ICF) tailored for the Campus Vesta exercise and comprising all legal requirements of the consortium partners. This version was then shared with Campus Vesta. eNOTICE had delegated all feedback on the ICF to Campus Vesta whereby the following was a process involving only two parties. Campus Vesta found the first suggestion of the ICF to be too long and overly complicated and feared that sharing such a document with the volunteers ahead of time might discourage individuals from showing up on the day of the exercise.

Campus Vesta repeatedly raised the question of what to do if volunteers did not sign and suggested those volunteers unwilling to sign the ICF would be given coloured wristbands so they could still participate in the exercise. This solution would have been problematic for PROACTIVE since effectively a volunteer who has not given informed consent is not a volunteer and cannot be asked to fill out a pre- or post- survey, be filmed or observed, or participate in the focus groups following the exercise. After diplomatic negotiations between Campus Vesta and PROACTIVE a version of the ICF was finally agreed upon on April 27 and sent by UMU to an external translation agency to be converted into Flemish.

All signed consent forms have been digitised and shared with the PROACTIVE data controller. The approach to have one Informed Consent Form, as opposed to multiple ones, is beneficial to the participants and also results in less documents for the organisers to manage prior to, and on the day of the exercise. However, since having multiple agencies reaching an agreement on what a joint form should look like can be complex, the time spent negotiating should be measured against the time saved managing documents.

# 9.4. Dignity and respect

A core aspect of PROACTIVEs responsibility was to ensure the dignity and respect of the volunteers at all times. As for Rieti, it was decided that the volunteers had to wear swimming costumes underneath their clothes for the decontamination process. Only volunteers passing this dress code check were allowed to participate in the decontamination (see Chapter 6.3). Those who did not want to undress/be decontaminated wore red wristbands.

In order to ensure the volunteers' independence throughout the day, they were asked whether they would like any assistance and to what extent during the registration process. The assisting PROACTIVE organisers were instructed accordingly. Designated roles were allocated to ensure the wellbeing of all volunteers (Volunteer liaison) and especially minors (Child Welfare Officer) throughout the day. Carers were involved to adequately address the respective needs of those they accompanied.

Designated changing rooms were assigned where volunteers could change into spare clothes during the morning, if need be, and later change into their personal clean clothes immediately after decontamination. The changing rooms ensured that no volunteers had to change together and guaranteed a secure private space.



To further protect the dignity of the participants, PROACTIVE instructed the videographer team not to take pictures of naked body parts that were traceable to an individual volunteer. Observers of the exercise were instructed not to take pictures or recordings of the exercise at all. Dissemination video ethics analysis and filtering have supplemented this protocol (See sections 6.4.5 and 8.2.1).

These comprehensive measures helped to protect the dignity of participants during the exercise and put the main focus on human dignity while allowing a certain level of autonomy for first responders to manage the group of participants during the decontamination process. In this way, researchers were able to collect relevant behavioural data.

# 9.5. Use of force

PROACTIVE was responsible for the handling of all volunteers outside the exercise area. During the exercise, the first responders were in charge of the undressing process and the subsequent handling of volunteers within the decontamination tents. Although they were briefed by Campus Vesta following the joint planning process (see 6.4.2), PROACTIVE had only a limited chance to interfere if the first responders behaved unethically based on the perception of PROACTIVE or even used force to instruct volunteers.

For this purpose, all volunteers were briefed beforehand (see 6.4.2). During the briefing they had a chance to express any concerns and it was reiterated that they were free to terminate their participation at any time during the exercise if they did not agree with any actions of the first responders involving their direct treatment, or for any other reason.

Additionally, the evaluators were briefed to step in if necessary, alongside the ethics and data protection officer of PROACTIVE that accompanied the observers within the exercise area.

# 9.6. Security

Campus Vesta was responsible for the overall security of their controlled and perimeter area for the exercise. Furthermore, all visitors to the site had to register at the main building in order to gain entry to the premises.

With regard to internal security, the PROACTIVE planning team, observers and guests were all issued with PROACTIVE identity badges and high visibility tabards to distinguish them.

For the security of volunteers' personal belongings, see Chapter 6.6.3.



# 9.7. Data protection and GDPR

A specific Data Management Plan (DMP) was established for managing personal data related to the Campus Vesta exercise, addressing pre- and post- event processes. The document reflected the identification of data collection purposes, actors involved, types of data and associated security protocols, allowing also to properly design informed consent tools. Another purpose was to ensure that this information is protected by following proportionate security standards and to determine how data will be curated and preserved during and after the end of the project. The following image (Figure 12) illustrates the PROACTIVE data processors, the different datasets involved and the main goals of data processing.



Figure 12: PROACTIVE Risk Matrix of the joint Ranst exercise



Datasets and associated protocols were defined as follows:

Dataset 1	DISSEMINATION	
Types of data	Photo, video, audio and observational data	
Purposes and conditions	Participants will be photographed and videotaped during the exercise for researd dissemination, and training purposes under their informed consent. After the exerci- participants will be interviewed about their exercise experiences. UIC will collect data for dissemination purposes with the assistance of Impact Media Europe, a the party company processing visual data following conditions stated in a Data Process Agreement signed with the corresponding joint controllers (UIC and CAMPUS VEST establishing requirements concerning the GDPR and the PROACTIVE project. Of personal data specifically authorised under informed consent for disseminal purposes will be made public. The third party collecting the data and the over management of this dataset will comply with the following requirements:	
	<ul> <li>Data minimisation: The less cameras the better</li> <li>No interference will occur during the exercise</li> <li>First responders and vulnerable people as will be unrecognisable as much as possible: Film from the back, film from a distance, blur faces where necessary</li> <li>Police that do not want to be filmed will wear a red armband</li> <li>The videographer team will have all proper permits and certificates</li> <li>The videographer team can use 1 drone and CAMPUS VESTA will create a map with no-fly zones</li> <li>CAMPUS VESTA and ETICAS will brief the videographer team beforehand</li> <li>CAMPUS VESTA, UIC and ETICAS will review and filter the footage before it is disseminated</li> </ul>	
Organisations among the joint data controllers accessing the dataset	CAMPUS VESTA, UIC, ETICAS and Impact Media Europe	
Data management strategy	Impact Media Europe will transfer all datasets to UIC, to be reviewed by UIC, CAMPUS VESTA and ETICAS before publication. According to the DPA, Impact Media Europe will delete the data after sharing it with the joint data controllers. UIC, ETICAS and CAMPUS VESTA will keep the information securely until the finalisation of the data retention period (2028) or delete it before this deadline when not needed for any data collection purposes.	

Dataset 2	RESEARCH AND RECRUITMENT	
Types of data	Recruitment personal identifiers, audiovisual data, consent and research data. This includes the list of participants (volunteers, observers, VIPs), which will contain personal data of the participants (name, age, gender, place of residence, e-mail address, vulnerabilities, food preferences, allergies if applicable). Together with this, research data will be collected (videos and audio)	
Purposes and conditions	<ul> <li>Recruitment: Personal data will be used for recruitment and research purposes. Specific PROACTIVE members involved in fieldwork (UMU, ETICAS and UKHSA) will collect and have access to the data. Finally, Campus Vesta and UMU will have access to the participants' personal data (such as name) as they support the recruitment process.</li> <li>Research: Furthermore, video and audio recordings are made for research purposes by UKHSA. Observers from the PROACTIVE project (UKHSA) will collect observational data during the exercise.</li> </ul>	
Organisations among the joint data controllers accessing the dataset	Campus Vesta, ETICAS, UMU, UKHSA,	
Data management strategy	Regarding research data, UKHSA will transfer pseudonymised audio transcriptions to UMU and ETICAS. UIC will gather and store digital versions of consent forms. As for recruitment, CAMPUS VESTA /UMU will share information used for this purpose. All	



these partners will keep these data securely until the finalisation of the data retention
period (2028) or delete it before this deadline when not needed for any data collection
purposes.

Dataset 3	ORGANISATION AND NATIONAL AUTHORISATIONS
Types of data	Authorisations and logistic data, including IDs
Purposes and conditions	UIC and UMU have collaborated in collecting personal identifiers from observers aimed at granting authorisations for accessing the exercise site. This information has been collected together with the CAMPUS VESTA from the project eNOTICE. The legal basis for this is the controller's legitimate interest.
Organisations among the joint data controllers accessing the dataset	CAMPUS VESTA, UIC and UMU
Data management strategy	Data collected by UMU and UIC is shared with CAMPUS VESTA so they can store it. These partners will keep these data securely until the finalisation of the data retention period (2028) or delete it before this deadline when not needed for any data collection purposes.

Dataset 4	APP TESTING
Types of data	PROACTIVE App usage data will be collected during the exercise. Registration details for the PROACTIVE App (optional), include email address and password and IP Address collected through the use of cookies.
Purposes and conditions	To save the password, RINISOFT uses ASP.NET Identity, which hashes the passwords using PBKDF2. This allows us to check that a password is an exact match while making it very difficult to recover the actual password. This data will only be collected from those observers testing the app.
Organisations among the joint data controllers accessing the dataset	RINISOFT
Data management strategy	Data is collected and processed by RINISOFT only. Anonymised results are used in research outcomes. This partner will keep these data securely until the finalisation of the data retention period (2028) or delete it before this deadline when not needed for any data collection purposes.

# 9.8. Ethics risk assessment

The ethical risk assessment template used in the previous PROACTIVE exercise (Rieti) was employed again to support the planning process with an adequate ethical approach, allowing the organising team to identify potential ethical issues associated with CBRNe response tools and procedures and implement the control measures to minimise the risk. This is important because CBRNe responses have traditionally been treated as primarily a technical and/or organisational challenge where technological advances were either generally understood as something positive or seen through a purely consequentialist ethical lens (that is: means and rights are secondary as long as the outcome is positive). However, CBRN response raises a wide range of issues touching upon the fields of disaster management ethics (e.g. individual liberty versus collective protection from cross-contamination), technology-related ethics (e.g. track and trace and privacy/data protection), research ethics (e.g. how to organise realistic exercises without violating rights of physical integrity), and others. The template consisted of a matrix: In the rows of the matrix, a catalogue of rights/norms is identified and categorised into five generic sections: fundamental rights, procedural rights,



distributive rights, intergenerational issues, and informational rights. In the columns, questions of potentially arising/observed/undertaken ethical issues and their management in relation to the development of the exercise were listed (Appendix 21). The results of this ethics risk assessment fed the strategy for ethics supervision and management of the volunteers.

# 9.9. Ethics supervision

To provide ethical oversight during the PROACTIVE 3rd Field exercise, the EDPS was appointed. The role was fulfilled by the PROACTIVE WP8 leader. The role of EDPS was to ensure the Campus Vesta field exercise was carried out in a manner that was ethically compliant with the relevant legislation set out in D8.1 and D8.3. The EDPS also carried out an on-site evaluation of ethical aspects of the exercise seeking to ensure, in particular, that:

- The exercise was being carried out with respect for human dignity at all times;
- All proper authorisations had been obtained;
- The exercise briefings had been carried out in accordance with recommendations;
- Volunteers had completed the consent form(s) as recommended;
- Relevant legislation had been complied with.

The EDPS was supported by the PEO, two EEAB members The EEAB members provided a consultative role for the planning team.

During the day of the exercise, the EDPS was supervising and evaluating the Campus Vesta field exercise as part of Task 8.4 Ethical and Societal assessment of PROACTIVE outputs. The supervising and the evaluation process followed the Ethical impact assessment framework established in D8.1 (sections 3.4 and 3.5) and the associated ethical documents:

- PROACTIVE Ethics Framework Observation and evaluation plan (Appendix 19)
- PROACTIVE Ethics Observation and evaluation sheet (Appendix 20).

### 9.10.Insurance

The insurance for the PROACTIVE field exercise at Campus Vesta on May 13th was organised by CBRNE Ltd. Whereas the insurance for the previous two exercises had been coordinated via its insurance broker Aston Lark Limited on this occasion the circumstances were different in that it was likely Campus Vesta had its own insurance policy for the type of exercise being considered and PROACTIVE did not want to pay for duplicate insurance cover.

Accordingly, with the assistance of Campus Vesta, PROACTIVE established that Campus Vesta insurance was managed by Piet Froyen, AON, Manager Public Markets, Commercial Risk Solutions for and on behalf of the Province of Antwerp. After some deliberation the following insurance cover was requested:

#### A. Civil Liability Insurance


- Corporate damage: €5,000,000.00
- Material damage: €625,000.000

#### B. Legal council (in the event of an appeal)

• Per claim: €125,000.00

#### C. Physical accidents

Treatment costs: Refund, after intervention of the mutuality, of the treatment costs (medical, pharmaceutical, hospital etc.) included in the "nomenclatura" of the National Institute for Illness and Disability up to 100% of these amounts applicable at the moment of the treatment.

- Teeth €125.00 per tooth with a maximum of €500.00 per victim.
- Burial costs €620.00 per victim.
- Refund transport costs of the victim as for labour accidents.
- Fixed Compensations:
- Death per victim €50,000.00.
- Permanent disability per victim €50,000.00.
- The insurance under points A, B, C were only applicable during the insured activity.

#### D. Material Damage

Hearing aids and orthodontic apparatus were covered up to 100% (see above) provided the volunteer number was connected to it. If no volunteer number was linked to the apparatus, then the amount covered was €250.00.

- In addition to the above, there was insurance for glasses of up to €250.00 including the frame.
- Glasses, hearing aids, orthodontic apparatus needed to be worn at the moment of the accident in order to be covered.
- No coverage for damage to clothing.
- The total premium was €1.350.00.
- Aston Lark Brokers advised CBRNE Ltd to accept the quote.
- At the time of writing no claim has been made.



## **10. EXERCISE OUTCOMES**

# 10.1. Data analysis of the Technical Data of the PROACTIVE mobile App

As mentioned above, technical (objective) verification of the developed PROACTIVE mobile App was conducted during the field exercises and included comprehensive measurements of all the key system parameters. To conduct technical verifications, RINISOFT used a dedicated dashboard, embedded within PROACTIVE collaborative web platform, for viewing these parameters in real time, as the exercise evolves. As an example, Figure below represents a screenshot illustrating verification summary from the third PROACTIVE field exercise. Some of the results of technical verification from the third (final) PROACTIVE exercise are shown below.



### Figure 13: Total PROACTIVE mobile App Statistics

Figure 13 shows overall statistics of the PROACTIVE mobile App, including total number of registered users, total number of reported incidents, number of mobile App downloads, etc. When comparing these statistics with verification results from the first and second PROACTIVE exercise, there is a clear increase in user engagement and usability of the developed MA, which indirectly indicates the improved acceptability of the developed mobile App by the stakeholders. More detailed statistics of technical verification are shown in Figure 14.



IMPRESSIONS ? 207 -5%	PRODUCT PAGE VIEWS ? 45 +96%	CONVERSION RATE ? 14.1% +230% Daily Average	TOTAL DOWNLOADS ? <b>18</b> +200%
$\sim$		~~~~~	~_^
PROCEEDS ? O 0%	PROCEEDS PER PAYING USER ? \$0,0% Daily Average	SESSIONS PER ACTIVE DEVICE ? 5.89 +0.9% Opt-in Only	CRASHES ? O 0% Opt-in Only

### Figure 14: Technical Verification Summary

As it follows from these figures, the developed PROACTIVE App performed as expected with no technical issues reported during the exercise.

## 10.2. Evaluation of first-hand experience of volunteers based on questionnaires

Questionnaire data was collected from all participants both pre- and post-exercise, this included both qualitative and quantitative questions. The qualitative data was not translated at the time of analysis, therefore was not included in the analysis outlined below. Where possible, volunteer identification numbers were used to link together responses pre- and post-exercise. All scales (i.e. means of more than one Likert item) used in analysis had good internal reliability ( $\alpha \leq .7$ ).

Two versions of the dataset were analysed: the intention to treat (ITT) dataset (N=60) and per protocol (PP) dataset (N=22). The ITT dataset included all participants for whom we had collected data during the exercise, including: participants who lacked either pre- or post-exercise survey data and two participants where there was a combined Post row but two separate Pre rows. The PP dataset included only participants who had completed both Pre- and Post- datasets (one survey per participant) and who had ID numbers consistent across Pre- and Post- surveys that enabled us to link their data as per the original protocol for the questionnaire analysis. In the PP dataset, we left blank the response to a question where there was also a discrepancy in how post-exercise privacy was determined with ITT analysis using a scale consisting of two items relating to concern and embarrassment regarding clothing removal plus one item about generic privacy perceptions and PP analysis treating all three privacy related items as separate outcome measures due to poor scale reliability.

All analyses were applied first to the ITT dataset and then to the PP dataset.

The quantitative questionnaires were analysed using one sample, paired sample and independent samples t-tests, linear regressions, and ANCOVAs. In the subsections below the analyses are presented for questions relating to pre-incident information, differences between responses pre-exercise and post-exercise, predictors of compliance with responder instructions and decontamination. The results below refer to the intention to treat analysis. However, throughout the researchers have flagged discrepancies between analyses of ITT and PP datasets.



Where we refer to "compliance" this refers to the following measures. Before the exercise, expected compliance was measured using responses to the item, "If a real incident of this type were to occur, I would comply with the instructions of the emergency responders". After the exercise, expected compliance was measured according to a decontamination adherence scale computed as the mean of responses to the following items (reliability was good in both ITT and PP analyses;  $\alpha = .77$  and .88 respectively):

- If this situation had been real, I would have complied with the instructions of the emergency responders
- If this situation had been real, I would have been willing to undergo a decontamination shower
- If this situation had been real, I would have been willing to remove all of my clothing down to my underwear before going through the decontamination shower.

The intention was to compute a scale consisting of the above three items plus two reverse-coded items relating to expectations of leaving the treatment area and expectations of going straight to the nearest hospital without following any instructions provided by emergency responders. However, this scale had low reliability in both ITT and PP datasets so a decision was made to treat decontamination adherence and leaving the treatment area as two separate behavioural expectation outcomes in the analyses reported below.

		ITT Dataset PP Dat					oataset		
Pre/post- exercise	Variable	Ν	M (SD)	Range	Median	Ν	M (SD)	Range	Median
Pre	Behavioural expectation	35	6.69 (0.47)	1.00	7.00	22	6.55 (0.51)	1.00	7.00
	Confidence and knowledge	36	4.07 (1.65)	5.50	4.25	22	4.49 (1.39)	5.50	4.50
	Response legitimacy perceptions	35	6.45 (0.84)	4.00	7.00	22	6.55 (0.60)	2.00	7.00
	Expectancy of help	35	4.99 (1.40)	5.00	5.50	22	5.16 (1.15)	5.00	5.50
	Willingness to help others	35	6.30 (0.87)	3.00	6.00	22	6.05 (0.90)	3.00	6.00
	Confidence to help others	35	4.33 (1.70)	6.00	5.00	22	4.86 (1.17)	5.00	5.00
	Identification with volunteers	35	4.97 (1.43)	6.00	5.00	22	5.14 (1.09)	4.00	5.00
	Identification with responders	34	4.71 (1.54)	6.00	5.00	22	5.07 (1.33)	4.50	5.00
	Anxiety	35	5.53 (1.20)	5.33	5.67	22	5.35 (1.35)	5.33	5.67

## Table 10: Summary of all descriptive statistics for all pre-exercise and post-exercise outcomes for Intention to Treat (ITT) and Per Protocol (PP) datasets



			ITT I	Dataset		PP Dataset			
Pre/post-	Variable	Ν	M (SD)	Range	Median	Ν	M (SD)	Range	Median
Post	Information perceptions	45	4.08 (1.07)	4.57	4.20	22	3.80 (1.30)	4.57	4.17
	Capability interacting with responders	48	5.15 (1.83)	8.00	6.00	22	5.36 (1.76)	6.00	6.00
	Difficulty undergoing procedures	39	2.87 (1.74)	8.00	3.00	18	3.22 (2.10)	6.00	3.00
	Confidence and knowledge	48	4.11 (1.59)	8.00	4.25	22	4.02 (1.75)	6.00	4.38
	Response efficacy perceptions	46	4.75 (1.68)	8.00	4.83	22	4.58 (1.76)	6.00	4.33
	Responder legitimacy perceptions	48	5.79 (1.37)	5.50	6.00	22	5.89 (1.40)	5.50	6.00
	Expectancy of help	48	4.82 (1.59)	6.00	5.00	22	5.41 (1.41)	5.00	5.50
	Willingness to help others	48	5.53 (1.36)	6.00	6.00	22	5.14 (0.79)	2.50	6.00
	Anxiety	48	5.26 (1.50)	6.00	5.33	22	5.42 (1.55)	6.00	5.33
	Identification with volunteers	48	5.13 (1.40)	6.00	5.50	22	5.43 (1.18)	5.00	5.75
	Identification with responders	46	4.26 (1.74)	6.00	4.25	22	4.05 (1.69)	6.00	4.00
	Responder communication perceptions	45	3.75 (1.67)	5.67	4.00	21	3.60 (1.78)	5.33	3.67
	Responder competence	45	4.69 (1.66)	6.00	5.00	22	4.43 (1.78)	6.00	4.67
	Perceptions of co- operative behaviour among volunteers	44	5.36 (1.22)	6.00	5.33	21	5.88 (0.97)	3.00	6.00
	Leaving the treatment area	44	2.74 (1.78)	6.00	2.50	22	2.91 (1.96)	6.00	2.25
	Decontamination adherence expectation	44	6.11 (1.12)	6.00	6.33	22	6.35 (1.10)	5.00	6.67
	Privacy concerns	22	22 2.86 (1.74) 8.00 2.25			N/A (low reliability)			
	Privacy Sufficiency Perceptions	24	4.25 (1.92)	6.00	5.00	11	4.18 (2.36)	6.00	5.00
	Clothing removal embarrassment	N/A (Privacy concerns scale computed from these two items)					2.50 (1.43)	3.00	2.50
Clothing removal concern							2.60 (1.58)	4.00	2.50



	Con	dition		Disability	Self-reported as Decontaminated		
	Pre-incident information	Control (no pre- incident information)	No disability	One or more disabilities	Prefer not to say	Yes	No
Pre-incident information	20		4	9	3	7	7
Control		40	15	9	8	8	24
No disability			19			7	11
One or more disabilities				18		6	12
Prefer not to say / missing					11	2	8
Total	20	40	19	18	11	15	31

## Table 11: Summary of sub-sample sizes by condition, disability, anddecontamination for the adult ITT dataset

At this point, it is worth noting that the total number of adult participants here (60) exceeds the number of total volunteers registered at the outset of the exercise. Subsequent investigations suggest that some of these were completed by the 'actors' (individuals asked to feign symptoms by the Campus Vesta team) and some may have been completed by individuals who either arrived later than the registration period or who incorrectly attended the wrong briefing (as two exercises were happening concurrently). These inconsistencies are to be expected when conducting a large-scale evaluation on a third-party site with two concurrent exercises taking place, particularly in a context where volunteers were not permitted to wear participant number ID wristbands as was the case for the previous two exercises. In the interests of preserving as much data as possible and given that all these individuals did participate in the exercise, their data was included in this report. However, steps were taken to ensure that, as far as possible, there were no undue influences from any non-registered volunteers during the analyses (that is, the two versions of the questionnaire analysis that were conducted).

#### Disability

An independent samples t-test was conducted to assess whether there were any significant differences in any pre-exercise and post-exercise outcomes between disability groups. In the ITT data analysis, significant differences were only identified for one outcome, post-responder communication perceptions. There were significant differences between participants with no disabilities (M=4.37, SD=1.23) and those with one or more disabilities (M=2.92, SD=1.67). Those with one or more disabilities reported significantly lower ratings about the quality of emergency responders' communication than those with no disability [t(33)=2.96, p=.006].

In the PP data analysis, significant differences were identified for perceptions of co-operative behaviour among volunteers; information perceptions; and perceptions relating to clothing removal concern and embarrassment. There were significantly higher rates of agreement with statements about observing co-operation and courtesy between participants by participants with one or more disabilities (M=6.56, SD=0.53), compared to participants with no disability (M=5.38, SD=0.92); [t(15)=-3.31, p=.006]. Reported perceptions of the quality/sufficiency of information were significantly



lower for participants with one or more disabilities (M=3.36, SD=1.16) compared to participants with no disabilities (M=4.65, SD=1.15); [t(15)=2.31, p=.035]. Concern and embarrassment around clothing removal were both lower in participants reporting no disability [concern: (M=1.00, SD=0.00); embarrassment: (M=1.00, SD=0.00)], compared with participants reporting one or more disabilities, (M=2.88, 1.36, (t(7)= -3.91, p=.006) for perceived embarrassment (M=3.00, SD=1.51, t(7)= -3.74, p=.007) and for reported concern about clothing removal). However only two participants with no disabilities could be factored into the analysis.

#### Decontamination

While no PROACTIVE volunteers were observed to have undergone decontamination, several postquestionnaire responses indicated that individuals believed they had undergone decontamination. This could be due to the fact that some of the respondents to the survey were those individuals initially brought along by Campus Vesta to simulate symptoms (and not those recruited for the purposes of being PROACTIVE volunteers) or due to respondents not understanding what was meant by decontamination (as there was no definition provided), or a combination of both.

Independent samples t-tests were conducted to identify any significant difference in any pre-exercise and post-exercise outcomes between those who reported that they went through the process of decontamination compared to those who did not. Significant differences were identified for four outcomes; pre-exercise responder legitimacy perceptions and anxiety perceptions, and postexercise privacy perceptions and response efficacy perceptions.

Pre-exercise measures of expectations that responders would behave in a respectful, fair way (responder legitimacy) and pre-exercise measures of how nervous, anxious or scared the participant would feel if a real incident of this type were to occur (anxiety) were significantly higher among volunteers who reportedly went through decontamination [Responder legitimacy: (M=6.93, SD=0.19, t(17)=-3.18, p=.005); Anxiety: (M=6.38, SD=0.56, t918)=2.92, p=.009)] compared to those who did not [Responder legitimacy (M=6.38, SD=0.59); Anxiety: (M=5.07, SD=1.48)]. This was also supported by findings in the per protocol dataset.

In the ITT data analysis, post-exercise response efficacy perceptions (i.e. perceptions that decontamination actions such as disrobing would help to protect the participant if they had been exposed to a hazardous chemical) were also significantly higher among volunteers who reported to have gone through decontamination (M=5.32, SD=1.56, t(42)=2.14, p=.039) compared to those who did not (M=4.32, SD=1.67). However, this was not replicated in the per protocol dataset. Also in the ITT analysis, those who reportedly went through decontamination (M=1.91, SD=0.77) reported significantly lower scores relating to privacy concerns, i.e. reported embarrassment and concern around clothing removal, compared with those who did not report going through decontamination (M=3.82, SD=1.94), t(13)=3.03, p=.010. This was not replicated in the PP analysis.

#### **Pre-incident information**

In total, 55 volunteers were split prior to the exercise, 27 (20 adults and 7 children) received preincident information (49%), the remaining 28 volunteers (including children), in the control condition, did not. Of these 55, children were not included in the statistical comparison. Furthermore, additional individuals filled in the post-exercise questionnaire (but who hadn't filled in the pre-exercise questionnaire). As these additional individuals were not in the briefing room, they did not receive the



pre-incident information and so were included in the control condition for analysis. This yielded a total of 20 participants in the pre-incident information condition and 40 in the control.

To analyse the effect of pre-incident information on behaviour, a one-way ANCOVA was conducted to determine whether there was a statistically significant difference between those who received pre-incident information and those who did not on post-exercise adherence expectations (i.e. compliance with decontamination instructions), when controlling for pre-exercise compliance expectations. There was no significant main effect of post-exercise compliance [F(1,20)=3.06, p=.096, np213]. The covariate, pre-exercise compliance, was significantly related to post-exercise compliance [F(1,23)=5.58, p=.028, np2=.22]. Per protocol analyses confirmed this result.

Independent samples t-tests were conducted on all post-exercise variables for which corresponding pre-exercise measures were not recorded, including expectations of leaving the treatment area, to determine if there was a statistically significant difference between condition. These were: capability interacting with responders, difficulty undergoing procedures, response efficacy perceptions, responder communication perceptions, information perceptions, responder competence, privacy perceptions, perceptions of co-operative behaviours among volunteers. As a precaution to avoid Type 2 errors, the scale for expectations of leaving the treatment area was subjected to an ANCOVA with pre-incident information provision as independent variable and baseline compliance expectations as covariate. No significant effects were observed for any of the outcomes in either the ITT or per protocol analyses.

We carried out ANCOVAs to assess the effect of pre-incident information on all outcome measures recorded post-exercise for which we had pre-exercise measures, which were entered as covariates. When controlling for baseline measures, pre-incident information was not found to impact in either ITT or PP analyses on reported: responder legitimacy, expectancy of help, willingness to help others, identification with volunteers, identification with responders, or anxiety.

Confidence and knowledge perceptions (ratings of the extent to which participants felt they had the confidence and knowledge to take appropriate actions in order to protect themselves and their loved ones were the exercise to have been a real incident) were significantly higher in the pre-incident information condition (M=4.60, SD=1.82) than in the control condition (M=3.16, SD=1.49), F(1,20)=4.69, p=.043, np2=.19, when controlling for baseline (pre-exercise) confidence and knowledge perceptions in the ITT analysis. However, this effect was not found in the per protocol analysis.

#### Differences between pre-exercise and post-exercise

Using volunteer ID numbers, the researchers were able to identify 23 volunteers with completed preexercise and post-exercise questionnaires. All other participants either only completed a pre- or postexercise questionnaire or didn't provide and ID number to ensure their pre- and post-exercise data could be paired. A paired samples t-test between the pre-exercise and post-exercise questionnaire on compliance, confidence and knowledge, perceived responder legitimacy, expectancy of help, willingness to help others, identification with responders, identification with volunteers, and levels of anxiety were conducted. The results showed that there were significant differences between preexercise and post-exercise questionnaire scores for identification with responders (ratings of how much participants felt like they identified with and felt a sense of unity with the responders who took part in the exercise) [t(22)=3.16, p=.005]; at post-exercise volunteers reported significantly lower



identification with responders (M=3.91 SD=1.77), compared to pre-exercise (M= 5.01, SD= 1.33). However, there were no other significant differences for all other variables. The findings observed in the per protocol dataset matched those of the intention to treat dataset for all variables, except responder legitimacy perceptions, whereby post-exercise ratings of how fairly and respectfully responders behaved were significantly lower (M=5.89, SD=1.40) than pre-exercise expectations of how fairly and respectfully responders would behave (M= 6.55, SD= 0.60); [t(21)=2.22, p=.037]. This finding was not significant in the intention to treat dataset.

#### Compliance

To check general compliance expectations following participation in the exercise, baseline scores for the Likert item on expected compliance with instructions were the situation real were subtracted from post-exercise scores for the same Likert item. A one-sample t-test was used to analyse if the mean score of adherence significantly differed from the test value of 0 (i.e. no change). A significant difference from 0 would indicate a significant increase or decrease in expectation of complying between the first and second time point. However, no significant effects were identified for the entire sample, nor sub-samples considering condition (pre-incident information or control), whether they'd experienced decontamination or the presence of disabilities. This finding was replicated in the per protocol dataset.

Linear regression analyses were conducted to assess whether confidence and knowledge, perceptions related to capability interacting with responders, difficulty undergoing procedures. response efficacy and responder legitimacy, expectancy of help, willingness to help others, anxiety, identification with volunteers and responders, responder communication perceptions, information perceptions, responder competence, privacy perceptions and perceptions of co-operative behaviour among volunteers predicted post-exercise compliance and leaving the treatment area. No significant predictors were identified for compliance in the intention to treat or per protocol dataset. However, post-exercise response efficacy perceptions [R2 = .24, F(1,40) = 12.41, p = .001, b = -.49]information perceptions [R2 = .20, F(1,42) = 10.42, p = .002, b = -.45], responder legitimacy perceptions [R2 = .25, F(1,42) = 14.25, p < .001, b = -.50], and responder competence perceptions [R2 = .10, F(1.42) = 4.77, p = .04, b = -.32] were all identified as significant negative predictors of leaving the treatment area. These findings were broadly supported by the per protocol analysis. However, per protocol analysis also identified higher identification with responders [R2 = .41, F(1,20)]= 13.73, p = .001, b = -.64] as being associated with reduced inclinations to leave the treatment area without following any of the emergency responders' instructions. Perceived responder competence was not found to be a significant predictor of expectations regarding leaving the treatment area in the per protocol dataset. In both ITT and PP analyses, higher post-exercise response efficacy, information, and responder legitimacy perceptions were associated with reduced inclinations to leave the treatment area (e.g. to go straight to nearest hospital) without following any of the emergency responders' instructions.



#### Children's questionnaire results

Given the low sample size for children (11 responses pre-exercise and 10 responses post-exercise), descriptive statistics were carried out to assess proportions of children who responded favourably (indicated by a smiling face illustration) or unfavourably (indicated by a frowning face illustration) to questions pertaining to the following three domains: Responder Legitimacy (pre- and post-exercise), Emotions (pre- and post-exercise), and Responder Communication (post-exercise only). Responses were coded as Positive (all responses to questions relating to the domain were favourable); Negative (all responses to questions relating to the domain were unfavourable) or Mixed (combination of favourable and unfavourable responses to questions pertaining to a particular domain)

All children had mixed responses to questions relating to Emotions both pre- and post-exercise and mixed responses to questions pertaining to Responder Communication post-exercise. Whilst all children responded positively to all questions pertaining to Responder Legitimacy pre-exercise, fourout-of-ten responded positively to all post-exercise Responder Legitimacy questions; one participant responded negatively and the remaining children had mixed responses.

#### Summary of findings

Analysis of pre- and/or post-exercise questionnaire data collected from 60 participants was analysed, considering the effects of disability, decontamination, whether participants received pre-incident information, time and compliance with behavioural outcomes. The breakdown of findings is displayed in Table 12.

- There was no effect of receipt of pre-incident information on expected compliance (i.e. adherence to decontamination), when controlling for baseline compliance expectations recorded before the exercise, nor was there any effect of pre-incident information on expectations of leaving the treatment area.
- There was no significant change from the pre-exercise baseline in terms of expected compliance with the instructions of emergency responders.
- There was no correlation between any perception variables measured post-exercise and expected compliance with instructions of responders.
- Higher perceptions of response efficacy, information sufficiency/quality, and responder legitimacy were associated with reduced inclinations to leave the treatment area without following any of the emergency responders' instructions. This means that the greater the extent to which participants rated the efficacy of decontamination to protect against chemical contamination; the sufficiency/quality of the information provided to them, and the legitimacy (respectability and fairness) of emergency responders' conduct, the lower the reported expectations of leaving the treatment area (e.g. self-presenting at the nearest hospital) without following any of the emergency responders' instructions. In the PP analysis only, expectations of leaving the treatment area were also negatively correlated with the degree of identification (e.g. sense of unity) with responders. In the ITT analysis only, expectations of leaving the treatment area were also negatively correlated with perceptions of the competence of the emergency responders.



- There was a significant reduction from pre to post exercise in participants' perceptions of identification with emergency responders (ratings of how much participants felt like they identified with and felt a sense of unity with the responders who took part in the exercise). In the PP analysis only, there was a significant reduction in emergency responder legitimacy perceptions from pre to post exercise.
- Confidence and knowledge perceptions (ratings of the extent to which participants felt they
  had the confidence and knowledge to take appropriate actions to protect themselves and
  their loved ones were the exercise to have been a real incident) were higher in the preincident information condition than in the control condition, when controlling for pre-exercise
  confidence and knowledge perceptions in the ITT analysis. However, this effect was not
  found in the per protocol analysis.
- For disability, results varied according to whether or not we analysed data collected according to protocol. When looking at all collected data (ITT), participants with one or more disabilities reported significantly lower perceptions of emergency responders' communication during the exercise than participants with no disability. But when looking at per protocol data, there was no difference in responder communication perceptions; in this dataset participants with one or more disabilities had higher perceptions of co-operative behaviour among volunteers and lower perceptions regarding the quality/sufficiency of information than participants with no disabilities. Concern and embarrassment around clothing removal were both reportedly lower in participants reporting no disability, compared with participants reporting one or more disabilities.
- Participants who reported that they underwent the decontamination process during the
  exercise reported significantly higher pre-exercise expectations of response legitimacy (fair
  and respectful conduct) and higher pre-exercise expectations of anxiety (feeling nervous,
  anxious or scared) if a real incident of this type were to occur. In the ITT dataset only, those
  who reportedly went through decontamination had higher response efficacy perceptions and
  lower scores relating to privacy concerns, i.e. reported embarrassment and concern around
  clothing removal, compared with those who did not report going through decontamination.
- Whereas all children responded positively to all questions pertaining to perceived legitimacy of responders before the exercise, only 40% of children responded favourably to all questions measuring perceived responder legitimacy after the exercise.
- All children had mixed responses to questions relating to Emotions both pre- and postexercise and mixed responses to questions pertaining to Responder Communication postexercise.



## Table 12: Significant findings in ITT and PP datasets (findings present in both ITT and PP analyses presented in bold)

Finding	Found in PP dataset	Found in ITT dataset
The greater the extent to which participants rated the efficacy of decontamination to protect against chemical contamination (response efficacy); the sufficiency/quality of the information provided to them, and the legitimacy respectability and fairness of emergency responders' conduct (responder legitimacy), the lower the reported expectations of leaving the treatment area (e.g. self-presenting at the nearest hospital) without following any of the emergency responders' instructions	YES	YES
There was a significant reduction from pre to post exercise in participants' perceptions of identification with emergency responders (ratings of how much participants felt like they identified with and felt a sense of unity with the responders who took part in the exercise)	YES	YES
Participants who reported that they underwent the decontamination process during the exercise reported significantly higher pre-exercise expectations of responder legitimacy (i.e. fair and respectful conduct) and higher pre-exercise expectations of anxiety (feeling nervous, anxious or scared) if a real incident of this type were to occur	YES	YES
There was no effect of receipt of pre-incident information on expected compliance (i.e. adherence to decontamination), when controlling for baseline expectations of compliance with responders' instructions measured before the exercise	YES	YES
There was no effect of receipt of pre-incident information on expectations of leaving the treatment area	YES	YES
There was no significant change from baseline in terms of expected compliance with the instructions of emergency responders	YES	YES
There was no correlation between any perception variables measured post-exercise and expected compliance with instructions of responders	YES	YES
The greater the level of identification with responders reported by participants, the lower their expectations of leaving the treatment area were	YES	NO
There was a significant reduction from pre to post exercise in participants' perceptions of the legitimacy of emergency responders	YES	NO
Participants with one or more disabilities reported higher concern and embarrassment around clothing removal, higher perceptions of co-operative behaviour among volunteers, and lower perceptions regarding quality/sufficiency of information than participants with no disabilities	YES	NO
The greater the ratings of perceived competence of emergency responders, the lower the expectations of leaving the treatment area without following any of the emergency responders' instructions	NO	YES
Participants with one or more disabilities reported lower perceptions of emergency responders' communication during the exercise than those with no disability	NO	YES
Response efficacy perceptions were higher and reported embarrassment and concern around clothing removal was lower in participants who reported that they underwent decontamination, compared to those who did not	NO	YES
Ratings of the extent to which participants felt they had the confidence and knowledge to take appropriate actions to protect themselves and their loved ones were the exercise to have been a real incident were higher in participants who had been provided with pre-incident information, when controlling for pre-exercise confidence and knowledge perceptions	NO	YES



# 10.3. Evaluation of first-hand experience of volunteers based on focus groups

Seven focus groups were conducted by the UKHSA evaluation team with the help of Flemish interpreters. All focus groups were audio recorded; as the focus groups were mainly conducted in Flemish, the data was translated and then subsequently transcribed for analysis. Given this, a full analysis of the focus group data is beyond the scope of this deliverable and will instead be included in D6.6.

The UKHSA team used the Framework Method of qualitative content analysis to analyse focus group data. This is a qualitative thematic approach that is often used in research that has implications for policy (Pope et al. 2000; Ritchie & Spencer 1994). This initial analysis of focus groups transcripts revealed seven main themes: general experiences of the exercise, responders' attitudes and behaviour, perception of responders interacting with vulnerable people, interaction between volunteers and volunteer behaviour, decontamination, perception of communication, pre-incident information. We also identified suggestions for improvement for responders' interactions with vulnerable people, communication, and the use of pre-incident information. Initial findings are summarised by themes below; these preliminary findings will be superseded by the full analysis of focus groups that will be presented in D6.6.

### 10.3.1. General experiences of the exercise

Several volunteers reported that they felt no stress throughout the exercise and that it did not feel realistic e.g., "It was a bit unrealistic. Also we were immediately put in a group. We didn't get covered with that powder, but we touched a lot of people who were. So actually that wasn't really right either. And also yes, the long wait. But yes, of course, that's always the case. It really wasn't realistic. On that level, that is. People had no idea at all that it had already started" (FG2) and "You asked for people to help test things in a stressful situation. But well, that didn't happen" (FG1). Along these lines, someone also reported that there was a lot of waiting around and they expected more action from the exercise e.g., "In real life it wouldn't be like that. Yes, yes, yes, I had expected much more. More action? After that exercise, we were infected. We went out again and that was it [...] and always waiting." However, some volunteers expressed that the exercise was informative and well organised e.g., "The whole exercise. I think everybody knew what their role was. I think that everybody knew what to do. It got off to a fairly slow start, but I think that's a quite normal in an exercise like that" (FG3).

On another note, volunteers with vulnerabilities described a feeling of panic related to not understanding what was happening, which seemed to be connected to a lack of communication aimed at vulnerable people. This started a discussion on how to make the scenario more realistic e.g., "And these electric wheelchairs are usually a bit wider than a normal wheelchair, so when I go through a doorway I have to make sure I am lined up in the centre, but if I were in a panic I wouldn't see exactly where the door is [...] And if you can introduce that scenario then it makes it very much more difficult, and then if you fall out of the wheelchair, what will they do then? That makes it extra difficult, do they just clear you away, and they going to step over you, jump over you, will they walk over you or just leave you there? That makes it all much more real" (FG6). Another suggestion was to give a wheelchair user a scenario where they fall out of the wheelchair or where the wheelchair is covered with powder so that they could get the full experience of the exercise including



decontamination e.g., "I was saying exactly that when they arrived. Rightly or wrongly, I was saying to him: you should suddenly fall out of your wheelchair or something, and then suddenly it will all become real" (FG6).

Whilst volunteers described some negative experiences, they enjoyed the experience and wanted to be involved in something similar in the future e.g., "A fun experience because you know it's not real, of course" (FG4) and "I think it's just cool to see how it works. I didn't see very much, but, like, when they arrive and then those showers, and they put on those suits and so on, that was interesting" (FG4).

### 10.3.2. Responders attitudes and behaviour

As part of the focus groups, there was also a discussion around the importance of responders' engagement with casualty volunteers. There was a general feeling among volunteers that emergency responders did not know exactly what to do and were unprepared e.g., "I think there were a lot of them there who didn't really know what to do. These groups were wandering around, waiting for instructions or direction. Were waiting for someone in charge to take the lead" (FG1) and "And I also found sometimes the credibility of the emergency responders wasn't enough [...] I think the emergency services were also just not well prepared. They didn't know at all what to do or how to do it or what to do so that the rest didn't take it realistically either" (FG2). One volunteer expected the emergency responders to perform the exercise perfectly given that it was an exercise and not a real-life event e.g., "But I would expect that they should do it perfectly in the exercise. In real life those guys panic themselves too, sometimes." (FG1).

Moreover, volunteers had the impression that emergency responders were not working enough and were understaffed e.g., "No, we didn't experience anything medical so [...] Yes, they arrived with no siren or anything, so that was [...] They were standing around talking while that man was lying there on the ground, and just did nothing. [...] And yes, there were a lot of people saying something about that and they were just ignored. [...]But yes, they were pretty understaffed, down to four men" (FG2). At times, it was remarked that a volunteer was left lying in the full sun for a long time e.g., "They were standing around talking while that man was lying there on the ground, and just did nothing. And yes, there were a lot of people saying something about that and they were a lot of people saying something about that man was lying there on the ground, and just did nothing. And yes, there were a lot of people saying something about that and they were just ignored" (FG2).

## **10.3.3.** Perception of responders interacting with vulnerable people

Volunteers spent some time discussing their perceptions of responder preparedness to assist those with vulnerabilities. In most cases, the emergency responders were seen to avoid contact with vulnerable volunteers e.g., "My opinion on that, I find the interaction between the responders and the victims was barely there. But that's very important, in a real incident" (FG1) and "In our case we didn't see any police up close. Or the fire brigade" (FG1). Moreover, volunteers reported that when they did have contact with responders, the first responders did not seem to know how to interact with them. The extent to which people with visual impairments are dependent on the information provided and help offered to them was underlined during the focus groups e.g., "I will continue standing there, as a blind person. I would stay put. I wouldn't know what else to do. Not knowing if anything had landed on me. Did anything land on me? And for us, it is dependent on the help that is on the way. [...] We didn't have any interaction" (FG1).



Similarly, volunteers perceived that responders had enough to deal with already and if a wheelchair user would have fallen out of their chair they would not have been helped fast enough and this would have caused problems e.g., "because I have been thinking about it. Earlier, I was thinking about falling forwards out of my wheelchair, but if I fall forwards and there is nobody there to turn me back onto my back then I remain stuck in a forwards position because I can't use my legs to turn myself around [...] But it makes me think, if something were to have happened earlier, like a fall, it wasn't stated in the scenario and so it wasn't described, and then they have to deal with that, I think that would cause big problems, that's what I think" (FG6). This related to the perception that responders did not come to check if volunteers were okay and whether they needed additional support e.g., "at the end we were asked if we had anything wrong and if we need it to be taken to the hospital, and we were expected to wheel ourselves over there in our wheelchairs. Normally there would be assistance using an aid. You can get over there unaided. I'm not able to. I can't wheel myself from here to over there [...] It's the same thing, part of a realistic scene. Here they ought to have the same assistance aids." (FG6).

Another point made at times was that emergency responders often divided relatives and separated volunteers with vulnerabilities from their carers e.g., "He is a father, whose son has a learning disability. And he was saying, 'my son is in another group.' And they just said, 'we'll sort it out,' and didn't come back to give any feedback. But he ought to have" (FG3). In this respect, it was suggested a few times to try to keep people with vulnerabilities together in the same group in order to facilitate communication and interaction e.g., "so I think my suggestion would be that the emergency services as soon as they know that there are multiple deaf people present they ought to bring them together and keep them together in a group" (FG5).

Children felt unheard because when they acted sick, they did not get help from the responders despite telling the police multiple times that they felt sick e.g., "they didn't come to help us[...] I was afraid in case it would happen for real and I would get sick for real and I might die" (FG7). It was reported that a child with additional needs started to believe this was a real situation because others around him acted like they were ill, despite reassurances, and had to step outside of the exercise at some point e.g., "They took them away much earlier [...] It's therefore that he says when it happens in real, I'm dead, because they don't see me. But isn't that how it is?" (FG7). Overall, it took a long time for responders to attend the children e.g. "No, I think we waited like an hour, maybe more before someone came to us"(FG7).

A few positive experiences were also reported as some volunteers felt respected and treated as equals e.g., "They responded to everyone in the same way" (FG2) and some of them also recalled interactions with an emergency responder speaking sign language e.g., "oh yes that was very easy that was very nice" (FG5) and "well, we went along with the interpreter. The interpreter was translating what was being said for everyone else and vice versa" (FG5).



### 10.3.4. Interaction between volunteers and volunteer behaviour

The field exercise offered opportunities for volunteers to interact with each other. Volunteers disclosed that caring interactions between volunteers developed during the exercise e.g., "So in general, that interaction with each other, that was [...] Very caring. You are taking care of each other, because he wasn't there, so people took care of his son" (FG3).

Volunteers with vulnerabilities tended to follow what the group or other volunteers do e.g., "Well just follow everyone else just follow the other people if I saw people were going to a particular spot I just followed them." Moreover, they described little interaction with other volunteers as they did not know how to interact with them, e.g., "And there were deaf people, they were chatting among themselves. I couldn't understand them. I was inclined to go to them, but I also didn't know how I would communicate to those people" (FG3). Nevertheless, they were friendly and helpful e.g., "and there were a number of friendly people who were trying to communicate in their own way what they had been through, so there was a very small amount of contact with other people. But it was more about what we had to do, it wasn't an in-depth conversation, fairly superficial [...] Yes they were certainly friendly. [...] But they were afraid to approach us, that was the feeling I had. I think perhaps because they don't know how to communicate with us. Perhaps they think they have to do some special thing but they don't know what or how" (FG5).

That said, volunteers reported helping the vulnerable people who were not perceived to be helped by the first responders e.g., "But we had also blind people with us and there was no one to take care of the blind people to walk somewhere. So, we took care took care of the blind people" (FG7). Though there was some speculation among wheelchair users (who reported other volunteers helping them to evacuate the incident location) as to whether or not this would happen during a real incident "it will be interesting to see what people do, will they just walk over you or will they help you or what would happen?" (FG6).

## 10.3.5. Perception of Decontamination

Volunteers also made several observations regarding the decontamination process (though, as noted, throughout the report, those who underwent decontamination were likely 'actors' rather than registered volunteers). Several volunteers expressed that they expected decontamination to be a more private experience and that "it felt weird" (FG5) and it was not great to take their clothes off in front of everyone, but they would be willing to do it in a real situation e.g., "I did not do it now in the simulation, because they had said that it would be somewhat shielded, but there were fifty observers standing there looking at you as well as everyone from the exercise, so I thought, I will let them pass me by. I had thought it might put the screens from the fire brigade around there" (FG3), "If it was a real disaster situation is sitting and you have the feeling you might be infected with something, then you want it all to be over as quickly as possible and if you're standing there, at that moment, I don't know, but I don't think you stop to think about it" (FG4).

A volunteer also raised their concern about how they would know whether the shower procedure was correct e.g., "I also don't know whether any criteria were given, like, you have to stay under it for so long or it has no benefit. Equally, there might be someone who just has a quick splash, right, all done. Even though technical they wouldn't be. Even if they are willing to do so, the question is, are people competent to actually know to what level they have to do it. Do you always have to do under the armpits? Do they have to do it all? Well, I don't know" (FG3) and "just, is it done correctly,



absolutely correct gear. Yes uh, is it with the right product, is there communication about that? Suppose if there is a product in there, shouldn't it be asked? Are the allergic to a certain thing? All those things, nothing, nothing. And I find that much more disturbing than there than the prudishness of others" (FG3).

Some volunteers shared that they experienced miscommunication on who was supposed to go through decontamination and did not understand why they were treated last even though they were contaminated with powder e.g., "And they brought us to the decontamination. Then we stood there and then they said, yeah, there was miscommunication, you have to walk back and that's for four children, it's a lot" (FG7) and "I found that strange that that that we were actually treated last at all, even though we were the ones who really had powder on us" (FG4).

Finally, volunteers emphasised some problems with decontamination for those with a catheter or with complex mobility difficulties e.g., "I had started, with the decontamination just thought fine, but after that there were a number of things where it was unclear what they would do with me. I have a bladder catheter, and sometimes the catheter has to be changed. And I have a medicine pump, will they take account of the fact that the medicine pump there. You cannot apply any pressure to it or I will have to go to hospital" (FG6). Volunteers perceived responders meant well, but they were too focused on managing the most contaminated people, so it was a missed opportunity to learn how to assist people with vulnerabilities e.g., "They were more focused on the contamination. It would have been better if they'd focused on how to help us. [...] I understood that that was a large part of the point of this exercise and that's why they asked for people with a physical handicap, and with a mental handicap, because they hardly ever come across people like this in a disaster situation, but it could occur and then they would know what to do" (FG6). The same feeling was experienced by a volunteer who brought along their dog for the exercise e.g. "I have not been contaminated, and so neither was my dog. If they had said in advance, make sure to say you have been contaminated then they could have taken him along with me in the scenario too. Now I have really just been a wallflower, so we have not brought an added value to the exercise."

## 10.3.6. Perception of communication

#### **Pre-exercise briefing**

The pre-exercise briefing was seen to be easy to understand and sufficiently informative, although a few volunteers wanted more information. Two exercises were conducted concurrently at the same site, and it was not always clear where people should go; therefore, future exercises should communicate clearly where volunteers need to go to ensure they join the correct exercise and proceed to the right places e.g., "Yes, we thought someone will say something soon, direct us where to go or something. By the time I realised, we were already being sent outside. [...] But we had also been given a card on entering, and mine it turned out that there was a playing card there that had spades on it and then. But yes, we just put that card in our pockets without knowing what it meant" (FG1)



#### **General perceptions of communication**

All focus groups discussed a lack of communication between the responders and volunteers, which they found unnerving. Some said there were no instructions to follow, whereas others thought the instructions were not sufficient or the information was delayed. As a result, some volunteers disengaged and considered leaving the situation: "If fifteen of us suddenly break away, then three police officers can't stop that. So I think if you give people a target time, like, 'look, we're doing this and that and that and that's going to take about another hour,' then people are going to be a bit more patient." (FG3). Importantly, the lack of information prevented parents/caregivers from being able to reassure their distressed children. Some also perceived a lack of communication between the responders themselves, leading to an uncoordinated approach to communicating with volunteers.

#### Communication with vulnerable people

There was a perception that responders had good intentions but did not communicate enough with vulnerable people and did not have the skills to do so effectively when they did. Responders had not asked the volunteers about their vulnerabilities and what support they needed. This led to an instance where a volunteer with additional needs was inappropriately separated from their carer.

People with visual impairments were fully reliant on the information and help provided by the responders but felt they had not received sufficient support, which led to feelings of panic for someone who could not see nor hear what was happening. One volunteer described their experience: "as a deaf person I could see all these things happening but I didn't know exactly what was happening because I can't hear what is being said" (FG5).

There was a perception that people with hearing impairments were not communicated with well: "they need to gain more experience in how to communicate with deaf people and I think it could be done more smoothly than in this example." (FG5). Whilst there was a nurse who knew sign language and was able to guide people who had hearing impairments, it was felt that there should have been more people who could sign.



## 10.3.7. Suggestions for improvement

#### Suggestions for pre-exercise briefing and organisation of the exercise

Volunteers suggested providing a rough schedule of how long the exercise will take, so they could anticipate what might happen, manage expectations, and plan what they needed to do: "So maybe they could also provide more information prior to the briefing here today about how you should get here, or what is to be expected." (FG6) and "A schedule of how long everything will take. You're left standing outside for an hour, but there are things you need in your bag" (FG1). On this matter, a volunteer suggested that "it wouldn't have been a bad idea if in that first room there had been somebody acting as a director, to explain that now this will happen and then that, there were no guidelines communicated practical guidelines" (FG6). It was highlighted that pre-exercise information should be made accessible, such as by using different formats, images, and colour coding.

#### Suggestions for pre-incident information

Before the incident, about half of the volunteers were given information about how to protect themselves (e.g., if contaminated avoid eating, drinking, smoking, how to remove clothes). However, it was difficult to identify who received pre-incident information and who did not. In general, volunteers' comments about information they received before the incident were positive: it was clear, easy to understand, and they did not have any suggestions for the content.

In terms of formatting, volunteers suggested creating pictograms and videos with the key actions to take in a CBRNe event: "No eating, no drinking. And remove your top clothes. Those are the first three important steps." (FG3). Responders could then show these materials to exposed people during an incident, either using a tablet or hand out pre-prepared laminated information sheets. Some thought that the materials created for an emergency could double as educational materials: "If they make YouTube videos, by type. Then you can watch them in schools, youth groups and so on. I think that could certainly be very fascinating and interesting for a lot of people." (FG3).

However, a few commented that the pre-incident information was not consistent with the instructions given by responders and the other volunteers did not follow their advice when they shared what they knew. Furthermore, they thought it was the government's responsibility to raise the general public's awareness of what to do in an emergency: "Even if it is a smaller disaster, the population, I mean look at the terrorist attacks. Nobody in the population knew how to react. Everyone started making calls, which you really shouldn't do. You need to keep the lines free. Those really basic things ought to be communicated to the whole population beforehand, sent out." (FG3).

#### General suggestions for communication

All focus groups highlighted the need for more information from the responders A few said they did not understand the information they received because the responders had used terms they did not know, such as "CBRNe", so it is important to use language volunteers would understand.

If responders were not able to provide information, telling the volunteers that further information will be provided later and that responders were managing the incident was thought to help to keep them on board: "Just say to people that help is on its way. It may take some time, because the responders



have to protect themselves before they can help you." (FG4). Using a megaphone was suggested for reaching a large audience: "I also expected perhaps there would be someone with a megaphone, saying please do not drink anything at the moment, please wait for the emergency workers to come to you. Just that reassurance again. Then everyone has heard. Well, okay, not the deaf people, but you have reached a very large audience anyway." (FG3).

Two focus groups suggested having a person who 'directs the orchestra'. One group suggested someone coordinating communication with the volunteers and making sure it is a joint approach between responders. Another group proposed a coordinator who "only looks after the structure and layout, so tents over there, bus there, ambulances over there and so on, and not be concerned with the medical care, or with the people, but who can be purely concerned with those matters. Look, there's no place for that, that's it, we're going to put that there, that's best over there." (FG3).

#### Suggestions for communication with vulnerable people

Volunteers had many specific suggestions for improving communication with vulnerable people. At the start of the interaction, it was seen important that the responders introduced themselves and their role, especially if they were supporting someone with a visual impairment e.g., "We were holding our white canes to always make it clear that we are blind. And then someone came up to us to ask if we were okay. It's nice for us if they can just tell us, for example, I am an ambulance paramedic, or a doctor or whatever, because for all we know it might be one of the volunteers. It could be someone who is also participating in the study who is contaminated, and they offer help. And then, well, we don't know either what can we do? Link arms with them or not? That is very confusing for us" (FG1). Secondly, volunteers thought the responders should ask them whether they had any vulnerabilities and if so, what specific support they needed as people with the same conditions have different abilities and needs.

It was discussed that all responders should know basic sign language to be able to communicate with people who have hearing impairments: "Just one more tip I would like to feed back: I think the most important tip that is relevant for all responders is to know basic Flemish sign language" (FG5).

In terms of communication style, multiple vulnerable volunteers asked responders to "speak concisely and clearly and speak slowly. Not fast." (FG5) and making things visually clear by using hand gestures. Using translation apps was suggested as a method of overcoming language barriers. It was also suggested that tablets could provide information accessible to multiple people in a short time: "I just heard the comment, 'we cannot make information sheets for every possible incident.' Quite right. But a tablet doesn't cost a fortune nowadays. If there is a tablet in every ambulance, they can say this is the video that those people need to see now, then immediately, five people can be correctly informed in 2 minutes time with an instructional video. Just saying we are in xyz situation, you need to do this or that." (FG3).

#### Suggestions for responders interacting with vulnerable people

Volunteers made several suggestions about improving how responders manage members of vulnerable groups. Some key suggestions focused on how to first approach and interact with individuals with vulnerabilities e.g., "Immediately identifying themselves as police or one of the emergency responders. And then ask the question, so we know who we are talking to" (FG1), "I think the most important is for people to make the effort to adapt themselves. I recently had an operation,



and the nursing staff went to great lengths to explain things to me very calmly and it makes it much more pleasant for us when people are willing to do that" (FG5).

Relatedly, one suggestion concerned working together with the volunteers to ask them what they need as "everyone is unique and you have to approach each case separately" (FG3) e.g., "I think the most important thing is that you try to work together with somebody in a wheelchair and I think that would make everything a great deal easier [...] Not just with wheelchair users but with blind people as well" and "I hope that then they would ask us how can we help to give you what you need, what you need to have? And that is something that I have learned in practice" (FG6).

Additionally, one volunteer suggested that it would be useful for the information given to one emergency responder to be passed on to the other responders and teams, using an example of doctor-nurses communication when recently having an operation at the hospital as an example: "before I underwent the operation I had had a consultation with the doctor, so the staff there knew that I was deaf, and it was passed on to the nursing staff, so the day I came for my surgery the nurse knew that I was deaf, because I had seen her before. So it's handy when people know in advance that you are deaf" (FG5). Another suggestion to smoothen procedures and communication was to put together groups of people with the same vulnerability e.g., "so I think my suggestion would be that the emergency services as soon as they know that there are multiple deaf people present they ought to bring them together and keep them together in a group" (FG5).

Other suggestions included "training, training, training" (FG6) and "be prepared"(FG6) in different ways: "include people with vulnerabilities in designing the scenarios" (FG6), "Organise a brainstorming session about it, for example with the employees, and then just invite one of us, to make sure that ideas are exchanged during that brainstorm session [...] And for them to ask how could it be done better? What do you think could be done better? You could do that" (FG6), "my view is that someone in your organisation ought to involve us more. Having someone in a wheelchair there, but involving them more. So that people aren't just sitting there, but are better able to join in leading things" (FG6), "Or perhaps when you see what you can already put down on paper, saying that the wheelchair users have got this, that, or the other, then everyone can prepare. It might come back in real life, they will have seen it before and know how to respond" (FG6). A further suggestion was to provide practitioners with a basic knowledge of sign language e.g. "the main tip I would give to practitioners is that they have a certain basis in sign language" (FG5). As regards the children, it was suggested that "there should be a special doctor who would take care of the children" (FG4) and a parent expressed "they would like more information provided to help deal with questions from their children" (FG4).



## 10.3.8. Summary of key learnings

Overall, several volunteers reported that the exercise felt unrealistic as there was a lot of waiting around and they expected more action from the exercise. However, some volunteers said that the exercise was informative and very well organised. Volunteers who received the pre-incident information reported that it was clear and understandable, but also suggested that it was not consistent with instructions given by emergency responders. Volunteers reported that they did try to apply the information and also to it on to other volunteers.

Furthermore, communication was one of the main themes discussed during the focus groups. Specifically, volunteers reported that communication was initially particularly good but deteriorated throughout the exercise. In tandem, a general feeling emerged among volunteers that emergency responders did not know exactly what to do and were unprepared as well as understaffed. Indeed, members of vulnerable groups described a feeling of panic that seemed connected to a lack of communication aimed at vulnerable people as they did not understand what was going on. Volunteers also focused on the lack of instructions and responses from emergency responders and perceived that emergency responders avoided contact with vulnerable volunteers as they likely did not know how to interact with them. While some positive experiences were reported wherein volunteers felt respected and treated as equals, volunteers also made several suggestions for the ways in which responders could improve their management of vulnerable groups and communication in general. These included working with the volunteers to determine their needs, collaborating and passing relevant information on to the other responders and teams, training involving vulnerable groups, and providing more information to volunteers/ the public concerning what is happening, where they need to go and what they need to do during the exercise or incident.

## 10.4. Evaluation of the exercise based on the evaluator's observations

As for the Rieti exercise, six evaluators from UKHSA participated in the exercise evaluation. Given the lack of available detail concerning the exercise procedures from the organisations participating in the exercise (beyond the presentation of a scenario and outlining of the initial incident and incident site), the evaluators had to be flexible in moving around the exercise scene, ensuring representation at all points of activity throughout exercise play. All six evaluators began in the incident room prior to the dispersal of the powder, and then followed the volunteers outdoors. From this point, the evaluators liaised between themselves to ensure that at least one (ideally two) evaluator was present at the various locations that were set up during the exercise (muster sites, decontamination area, triage site, and hospital facilities). In this way, the evaluators were able to cover all potential points of interaction and activity likely to be of relevance to the PROACTIVE objectives and KPIs.

As described in the observational framework methodology section (see section 4.4.2), an observational framework based on both key themes identified in the evaluation of the previous two exercises (see D6.3 and D6.4) and aligned to the PROACTIVE tactical objectives and KPIs was used to guide data collection. This framework, along with the themes presented in the evaluation of the previous two exercises, formed the basis for the framework analytical approach used in this evaluation. This is a qualitative thematic approach that is often used in research that has implications for policy (Pope, Ziebland and Mays 2000, Ritchie and Spencer 1994), and was also used in both D6.3 and D6.4 reports.



The main data analysed and described below comes from detailed notes taken by the evaluators and was supplemented by consultation with video recordings (of the initial incident location and both handheld and body-worn footage) collected by evaluators during exercise play to clarify any elements of uncertainty.

This section begins with a description of the exercise procedure, before moving to consider specific themes drawn from analysis of the data referenced above. Specifically, communication between responders and volunteers, responder adaptions for volunteers, volunteer to volunteer interactions (helping behaviour), use of pre-incident information, non-compliant behaviours, and exercise artificiality/ lack of realism.

## **10.4.1. Description of Exercise**

See Figure 15 for a visual representation of the exercise site. Prior to the official exercise start point (when the evaluators reached the incident site with the half of the volunteers who had received preincident information) there were already actors with fake vomit and diarrhoea in place, with the other half of the volunteers in situ (indoors at location #1). At approximately 09:58, as per the outlined scenario, individuals entered the room and threw a powdered substance into the crowd, at head height, which dispersed around the room. Shortly thereafter, a call was made to the emergency services by the volunteers (a child and his grandmother) who instructed the volunteers to leave the building and muster outdoors (location #2). As an added exercise artificiality, other routes out of the building had already been cordoned off; there was only one route out from the incident location to the outdoors. All ambulant volunteers left the room first, followed by non-ambulant volunteers. The emergency services (police and medical) arrived on scene at approximately 10:04.

Once mustered outdoors, the emergency responders instructed the group to split into two, moving one group closer to the site where decontamination would be set up (location #3), and one group who had been deemed not to be at immediate risk but who were awaiting subsequent triage were placed further away, behind a cordon at the back of the warm zone (location #4). Volunteers were held in these two locations and were given interim triage by medics ahead of any decontamination or formal triage (volunteers at location #3 were given a yellow or red triage tag whereas volunteers at location #4 were not formally triaged at this point).

Most of the interaction between the volunteers and the emergency responders during the main part of the exercise was with either the medical staff or with the police officers investigating the incident. These interactions were typically one-to-one and were conducted in close quarters without the use of Personal Protective Equipment. During this period, there were some instances of poor communication between the responders and the volunteers (particularly when one volunteer had feigned collapse and pleas for support from other volunteers were initially ignored by the emergency responders), and some instances of non-compliance (e.g., moving from the specified location) though for the latter it was difficult to distinguish between spontaneous actions of the volunteers and pre-planned actions of the actors. This will be covered in further detail in the thematic analysis below.

At 10:24 the fire service vehicle deployed for decontamination arrived; however, decontamination was slow to begin. By 10:43 evaluators noted that no decontamination had occurred; decontamination ultimately began at 11:07. In total, across the exercise, approximately only 6-12 individuals underwent decontamination. As casualties were triaged during the initial muster as to whether they required priority decontamination or not (and given that subsequent medical triage



involved questioning re: symptoms) it follows that these individuals were likely solely actors rather than volunteers (as they were instructed to present with symptoms). This did not involve the use of a shower corridor, but instead involved volunteers having their clothing removed while lying down, before responders applied water to them using a fire hose that they were holding. Following decontamination individuals stood up and were given a white re-robe suit to wear The process in total took approximately three minutes per volunteer.

At approximately 10:45 individuals began to be moved down from location #4 to the triage point at location #5. This involved individuals walking through location #2 and past the fire service vehicle set up for decontamination at location #3 thus potentially contaminating themselves in the process. Furthermore, confusion around the triage process led some individuals to subsequently be walked back up through the warm zone once again to await further instruction back at location #4. Ambulant individuals were moved down to triage ahead of non-ambulant and other vulnerable individuals.

Triage itself consisted of two tents with individuals queuing to be triaged. This area was for individuals who were non-exposed/ injured or those who were unlikely to be so. Triage consisted of taking details and checking for symptoms - if participants reported symptoms, they were sent back to location #4. Individuals who underwent decontamination at location #3 also subsequently reported to the medical triage for assessment. Following triage, individuals were subsequently transported via vehicle to the building doubling as a hospital (location #6) for their EndEx. The first individuals arrived at the final location at 11:37.



Intended route for volunteers from the start of the exercise (location #1) down to the end of the exercise (location #2) – note cold zone (location #4) located behind the warm zone

Figure 15: Visual of exercise site (1 = incident site and StartEx location; 2 = initial muster point; 3 = holding area for probable exposed individuals/ decontamination site; 4 = holding area for other individuals; 5 = triage site; 6 = hospital site/ EndEx EndEx location. Red colouring indicates hot zone where contaminant was dispersed, orange colouring indicated the warm zone where there were/ had been potentially contaminated people (and so a risk of secondary contamination), blue colouring indicates areas for those deemed not in need of decontamination); aerial image taken from google.com/maps

Over the course of the exercise only a small number of people were decontaminated. At one point, the decision was made to move everyone from the decontamination queue (at location #3) straight to the medical triage (location #5). In addition, the evaluators observed and were informed of several instances of individuals and/ or groups undertaking non-compliant actions. For example, several individuals in wheelchairs moved down past location #3 unaccompanied and held their hands in the



run-off water from the fire service vehicle. Similarly, individuals were unaccompanied moving between location #3 and location #5, and at one point a number of individuals arrived at the hospital (location #6) potentially unaccompanied and certainly before EndEx. Indeed, the exercise itself did not have a defined end point, which speaks to the loss of overall control and authority that occurred on behalf of the incident managers and emergency responders.

### 10.4.2. Communication between responders and volunteers

The majority of the communication between the responders and the volunteers across the course of the exercise was conducted by either medical staff or the police. Generally speaking these interactions were conducted one-on-one or one-to-few (i.e., there was limited mass communication beyond an initial instruction to split the mustered volunteers into the two groups based on likely exposure/injury) and seemed to largely fall into one of two groups: 1) triage and support; and, 2) investigation. The medical staff were largely responsible for triage and support interactions, with medics regularly moving between participants in location #2 - the medics were observed to be friendly to children and one medical responder was able to use sign language to communicate with volunteers with a hearing impairment (see section 10.4.3 for more information on this and other adaptations). During this period of triage there was some engagement from participants - asking questions – with responders providing answers. These interactions appeared to be calm, friendly, and chatty. Interactions between the police and responders appeared to be more focused on questions asked by the police, which gave the interactions the look of evidence gathering interviews. These interactions were also observed to be friendly and engaged. Of particular note here, also, is that none of these responders were wearing any form of protective equipment despite attending a probable CBRN incident. While this meant that there was no barrier to communication, it also represents unrealistic conditions for communication given the nature of the incident.

At medical triage there was also observed to be good communication between medical staff and fire fighters; although one evaluator noted that an emergency responder was initially speaking quietly to those at the front of the queue, before another spoke over them and addressed the whole group; however, delays in the process did lead to a queue (which volunteers undertook calmly).

However, despite these pleasant interactions, beyond the initial instruction to move into two distinct groups, there appeared to be very little communication about the process, practically no mass communication (and certainly none using any form of amplification device such as a loudhailer), and no instructions to undertake any steps which could have reduced exposure to any contaminant (e.g., removing outer layers of clothing). Across multiple evaluators it was observed that while communication between responders and volunteers was positive when it did happen, this was not necessarily a universal or regular/ consistent experience. This lack of regular communication may have contributed to the instances of non-compliance observed (which will be discussed in more detail in section 10.4.6).

In addition, there were instances where volunteers attempted to engage the responders and were either passively or actively ignored. For example, one individual feigned a collapse, which led to multiple other volunteers attending to him; when the volunteers attempted to get the attention of the responders they were initially ignored. Furthermore, when emergency responders in hazmat suits arrived, there seemed to be no mass communication as to why they were there, or what they were doing, despite all participants turned their heads to watch them as they moved past; in a real incident this would be a critical moment to inform the affected individuals and ensure appropriate information



was relayed. There was one instance of a volunteer angrily asking questions of a police officer having already spoken to a paramedic, and it was observed that vulnerable casualties were sitting on the ground with no responders offering assistance or information.

In short, there were several missed opportunities to communicate more clearly with the volunteers in ways which could have had an impact on perceived responder/ response legitimacy and potentially reduced the instances of non-compliance which grew more frequent as the exercise continued.

## 10.4.3. Responder adaptations for vulnerable individuals

Limited adaptations were observed relating to interactions between responders and volunteers from identified vulnerable groups. Those volunteers with vulnerabilities were routinely left until last before being engaged by responders. For example, they were left until last to be moved to medical triage, some of the volunteers observed moving through the warm zone (past location #3) were in wheelchairs, and there were instances where vulnerable casualties were sat on the ground with no responders offering any assistance. Furthermore, it was noted to an evaluator (by one of the Campus Vesta organisers) that the volunteer who simulated a collapse had a child with an unspecified neurodivergence who had been separated from their parent and moved behind a different cordon. On this occasion, fortunately, the child was reported to have managed this separation well (as he had had his medication), but this scenario does have the potential to cause significant distress for a dependent minor. That said, the responders observed interacting in location #4 did ensure that they spoke with all groups of volunteers mustered in that area (a group of volunteers with vulnerabilities had moved to sit at a bench in that area slightly apart from other volunteers). Furthermore, the evaluators observed an emergency responder pushing a wheelchair into the decontamination site (location #3).

Some of the most consistent adaptations made were while interacting with individuals with hearing impairments. At one point an evaluator observed a non-verbal interaction to request water (by the volunteer waving a water bottle), at which point the responder got out their phone to allow the volunteer to communicate by typing what she needed. While this was a positive interaction, it results in potential contamination of the responder's phone. Another instance of one responder attempting to overcome the barrier in communication involved an emergency responder communicating using written form (it was unclear whether this was text or drawings) and hand movements which seemed to give sufficient information for the volunteer to follow. Most interestingly, one of the medical responders was able to use sign language to communicate with individuals who have a hearing impairment. These interactions were visibly positive (accompanied by lots of smiling and some laughing), and at one point involved an individual with a hearing impairment signalling to other participants for the responder to subsequently speak to. This therefore represents an instance of gold standard adaptation, which can be held as a positive example.

## 10.4.4. Volunteer to volunteer interactions / helping behaviours

Throughout the exercise, interactions between volunteers were observed to be very positive and pleasant, involving chatting and laughing. After leaving the initial incident site, the volunteers with visual impairments were accompanied by several other volunteers which may have represented spontaneous support. Indeed, once the volunteers were mustered in location #4, one volunteer was stood with the volunteers with visual impairments and was speaking for them (though it was not clear if this was spontaneous or a pre-arranged support individual). At the point where a volunteer



collapsed on the ground (an incident referred to in the preceding sections) several other volunteers rushed to assist him, including putting him in the recovery position, with accompanying shouting for the attention of the emergency responders – this represents clear spontaneous helping behaviour. Furthermore, the evaluators observed an instance in which the police were communicating with a volunteer who was subsequently also sharing what she was told with other volunteers. Instances of parents comforting children were noted, as well as hand holding between volunteers (though it is unknown whether these volunteers knew each other ahead of time).

However, the interactions were not universally considerate of the needs of those with vulnerabilities, nor universally accommodating, for example, individuals in wheelchairs and the lady with the sight dog were last to leave the incident site, thereby potentially exposing themselves further to the contaminant. Interestingly, at least some of these individuals were subsequently selected for non-exposed/ non-injured triage rather than the exposed group. Furthermore, during the mustering at location #4, it was observed that the volunteers had initially split into two groups: one larger group standing at the cordon, and a secondary smaller group standing and sitting around picnic tables slightly off to the side. This second group includes multiple volunteers with vulnerabilities and thus represents something of a division between groups of volunteers who did not have any additional needs and some who did have additional needs (acknowledging the presence of some volunteers without visible vulnerability in the second group).

## 10.4.5. Use of pre-incident information

Unfortunately, due to methodological limitations associated with Campus Vesta not wanting to distinguish between groups of individuals during exercise play (to avoid confusing or alerting responders to differences), it was not possible to explicitly follow the behaviours of those who received the pre-incident information in the briefing before the exercise and those who did not. That said, during the immediate aftermath of the incident it was possible to observe several volunteers undertaking behaviours that were recommended in the pre-incident information. Specifically, the evaluators witnessed: children removing the top layers of their clothing, one participant splashing water into their eyes, and one participant wiping their face with tissues, with others using tissue to wipe their hands. Upon leaving the incident site it was also observed that one individual had removed their clothes down to their vest. While it can't be said conclusively that these behaviours were informed by engagement with the pre-incident information, they are, broadly speaking, all consistent with the steps outlined within the pre-incident information and represent initial steps to reduce exposure to contaminant.

Other behaviours, not specifically mentioned in the pre-incident information, observed initially after the incident included: turning away from those running with the powder and reading the packaging of what was thrown at them. One evaluator did also observe face touching by a child casualty and there were requests for water, with both drinking and face drinking explicitly not recommended by the pre-incident information. That said, it was an extremely warm day and there is also no suggestion that these individuals had themselves received the pre-incident information.

Overall, given the absence of any similar recommendations by the emergency responders, and the delay in initiating decontamination (and subsequent decision to only decontaminate a small number of volunteers), the behaviours undertaken were consistent with the pre-incident information. These represented the most likely interventions to reduce harm caused by exposure undertaken throughout the exercise.



### 10.4.6. Non-compliant behaviours

Across the course of the exercise, some instances of non-compliant behaviours (e.g., refusing to carry out instructions and leaving the area without being escorted) were observed. While one instance – involving individuals attempting to run through the cordon – was reportedly staged and pre-scripted by the actors involved in the exercise, others involved participation from genuine volunteers. Specifically, one instance involved responders providing, in the evaluator's view, good instructions concerning how to put triage tags over one's head (involving a demonstration provided for a volunteer with a hearing impairment), yet very few volunteers elected to wear the tag. Furthermore, there were instances of volunteers attempting to walk away (e.g., one attempted to walk between locations #3 and #4, or attempting to move around a corner) around 40-50 minutes into the exercise. These individuals were swiftly asked to move back, and this instruction was followed. However, as the exercise play continued, more instances of individuals moving around without permission were observed; these included: individuals moving out of the triage tent and mingling amongst themselves, and individuals moving past location #3, through the warm zone, without any accompaniment.

Two further instances of specific note were as follows: 1) approximately 80-90 minutes into the exercise, one evaluator observed some volunteers in wheelchairs travelling unaccompanied through the warm zone (past location #3) who subsequently collected some of the run-off water from the fire service vehicle in their hands; 2) confusion was further caused late into the exercise when a group of volunteers arrived on foot at the hospital location (location #6) and began eating the lunch provided for responders. There were mixed reports as to whether these individuals had arrived themselves or had been accompanied by police; however, upon noticing their presence, one of the Campus Vesta incident directors was surprised and took these volunteers to the command station to highlight that they had lost control of the exercise play.

Overall, there were some unfortunate instances of non-compliance noted throughout this exercise, which increased as the exercise play developed and resulted in there seeming to be no formal point at which the exercise was ended. The relationship between communication and these instances of non-compliance will be further explored in the conclusion

## 10.4.7. Exercise artificiality/ lack of realism

Lastly, some of the evaluators' observations speak to the artificiality or lack of realism within the exercise scenario, potentially on the part of both volunteers and responders.

First, throughout the exercise (including immediately after the powder was thrown at the start of the exercise), volunteers were chatting casually and laughing with one another. While it would be inappropriate to create unnecessarily frightening scenarios, it may be worth reminding volunteers at future exercises of the need to react as they believe they would if the situation was real.

Secondly, the absence of PPE in responder interactions with volunteers (particularly during the early stages of the exercise) was both unrealistic from an operational/self-protection perspective, but also may have given an unrealistic impression of their ability to communicate freely with volunteers (as communication is harder while wearing PPE).



Thirdly, there were several issues observed which could have increased the likelihood of further contamination. Specifically, the establishment of the location #4 muster point behind the warm zone meant that any volunteers led from this area down to medical triage were walked through the warm zone thus leading to an increased chance of contamination. Similarly, the decontamination unit was set up on the grass (which would therefore be porous), next to drains (which would allow runoff to potentially enter the water systems), and there were numerous items of responder gear (PPE suits, wellington boots, a helmet), which may have been contaminated, left abandoned in or near the warm zone.

Finally, despite the nature of the contaminant (a large amount of white powder thrown in the air which circulated around the room), only a very small number of individuals underwent decontamination. Furthermore, these individuals were all actors, meaning no volunteers were taken through the decontamination process. This may have been due to decontamination being determined based on symptom triage (as volunteers were not told to act as if they had symptoms) but meant both: a) that a lot of potentially exposed individuals did not undergo decontamination; and, b) a valuable opportunity for the responders to learn about the process of decontaminating individuals with varying vulnerabilities was missed.

## **10.5.Evaluation of the exercise based on Observer Guide**

The following chapter describes the feedback from observers reported by the 21 observers who answered the questions (Q) of the observer guide. Observers were physically present on the exercise site within a close distance from the place where the action unfolded. They were able to observe the exercise directly with the naked eye and were accompanied by narrators who were supposed to explain the unfolding of the scenario.

## 10.5.1. Feedback about the observation task

#### Report on the confidence of observing (Q6)

The medium (M) self-reported level of observer confidence was high (M=4.81) suggesting an overall good reliability of the observations. Five observers reported very high confidence and 10 observers high confidence, while only two observers reported a low level of confidence. The high confidence is based on their experience and knowledge derived from similar activities in which they were involved in the past. Some of them had attended, organised and participated in CBRNe exercises before. Observers were also highly confident in their observations because they were able to move around the observer area freely and were close to the action with a good viewing point. The observers who provided a lower rating explained that this is because of the little information which was provided by the narrators and that it was difficult to observe all interactions. One observer gave an explanation which is very illustrative of the overall average score: "I can report on my observations with confidence. However, I am not confident I observed all relevant interactions. I could also rarely hear or understand communications which is reflected in my score."

#### Feedback on observers' expectations towards the exercise (Q7)

The exercise was in line with some observers' expectations and against the expectations of others which led to an average rating (M=3.85). There was no consensus between observers, and opinions were polarised between those extremely satisfied and those were very disappointed.



The observers were satisfied with the PROACTIVE part of the exercise ("When it comes to PROACTIVE, it was good") and the positive expectations referred to the "complexity and overall coordination", good exercise organisation "allowing observation in different stages", involvement of "many vulnerable people" and the fact that "one first responder was speaking the sign language".

The negative expectations referred to three main themes: the first one was the lack of understanding of what was going on mainly linked to the underperformance of the appointed narrators (n=4; e.g. "narrators lacked information about what was going on and when specific things happened"; "a bit disappointed with the narrator"; "narrator is usually saying I don't know"). The second issue was the lack of realism in the exercise (n=5): e.g. "The exercise seemed unrealistic; "I was expected a more realistic scenario (panic, stress, cordons, responders wearing PPE, emergency decontamination". Five observers (n=5) further explained the lack of realism through an excessively calm atmosphere and slow pace of the exercise, e.g.: "The initial operational responses was slow, cordons were established 9 minutes after arrival"; "The action was slow, the first responders did not seem to be very involved in the exercise"; everything happened very slowly; involved people were too calm. The third reported issue which seems to have been under expectations (n=3) was the chaotic organisation of the first responders and the way they performed decontamination: e.g. "no tent for decontamination", "only one decontamination line". All these examples illustrate several problems identified by the observers and explain the lowest ratings on this item.

#### Comments about the experience as observers (Q50)

Overall, additional comments were positive about the experience, as demonstrated by the below examples:

- "Everything went smoothly"
- "I am very impressed with the team organising. Big thanks!"
- "I'm really thankful and proud to be a part of this. For me, I have more notes that I will take with the hospitals and fire department. PROACTIVE is professional and I feel really well integrated by everyone. One of my most important missions so far. :)"

Two observers did note that having a joint activity with Campus Vesta added some complications:

- "Next time it will be better to do exercise from beginning till end with only one team. We can share experience after, but it should be only one managing team."
- "This was an issue for Campus Vesta [which] resulted in confusion."



## 10.5.2. Feedback about the exercise

#### Observation on the first responders' management of volunteers (Q8)

The observers felt that the first responders managed the affected persons at an average level (M=3.4). Only one observer gave the maximum score of 6 and nine other observers were rather satisfied (scores of 5 and 4). E.g.: "everyone did his/her job"; "extraction from hot zone (inside) was ok"; "police investigating the students taking their ID details; medical staff was immediate and runned their job properly."

Five observers gave an average rating of 3 and 5 observers were completely dissatisfied with the management process (giving rating of 2 and 1). Overall, several issues were highlighted by the observers in the way the responders managed the group of victims.

The main issue raised by a critical majority of the observers (n=15) was that some victims were left alone unattended for a long time in rough conditions, and that the overall process of treatment of affected persons was slow. For example:

- "Most affected people lying on the ground managed after 10 mins and stayed without any care for long time under the sun."
- "Casualties left out in the sun"
- "Some water distributed after 1.30 h."
- "There were extended periods in which people were tagged as 'severly affected' and nobody checked on them. In one case, one person asked to move out of the sun, but was initially denied."
- "Long time to intervene. Victims left in their own without attendance for a long time. Some were left to lie down in the sun for 1,5 hours."
- "They left one person at the entrance for the entire exercise period."
- "Victims in red being left unattended for long."
- "Not enough people caring for the victims at the victims collecting point outside."

Second, there was disorganisation of first responders and no clear communication especially towards the beginning of the incident (n=4):

- "I could not observe any leadership on site."
- "Limited coordination between Police, medic, firefighters (it took 2 hour to see all or them on site)"
- "But slow to communicate initially. No clear voice of authority which would reassure."
- "It seemed to be a dearth of communication and assistance to those effected."



Third, there were reported issues regarding triage, although the views were polarised. While two observers were satisfied with the triage process (e.g. "They did successful triage between affected people; "Different location of the two groups"), two observers flagged this as problematic, e.g. "Triage and explanations to victims were apparently insufficient"; no separation of victims".

Finally, there were some problems signalled with respect to SOPs especially rated to:

- **PPE** (n=3; e.g.: "Medical staff didn't wear face masks"; "No blankets to prevent hypothermia"; "First responders deployed into scene to conduct scene assessment. The PPE they wore caused clear concern with victims and this could have been avoided by effective communications."), and
- Decontamination (n=3). For example: "No cordon between warm zone and cold zone. Emergency decontamination and treatments have not been implemented while waiting for clean (shower). Showering was quite basic (no respect of dignitiy, water only, 15 sec) drying? rerobing at distance (cold zone?)"; "In the decontamination phase I noticed no presence of women among operators"; "No improvised or interim decon was evident from outside the scene. This may have been done inside the scene but contradicts best practices."

A set of five questions addressed more specific dimensions of the interaction between the first responders and the diverse group of victims. The rating of these specific elements was average, therefore indicating that there is plenty of room for improvement (Figure 16).



Figure 16: Five elements of the responder-victim interaction and their average observer score (1=lowest rating; 6=highest rating)



#### Observation on the first responders' communication with volunteers (Q9)

The least favourable evaluations concerned the way first responders communicated with the affected persons (M=3.47). While a couple of observers considered that "communication was not an issue", most observers highlighted important issues in the communication process between first responders and victims such as:

- **Poor communication** (n=5), e.g.: "The police could have had better interactions to the public when they cordonned the area. Unclear for me if the firefighters actually talked to the victims during the decontamination.; "I have not observed many respondets in directly reach with the victims, trying to calm them, to explain them what was going and even the victims were not really asking for info."; There was little evidence of effective communication to the groups in the open air."
- Lack of communication between first responders and the affected persons or communication which occurred too late (n=5): "Generally, significant lack of clear communication.; The effected people where [were] left unadvised most of the time.; The communication to the affected seemed to be very lacking.; Almost no one communicated with victims at all until after 30 mins, this is victims laying on ground."; Long time without any communication."
- Lack of understanding of first responders' messages by the victims (n=2): "I never saw any confirmation that the victims understood what was said." One observer clary explains this last point: "As a Dutch speaking observer I could understand interactions with involved people, first responders. Some of this involved vulnerable had no idea why they are waiting; blind person had no idea of color; Blind people cannot see to know what is occurring. Unclear if first responders explained the process to victims i.e. wash then to medical tent. I didn't hear anything clear. Seemed to improve after 30 mins (More comms)."

#### Observation on the first responders' efficiency in recognising vulnerable volunteers (Q10)

The first responders appeared to recognise vulnerable persons relatively well and this was the dimension which scored the highest (M=4.44). 15 out of 21 observers rated this dimension 4 or higher and only one observer rated this with a score of 1. Six observers acknowledged this occurred well and quite fast, especially for visible vulnerabilities, e.g.: "Yes, immediately. Some of them had very good response with the blind person & knew sign language"; "Vulnerable groups where a quickly formed"; "Vulnerable persons are together in a convoy outside"; "Well with deaf participants"; "Easy recognition by distinctive signs: wheelchair, cane (blind)"; "Only visible ones e.g., wheelchairs."). Two observers (n=2) did not observe any distinct difference in treatment, e.g. "they did not seem to separate people or give more attention to the vulnerable groups specifically. But in some cases it was obvious with physical disabilities, younger children, elderly and so on." Moreover, some categories of vulnerabilities seemed to have been overlooked and they were evoked by 5 observers (n=5): "autism spectrum – felt very uncomfortable of situation and was not satisfied/informed about the situation"; "No seats brought for elderly with red markers. Young teenager appeared to be alone.; They might have missed the teenagers as a vulnerable group; "There is not tent for women and girls. There is no women first responders dedicated to them (e.g., muslim, jewish)".



## Observation on the first responders' efficiency in supporting and assisting vulnerable volunteers (Q11)

In general, the first responders appeared to be relatively effective in supporting and assisting vulnerable people especially those with visible vulnerabilities (M=4.17). Twelve observers were generally satisfied with the level of support and assistance provided to victims: e.g., "very good response from their side." Among them, three observers appreciated that "one first responder spoke sign language". In addition, one observer noticed one first responder "walking at the pace of the wheelchair user who was at the front of the group." The observers who were more reserved in the scoring (n=6) mentioned mainly the "lack of communication and attending the affected people, which is important to all affected, but extra much for vulnerable groups."; "The lack of attention and communication..., not having knowledge of vulnerable groups needs during crisis."

## Observation on the first responders respect towards assistive technologies used by vulnerable volunteers (Q13)

First responders appeared to be respectful of the assistive technologies used by persons with vulnerabilities (M=4.25). A core group of observers (n=10) were not able to give a clear answer because they "didn't see specific technologies", "did not see first responders taking assistive tech into account", "didn't identify any specific procedures", or "did not see anything to contradict this". Other observers (n=6) fully endorsed this (e.g., "Yes, definitely") but did not provide comprehensive explanations. Among them one observer explained: "From what I saw, care and consideration were given to those citizens with assistive technologies such as powerless wheelchairs, prostheic limbs, canes etc." Lastly, one observer pointed out that "The service dog do not appear to have been triaged/decontaminated."

## Observation on the adaptation of the first responders' equipment to vulnerable volunteers (Q14)

The equipment used by first responders appeared to be fairly adapted for persons with vulnerabilities (M=3.6) and, again, the observer point of view was polarised on this topic. Two observers preferred not to comment on this, claiming they could "don't know" or are "unsure if there was any specific tools for various vulnerabilities." Several observers (n=4) gave a positive assessment, e.g.: "The few equipment I saw was well adapted"; "Yes, people were put out of their wheelchair into a normal chair and transported manually to the decontamination"; "Yes partly but very well managed. Instead of the person's wheelchair a regular chair was used". A consistent group of observers (n=7) were less impressed and highlighted that the equipment used was standard first responder kit without particular adaptation, for example stretchers and mats used for injured. They also pointed out the following gaps:

- No decontamination chain for people with reduced mobility, wheelchairs, etc.
- No decontamination for the guide dog
- No decontamination tent for naked people and in particular for women and children
- Lack of women first responders who could provide for other women in the decontamination area



#### Observation on the realism of the exercise (Q15)

The unfolding of the exercise was generally perceived in a divided manner resulting in a score slightly above average (3.7). Around seven observers stated in their comments that they thought the exercise was realistic, for two main reasons: either because of the order the events took place (e.g., "the stages of the operation was very realistic) or because of the inclusion of vulnerable groups (e.g., "the variety of victims is very interesting: reduced mobility people, kids, blind, guide dog. And reflects the reality.").

However, most observers, including those that pointed out good aspects, noted some artificial elements which compromised the realism of the exercise. Four major themes emerged from the observations:

- Calm state of the volunteer role play victims (e.g., "more panic to manage in real life (especially for vulnerable people)", which was pointed out by eight observers;
- Lack of urgency on the side of the practitioners (e.g., "the effort was slow. I cannot imagine it to be so slow in real life"), which was pointed out by six observers;
- Lack of PPE being used by practitioners (e.g., "even after CBRN was detected, Police moved through crowds of affected people without protection"), which was pointed out by four observers; and
- Difficulties surrounding victim management (e.g., "for the contaminated people by the powder, they were not well isolated"), which was pointed out by two observers.

#### Additional observations about the exercise (Q18)

Most of the additional observations reiterated previous comments, such as the slow response time, the lack of communication between first responders and volunteers or ways to improve volunteer management (e.g., triage, decon). Comments that weren't addressed elsewhere in the Observer Guide included:

- Suggestion to include the management of deceased persons
- Suggestion to provide volunteers with blankets to prevent hypothermia
- Suggestion to better follow the Med Lab part of the scenario (e.g., transportation of the sample)



## 10.5.3. Feedback about the PROACTIVE Crisis Communication System

## Observation on the helpfulness of the PROACTIVE pre-incident information material for volunteers (Q12)

There is consensus among the observers about the PROACTIVE pre-incident information materials and that they seemed to be of help for those affected (M=4.83). Nine observers decided to skip this answer or declared that they do not have a clear position on this, claiming they have not seen the materials or do not know this aspect. All of the observers who gave an answer (n=12) provided a rating between 4 and 6. Most observers therefore considered the materials as a helpful resource, e.g.: "Materials clearly explained"; "The PROACTIVE Pre-incident information materials were useful for the one who have read them"; "They were calm but I cannot comment otherwise; "Affected people seem to know very well how to behave"; "It appeared that those with information were better equipped to help themselves and those without may have copied but not with any underpinning knowledge."

#### **Observation on the PROACTIVE App (Q23-44)**

Similar to the exercise in Rieti, it was agreed the observers would test the mobile App and not the volunteers. This is in line with expectations for end-users of the App, whereby it is most likely that witnesses to a CBRNe incident would use it to report, instead of affected persons on the ground.

To better meet Tactical Objective 8, the observer Guide questions from Rieti which focused on the Mobile App were reviewed by two coders, who sorted each question into one of two categories: "useful" or "usable."


#### App usability (Q23 - Q30)

Table 13 summarises the results of the Feedback received for the Usability of the Mobile App. Overall, the App Usability averaged at 5.04 on a 6-point Likert-type scale, meaning that overall, the respondents agree that the App is usable.

Question	Average Score	Qualitative Feedback
23. I felt confident using the App	5.14	The App is easily installed and has a "fairly classical layout"
24. The App design is easy-to- use	5.50	Overall the App is deemed easy-to-use
25. Most people would learn to use the PROACTIVE App quickly	5.29	While most respondents found the App to be "quite self-explanatory," a couple commented that it would be nice to have an explanation or tutorial at start-up
26. The App has effective accessibility features	4.40	Three respondents commented that they didn't notice any features for blind people
27. The amount of text displayed was appropriate	4.80	Only one person commented negatively, saying that there is too much text on the Incidents page. Others gave a high agreement score (5 or 6) and didn't leave a comment.
28. The visualisations were appropriate	5.00	One respondent requested "maybe bigger size of the send report button" and another stated "convey meaning. Just the 'news' icon reminds me more of a 'trick' or attachment than news." Others gave a high agreement score and didn't leave a comment.
29. It was easy to find critical information about the incident (e.g., time, location, severity)	4.77	Two respondents commented that the time displayed in notifications/on the incident page was off by two hours. One respondent mentioned that the severity was not made clear. Others gave a high agreement score and didn't leave a comment.
30. I was able to find information resources/ materials on the topic of CBRNe	5.43	Five respondents complimented the CBRNe Library, for example, "The CBRNe library is very helpful!"

### Table 13: Feedback on Mobile App usability



### App usefulness (Q31 - Q40)

Table 14 summarises the results of the Feedback received for the Usability of the Mobile App. Questions 31 - 35 used a 6-point Likert scale ranging from "strongly disagree" to "strongly agree," whereas questions 36 - 40, which were about specific features, used a Likert scale ranging from "Not at all useful" to "Very useful." Overall, the App got an average score of 5.11, indicating that the App is useful.

Question	Average Score	Qualitative Feedback
31. I would use the PROACTIVE app in the case of a real CBRNe incident	4.47	Four respondents emphatically commented that they would use the app, while another four commented that they weren't sure to remember to use it, as put by one, it is "always a high step to use an app that is not used everyday."
32. I was confident that the incident information I saw on the app was the most recent update	4.80	Here, again, two respondents pointed out that the time stamp was incorrect.
33. The PROACTIVE app enhances the situation awareness of the population on CBRNe events	4.77	Respondents were either positive about it generally, or mentioned the CBRNe Library specifically. Those that were negative about this mentioned that it might be a challenge to get people to download the mobile app.
34. The app respects my privacy (e.g., the privacy statement, compliance with GDPR obligations and principles, such as transparency and fairness)	5.36	Two respondents pointed out that the app asked for consent.
35. Based on functionalities, contextual factors, and data management, the app does not burden users' privacy rights	5.43	Respondents commented that "only requires an e-mail to report," "it is developed respecting the limited purpose and minimisation principles," "found it available and 'silent'," and "GPS should only be while using app."
36. In-app live notifications homepage	5.46	Comments were mainly positive, e.g., "very useful"
37. Push up notifications on your smartphone	4.92	Overall comments were positive, e.g., "useful," but one respondent mentioned that they "never received one, not even as the event occurred."
38. Incident List	5.07	Overall comments were positive, e.g., "Nice for civilian and first responder" or "very useful." One respondent found the feature "a bit confusing" and another stated that "the map overlay make the list annoying to use."
39. Maps showing incidents	5.53	Overall comments were positive, e.g., "yes for awareness," "really good and structured" or "very clear"
40. CBRNe Library	5.29	Overall comments were positive, e.g., "yes for awareness," "interesting," or "yes useful to understand different first responders behaviours."

### Table 14: Feedback on Mobile App usefulness



### App, looking forward (Q41 - 44)

Rated out of five stars (Q41), the App averaged 4.17 stars.

When asked to describe any new features they'd like to see in the App (Q42), observers mainly wanted to enlarge the scope of the app. One respondent said "expanding to other kinds of crises," another requested "integration with other warning systems/apps" and a third suggested "I would like to see it implemented in a social app or as plugin for market possibilities."

When asked what information they would expect to find in the News section (Q43), respondents indicated:

- News on CBRNe from known news organisations (4 respondents)
- Reports on solved incidents (3)
- Which actions to take in case of an incident (3)
- Police updates (1)
- App updates (1)

For other comments about the App (Q50), respondents mainly pointed out minor bugs, e.g., "No GPS function," or "PROACTIVE twitter feed shows-up. This seems like a bug (Android users)."

#### Observation of the PROACTIVE web platform

In line with Tactical Objective 7, during the Ranst exercise a LEA consortium partner took on the role of web platform user admin. They sat at the IT desk, were the main admin for the entire exercise, reviewed citizen reports as they came in, and were responsible for drafting the notifications that were sent out. In addition, during the exercise, LEA admin provided ad-hoc comments and recommendations for future developments, which were greatly accepted and implemented. Afterwards, the partner was asked to fill in a questionnaire (see Appendix 10).



#### Web Platform Usability (Q1 - 8)

Table 15 summarises the results of the feedback received for the Usability of the Web Platform. Overall, the web platform Usability averaged at 4.86 on a 6-point Likert-type scale, meaning that overall, the respondent agreed that the web platform is usable.

Question	Score	Qualitative Feedback
1. I felt confident using the web platform	5	I was able to use, but had the Guru's beside me to help.
2. The web platform design is easy-to-use	3	It is easy to use if assistance is available
3. Most people would learn to use the PROACTIVE web platform quickly	3	Unsure on vulnerable people (namely the elderly) due to not using tech as much as the youth.
4. The web platform has effective accessibility features	5	Yes, but whether they are all relevant info is reliant on the source
5. The amount of text displayed was appropriate	6	I feel it was fine
6. The visualisations were appropriate	N/A	Couldn't say as no photos were allowed. Given they need to be sanctioned first helps
7. It was easy to find critical information about the incident (e.g., time, location, severity)	6	I'd say yes though a lot of the reports would not help people's nerves/anxiety. Good they are vetted
8. Using the admin panel I was able to find all the information I needed to increase my situational awareness.	6	Very useful to control data. However someone had admin rights which undermined the official release.

### Table 15: Feedback on Web Platform usability



#### Web Platform Usefulness (Q9 - 20)

Table 16 summarises the results of the Feedback received for the Usefulness of the Web Platform. Questions 9 - 14 used a 6-point Likert scale ranging from "strongly disagree" to "strongly agree," whereas questions 15 - 20, which were about specific features, used a Likert scale ranging from "Not at all useful" to "Very useful." Overall, the App got an average score of 4.57, indicating that the web platform is useful for practitioners.

Question	Average Score	Qualitative Feedback
9. I would use the PROACTIVE web platform in the case of a real CBRNe incident	N/A	As a responder it would be unlikely. However if endorsed then a comms officer would/could use.
10. I was confident that the incident I created was successfully received by the public using the PROACTIVE app	3	Some people struggled to log in
11. The PROACTIVE web platform enhances the situation awareness of the population on CBRNe events	5	Yes, but whether some of the info is relevant outside of news/TV/radio updates?
12. The web platform respects my privacy (e.g., the privacy statement, compliance with GDPR obligations and principles, such as transparency and fairness)	6	Seemed to.
13. I would be confident putting information resources/materials (e.g., SOPs) on the topic of CBRNe in a private library space, accessible only by other admins	1	No, Security reasons
14.Based on functionalities, contextual factors, and data management, the web platform does not burden users' privacy rights	6	From what I could see.
15. In web-platform live notifications on the homepage	6	Useful if you couldn't see the incident. However could scare people if published?
16. Push up notifications on your smartphone	N/A	Didn't work
17. Incident list	5	I think this worked fine.
18. Maps showing incidents	6	I only checked this incident
19. Heat Maps	N/A	Didn't use
20. CBRNe Library	N/A	Didn't use

#### Table 16: Feedback on Web Platform usefulness



#### Web platform, looking forward (Q41 - 44)

Rated out of five stars (Q21), the web platform received 4 stars.

When asked to describe any new features they'd like to see in the App (Q22), the practitioner commented, "Administration rights taken away from those that have previously tested the app. This caused confusion when someone with those rights posted."

When asked what information they would expect to find in the News section (Q23), the practitioner informed that "perhaps links to any live updates on the incident from News site."

In the other comments section, they wrote "it actually worked."

### 10.5.4. Feedback about lessons learned

# Observation on good practice examples for interactions between practitioner players and vulnerable volunteers (Q16)

Concerning good practice on interactions between practitioner players and vulnerable volunteer role play victims during the exercise, five themes emerged from observer comments. Eight observers commented on good communication between practitioners and the vulnerable volunteers, with comments such as "I saw one responder explaining to the victim what was going to happen=good" or "communication was efficient and mindful of personal disabilities." A further six observers specifically mentioned the first responder who was able to communicate using sign language. Another three observers brought up the fact that loved ones were kept together, for example one observer put "the people who knew each other seemed to be kept together, increases calm." Three observers mentioned the decontamination shower (e.g., "stretcher present for vulnerable people in Decontamination area") and a further three mentioned the triage process (e.g., "triaging of vulnerable groups based on exposure was really good and effective").

However, it should be noted that four observers indicated that they did not see any good practice examples during the exercise.

# Observation on possible improvements in the interaction between practitioner players and volunteers (Q17)

Concerning possible improvements, three main themes emerged: communication (12 observers), victim treatment (9 observers) and avoiding cross contamination (7 observers).

For improvements on communication, observers suggested things like:

- "Better communication"
- "Dialogue with vulnerable groups Take more time for explain the process."
- "Calmly explaining the procedures that are going to be implemented."
- "Loud, clear, calm, regular communication of what is happening"



It was also suggested to improve the empathy displayed by practitioners towards victims, such as:

- "Treating all victims like human beings."
- "More support is needed."
- "Personnel specialised in managing the different types and needs of the public."
- "Making sure no children are alone, without parents or adults!"

Observers also noted that the possibility for cross contamination seemed high, with comments such as:

- "The area for contaminated people not well delimited: it seems that people could move from one area to another."
- "The police didn't lockdown the management area, alarming for cross contamination."
- "More training on Cross-contamination -> the level of X-contamination was a big threat today and in a couple of days the hospitals would be full of patients from this exercise."

Furthermore, observers suggested that the victims be left alone for shorter periods (3), that triage could be improved (3), that privacy should be ensured during decontamination showers (2), that more first responders should learn sign language (2), that masks should be used by first responders (1) and that first responders should implement improvised decontamination (1).

#### Meeting the expectations of the CSAB (Q19)

The treatment of affected persons by the first responders did not entirely reflect the civil society's expectations. The average rating (M=2.78) suggests that the CSAB observers would have expected to be treated better during a CBRNe incident involving decontamination. Two main themes emerged: more communication and better treatment. For example, one CSAB observer wrote "I would like to be communicated with more. I would like to see responses that the communication has been understood. Check for language barriers, did everyone understand?", while another explained "I would like to ... be treated better with kindness & understanding."

#### Increasing preparedness of the CSAB (Q20)

Thanks to this exercise, some civil society observers feel better prepared to deal with first responders in a CBRNe incident (M=4.9). E.g., "very good learning experience," and "this gives a clear picture of the structure between different parts takes place."

#### The inclusion of vulnerable groups in SOPs (Q21)

PSAB observers were mixed when it comes to the inclusion of vulnerable groups in SOPs, with around half agreeing and the other half disagreeing, leading to an average score of 3.75. For those practitioners that do take into account vulnerable groups, one responded, "the initial operational response to a hazardous substance/CBRN materials is a useful first responder focussed document. It is open source and can be accessed in a number of formats to aid inclusivity. There is a specific



section on vulnerable groups written in collaboration with UKHSA." For those who do not, responses explained that "No specific SOP for vulnerable people," or "Low attention! Or even not at all."

# Feedback on preparedness to deal with vulnerable civilians in future CBRNe incidents following the exercise (Q22)

Overall, practitioner observers seemed to think that this exercise offered valuable learning that they could take back to their organisation (M=4.25). For example, one commented "The reason is because it has given me thoughts about how to deal with this kind of situation. And how to solve difficulties that come with vulnerable people. With CBRN people will also become blind because of agents, so we have to make procedures for this," while another pointed out that "We should be starting to think about; Thanks to this project - we will."

### 10.5.5. Feedback about ethics

Below is summarised the ethics observers (<u>ethics-related questions in Observer's Guide</u>) input from their participation in Ranst exercise concerning the balance between duty of care and personal well being, ethics in CBRNe protocols, and derived recommendations.

# Balance between the duty of care to victims and the personal well-being of the victims (e.g., during triage, decontamination, etc.) (Q45):

In general, all observers considered that these two principles did not balance since the well being of participants was poorly considered. Some pointed out that end users' behaviour did not reflect the seriousness of the simulated scenario at different moments of the process. Issues also related to the actual treatment of volunteers by first responders, who showed not be "used to work/to handle with some vulnerabilities". This was also revealed concerning decontamination, where "tents could be better" since they allowed observers to see half-naked people. Along these lines:

"Triage - people were left alone and unattended. Decon - real worrying, people were walking around with no supervision. There was a mix, and I felt like no SOPs were used. "

Other issues were more technical and concerned with the actual performance of first responders in terms of coordination, time and communication:

"1) I didn't see first responders using PPE. It took 2 hours to have the face mask dispatched to Medic. 2) There was no communication between responders and dispatch. 3) The flow of samples/information/guidance between first responders and other staff."

"Waiting periods were very long. I did not witness this as the response was slow, and I moved on to a different role."

Still, some other observers nuanced these judgements by stating:

"The balance was challenging because of the crowds, but in the end, it was performed correctly. Some participants were not actively involved (for



example, even having been selected for decontamination). They could have been decontaminated, but they were not. I do not know why."

"As an observer, we got a close look, and they were respectful."

#### Role of ethics in CBRNe SOPs (Q46):

All observers acknowledge that ethics should be critical in CBRNe SOPs. In their view, this should be operationalised with clear attention to vulnerabilities and prioritisation of worst cases. It is actually said that: "Ethics and understanding vulnerabilities should underpin the operational response to an incident/event. By recognising the value in both these areas, the response is validated and promotes an engagement with society Pre & Post event."

However, during the exercise, they did not perceive an ethical approach to the management of individuals by first responders. This was reflected in the lack of clear and targeted communication and attention to those vulnerable:

"More transparency in the work means more reports and clarity in the work. Ethical management of CBRN accidents means that people involved should be treated fairly with respect & high level of caution. Communication is very important & the language spoken by the involved persons should be used.

"A lone child and elderly woman were left in the contaminated zone alone for a long time."

"A man was brought to the decon zone & left alone."

Other technical aspects of the response did not enable to protect individuals' safety, which is a core ethical principle:

"People were evacuated through the area close to the red zone."

"It should be a big part of it - BUT it is going to be hard for first responders if the event would be more chaotic."



## 10.5.6. Suggestions for improvement

#### Suggestions for observer participation (Q49)

Four respondents gave compliments to the PROACTIVE staff, for example, "Thank you PROACTIVE." Two respondents pointed out good aspects of the provided narration such as that there were narrators and that the groups were small. However, five respondents pointed out negative aspects of the narrators, such as the fact that they didn't have access to the necessary information to provide a "good" narration, and that the narrators weren't speaking loud enough. Five respondents made suggestions regarding the observation points/spots allocated to observers, ranging from the use of an observation room with cameras to having closer access to the scene, or to better define the different observation areas. There were three respondents who felt that some information was lacking and would have liked to be provided with the main goals, more details, or information on informed consent and having access to the volunteers (one respondent each). Seven respondents made comments focusing on how to improve the logistics, ranging from how we should have "better preparation" to there being "to[o] many visitors". There were also recommendations on how to make the day more accessible for deaf participants.

# Suggestions for ethical dimension of the response actions regarding vulnerable groups (Q47)

Several recommendations concern the need for more attentive, empathetic and targeted attention towards vulnerable groups. This is, at the same time, connected to the efficiency of the response protocols concerning communication in sign language, interpreting or victims' prioritisation: "Important that the degree of damage to the victim has priority. For example, one person in a wheelchair had contaminated clothes and was sitting in the middle of the vulnerable group."

Special attention should be paid to deaf people in this context: "Deaf persons can be quite nervous because communication can't always go well. If you don't share the same language-> deaf cannot understand. Important. Policeman was explaining but the deaf person did not understand." Same applies to women and religious groups during the decontamination process.

Other observers stressed the need for education and training of first responders to grasp the above requirements. The above should also be embedded into an ethical code of conduct for first responders. One observer condensed many of the above issues in the form of specific recommendations as follows:

"1) Some people (in swimming suits & white coats) waited for about 10 minutes like that, which I think could have been quicker. I do not know how they felt. 2) More good & clear instructions for the participants (I perceive a quiet atmosphere and slow process). 3) Water for the participants should have been given since [unreadable] to use after their role (I wonder if this was the case). This is to minimise the possible discomfort. 4) The narrators (some of them) were quite passive and I believe they were not that much interested in explaining all. I had to go to others for clarity. 5) If we were supposed to stay in groups not to influence the whole exercise, this was not respected and even if it did not happen, there could have been an amount of



influence (because groups did not stay closer) [likely or lively] people (observers) were ethical and cautious."

### **10.6.Feedback of the EEAB Observers**

The following part describes the ethical review of the Campus Vesta exercise based on the observations and evaluation of the 2 ethics experts, members of the EEAB.

# 10.6.1. General remarks on ethical and legal issues concerning the project and the participants

All EEAB members, including the two experts present at the exercise, had the opportunity to provide:

- Early-stage feedback on the general approach to ethical and legal aspects of the field exercises in PROACTIVE, through written review, suggestions and comments to D8.3(Ethics briefing pack for fieldwork).
- In-depth feedback on the last version of the ethics and legal policies and procedures through written review, suggestions and comments to the Research Ethics Protocol for Campus Vesta exercise, including recruitment documents. Given the extensive coverage of the ethics and legal policies and procedures and the quality of the work put in those documents, the EEAB members gave positive feedback and considered them to reflect the necessary level of precautions, legal compliance and ethical consideration for deploying the Ranst field exercise: "I believe the approach (i.e. the research ethics protocol) to be considered, informed by prior feedback and quite comprehensive".

One important aspect of the Ethics Protocols is related to the **quality of the consent and the importance of obtaining assent from children**:

- The Ethics Protocols contained sufficient information about all important aspects and were written in a relatively accessible language
- The recruitment process included the consent and the assent of the volunteers.

One week before the exercise, the PROACTIVE PEO sent to both ethics experts that confirmed their participation in the Ranst exercise the Ethical framework (observation and evaluation plan) (Appendix 19) and the preliminary Ethics Risk Assessment Summary for exercise Rieti (Appendix 20), so that they would have had the time to prepare for the activity.

Below is the analysis of the feedback received from the ethics experts based on the filled-in ethics observation and evaluation sheet as described in chapter 4.4.4. The analysis focuses on two types of ethical issues based on the observation and methodological framework:

- Ethics of the response operations:
  - General ethical principles and dilemmas during the exercise
  - Consideration of Societal Dimensions



- Ethics of the exercise, i.e. research ethics:
  - Operational and assessment ethics

### **10.6.2. Ethics of the response operations**

#### General ethical principles and dilemmas during the exercise

#### Contextual factors limit respect for main ethical principles (beneficence, justice, autonomy).

The experts have underlined that the main contextual factors that are limiting with respect to the main ethical principles are: a) Lack of loud and clear communication from first responders to the victims; b) Unclear who was in charge among first responders.

"Both factors can escalate emotions of panic among research participants and undermine legitimate decision-making, i.e., why persons were separated, why some persons were treated before others etc. Loud and clear communication is of additional importance for the visually impaired or the hearing-impaired".

One expert focused on the informed consent and the relation with activities that the volunteers were involved in during the exercise: "Autonomy of signing the informed consent was achieved. All participants, as per information received, had a voluntary will to participate. We cannot talk about another type of autonomy in this sense, cause human participants did not have autonomy to decide what to do during the exercise they needed to follow instructions and that is absolutely fine".

#### Choose between the plausible competing courses of action.

The experts have identified that the main control point related to competing courses of actions was around the decontamination process: "Yes, I have observed that the exercise to certain extent was modified and I assume that the participants were informed (like there was a long time for some of them waiting for the decontamination)". "Yes, decontamination of sick persons and the privacy of the individual removing clothing. During the demonstration, I felt that this balance could have been better struck by setting up screens when victims were being washed with water. (Especially to guard privacy from observers, which in a live scenario would be bystanders, likely held slightly further away but point still relevant.)"

One expert has mentioned the observing capacity was hindered by the fact that the official language of the exercise was Flemish and the guide has offered not so much information about what was happening "My observation was limited because I did not speak the native language – language use in the exercise and all information I got was from the guide. Very limited information, I must say".

#### Take care of cultural differences when dealing with "patients"; cultural clashes.

The experts indicated in general terms it is important to take into account cultural differences:

"Yes, I believe this is a crucial aspect to be considered. Some religions do not allow for women to be alone with other men, so women or men from her family needs to be present. This could be taken into account". As respect to



the exercise, "I believe that there were no particular issues in this regard. I must say again that my knowledge of it is limited because I did not understand the language of communication but from what I have observed and comments and discussions with others, I have to conclude that the cultural differences were taken care of."

The language was identified as an important factor: "Also language is a cultural feature that should be taken into account. It is essential that 'patients' receive information on their native language or a language that they speak the most of". "I note that the demonstration took place in Belgium which has multiple national languages. In addition to loud and clear communication, this should be supported by communication in all the national languages".

One expert underlined again the importance of on time and on site communication for dealing with people from different cultures:

"It would be necessary in general yes. At the demonstration however I did not observe any victims who were obviously from cultural and/or religious and/or language minorities, e.g., Sikh, Muslim etc. In any event, I would advocate not relying on explicit signs of cultural affiliation to identify cultural need. Rather the question would be best posed to victims during interactions. I did not hear or receive an indication of any such communication between first responders and victims; it's possible such communication was outside my earshot".

In terms of the exercise: "There were ample female and male first responders should gender sensitive approaches have been required".

# <u>Choose between the duty of care to patients and personal wellbeing or responsibility owed to loved</u> ones.

The experts have not identified any particular stage situations that would reflect this tension; however, one expert underlined the importance of awareness around the safety of the first responders, and the danger of cross contamination: "Yes, the safety of the first responders and noncontaminated persons would be high priority during the demonstration. I observed first responders in close proximity to contaminated victims posing a risk to their own health and others they interacted with".

The same ethics tension around the danger of cross contamination was registered around the relationship between a vulnerable individual and the support person/guardian:

"Secondly, many victims had a support person or guardian. It was unclear whether both individuals were infected simultaneously or whether a decision had been taken to pair the support person with the contaminated person irrespective of contamination levels. If contamination had occurred to one such person, it would be appropriate to separate them from their support worker/guardian to avoid further infection. This would be stressful and need to be supported with clear communication from first responders, ideally also with the support person remaining within view and earshot".



#### Consider Societal Dimensions.

In these sections, the issues that the experts had to consider related to respect for autonomy and privacy, prioritisation of vulnerable groups, respect for environmental rights, the role of spiritual beliefs and the welfare of the volunteers during the exercise.

#### Recognise the role of spiritual belief.

The experts recognised that this aspect was not visibly addressed during the exercise:

"There was no observable indication of this with participants. Again, increased privacy for washing and stronger communication between first responders and victims would likely have assisted here. There were no apparent deaths or participant effort to engage spiritually. I did not observe anything to circumvent the latter where it desired, e.g., prayer".

#### Respect autonomy and privacy

The experts identified that the way the decontamination process was conducted has limited the autonomy and the privacy of the 'patients': [...] for the contamination, because it was planned to be visible to everyone we cannot say that there was an absolute privacy. This was part of the exercise, and I believe the participants have agreed in this respect to follow this kind of procedure". The second expert underlined the same issue with the decontamination process: "To a limited extent only [i.e. the respect for autonomy and privacy]. The undressing and washing area were located behind vehicles, however screens and curtains were inadequately used to preserve privacy regarding bystanders. After showering, contaminated persons were provided with a type of clear suit to immediately get dressed in. I witnessed no delay in this process after showering. The tented area was, however, privacy preserving based on an external view".

#### Prioritise vulnerable groups

The experts identified that the vulnerable groups have been taken care of, however it seems that they have not undertaken decontamination which the expert was not clear if it was a research ethics decision or a genuine part of the CBRNe event.

The experts identified the positives as:

"a) Water was provided to contaminated persons. The context was one of warm sun within which they were lying; b) Wheelchair users and some persons with sticks appeared to be given a prioritisation and taken directly to the tent (rather than via the exposed washing area). It is however unclear however how they were decontaminated, i.e., whether this was a research ethics decision or a genuine part of the CBRNe event response; c) While walking to tent, wheelchair users were not at the back of the entourage but rather appeared to set the pace of the first responder accompanying; d)



Triage appeared to be based on medical need. Different colours used to identify different status' of victims; e) At the very end of the exercise, I observed police responders carrying a table and benches to an area out of the sun for participants to rest."

Recommendations also have been made by the same expert: "a) Provision of water would have been welcomed sooner for all contaminated persons. It came after approximately 50 mins - 1 hour; b) Other physical supports, such as chairs could have been provided more generally to contaminated group especially the elderly. I observed that category waiting for long periods; c) Certain vulnerable groups appeared to have more priority than others. For example, wheelchair users appeared to be dealt with in a priority manner; however, less obviously vulnerable groups, such as teenage boys and other vulnerable persons were observed to be dragging behind, appearing more adrift and unclear on what to do or where to go. Should also be encouraged to self-identify to first responders via loud and clear communication; d) More clarity on how first responders were dealing with support personnel. During exercise they appeared to accompany the contaminated person, but it is unclear if this could be continued if one person was affected and not the other. Therefore, I felt there was an overreliance by first responders on these support persons/guardians".

#### Respect environmental rights

The experts identified that "it was a controlled area, an area that is intended for exercises and it would be difficult to talk about environmental rights in this case". However, an expert identified the risk of cross-contamination:

"I am unclear what the water used to wash the contaminated victims consisted of and whether that posed a risk to the green areas and Campus Vesta site. The washing of the persons occurred in a type of low inflatable pool. However, I did not observe any particular caution in terms of disposing of this water. I do not know if that would be necessary from an environmental perspective and whether the water would be contaminated after the washing".

#### Care for the welfare of the 'volunteers'

The experts underlined that the volunteers were properly treated all the time during the exercise: "Yes, I believe so. From what I have observed all participants were treated fairly, with due case and diligence". Positives have been identified: "a) The contaminated and non-contaminated victims were separated fairly quickly by the first responders with a cordon erected around the scene; b) I witnessed several non-contaminated persons were interacting with police officers at cordon. Police seemed approachable and mild mannered. It is possible they were communicated about the incident. I was outside of earshot; c) One man tried to run away/interfere with the police cordon. This person was chased by police and reassigned to appropriate area. No aggression or inappropriate conduct noted". One expert has underlined some room for improvement as well: "a) Many first responders appeared to come too close to the contaminated victims, not protecting their own physical health; b) The severely injured/affected victims were not communicated with in a clear manner. I observed more discussion with uncontaminated participants on the side-lines".



### 10.6.3. Ethics of the exercise, i.e. research ethics

#### **Operational and assessment ethics**

In this section of the Observation and Evaluation Sheet, the experts were asked to assess the ethics involved in organising the exercise, i.e. research ethics topics as: access to relevant information regarding the exercise, collection of consent, safety of the participants, proper conditions to support the integrity of the exercise and the ethics evaluations process.

#### Interaction between the participants, first responders and observers

The experts indicated that the integrity of the exercise has been respected, as the volunteers didn't interact with the first responders pre-exercise: "Yes, I felt this was well achieved for my group of observers. Observers and participants had visual sight of each other in the hall when entering the Campus Vesta building, but there was negligible opportunity for verbal interaction. My group of observers was immediately taken to the third floor of the building while participants appeared to stay on the ground floor". "There was a strict procedure as an observer not to interact with the participants, so I did not have a chance to do it". "It was not appropriate to speak with participants during the demonstration as it would interfere with the operation of the exercise". However, both experts underlined that they should have been allowed to speak with the participants and the volunteers after the exercise, during the de-briefing process: "I believe that observes should be able to participate in the aftermath events such as the focus groups in order to gather more information and to assess better the exercise". "However, I did not have an opportunity to speak with participants after either, neither victim or first responders. While it was a long day for participants and observers, the opportunity to speak at the end or in a follow-up debrief after the event would have been welcomed. This would have helped fill some of the gaps presented by being unable to hear communication and witness all interactions".

#### Ensuring the safety of the participants and consideration of safety risks

The experts agreed that both the safety design of the exercise and the safety briefings were adequate: "Yes. No potential safety risks were observed. The exercise was pleasant and safe to participate in and to observe"; "Based on what I saw, I believe safety was prioritised. The space/venue was roomy, vulnerable participants were accompanied, and there were no apparent barriers to participants or observers returning to the venue hall to escape the heat and/or rest. The non-contaminated participants were released fairly early from the exercise, which was positive given the heat and lack of seating areas outside".

In terms of improvement, an observation has been made by one of the experts: "In terms of improvement, contaminated victims may have benefited from water at an earlier stage as they were lying in the sun. (However, this was part of the demonstration and should arguably have been achieved by the first responders.)".



# Access to relevant information prior and after the exercise: feedback to ethical and legal approach, access to the scenario, participation in debriefings

The experts agreed that they had access to the relevant information prior to the exercise, they were offered the opportunity to provide feedback on the ethical and legal approach, and had access to the scenario and to the relevant documents that support the ethics evaluation. They considered all the documentation provided as being of good quality and appropriate according to the objectives. "Yes, all that I needed for the observation. The only limitation was the limited received info during the exercise because of the fact that the responsible person from my group (observers were divided in groups) did not gave real time info of what is going on". "I was one of the ethics observers, I knew who the other ethics observer was from prior meetings, and I also knew the ethics officer representing the project (highlighted to me a few times in advance and during day due to personnel change) as well as the project coordination team from whom I could ask further questions. What I found especially helpful were the prior activities which highlighted to me the coordination team, e.g., advance online ethics and logistics meeting, and the pre-meeting reception in person in Antwerp. I was confident that the project coordination team were able to provide me with any additional information needed". "For the most part, the advance information was comprehensive and informative, e.g., meeting with consortium and other ethics advisor, presentation on logistics of day (2 hours, week or so prior to event); and presentation also provided on day itself with reminders on logistics and different roles being played including vest colours and campus layout. I was further provided with prior demonstration deliverables, ethics related forms, such as the participants and child consent forms and information sheets, ethics observation and evaluation plan, ethics framework and risk assessment, as well as the logistics pack"

Some recommendations for future improvement have been made by one expert: "a) More advance notice of ethics 'pack' to allow more time for digestion, e.g., EAB specific call with ethics lead to chat through ethics documents.; b) Specific highlighting by ethics lead of ethics feedback from the prior demonstrations, e.g., D6.4 on Rieti exercise, as points for specific follow up during the observation. I was made aware that these recommendations existed by the Project Officer on the day of the demonstration, but I was unaware of their substance. It is possible that the project team legitimately preferred to avoid bias; in light of time constraints to digest prior ethics activities my preferred route would be to communicate previous ethics recommendations directly; c) On the day, provide observers with information relating to breaks should they need to sit or visit the bathroom given the lengthy standing period. I do not recall such information and tried to listen to it. It was however easy to step away from the demonstration and return indoors at any moment if needed".

Regarding the opportunity to provide feedback to the ethics team prior and during the exercise, both experts have been in agreement that it was offered. One expert has underlined that the suggestions for improvement have been acted upon in the conditions of a tight timeframe: "I was provided the opportunity to give feedback on the ethics 'pack' prior to the demonstration. While the timeframe was very tight and much of the information had been previously reviewed, I did provide comment on the consent forms which were actively considered by the ethics team".

Regarding the day itself, "I have been given ample opportunity to give feedback via a questionnaire on the day of the demonstration, oral debrief with a UKHSA partner and this ethics specific report. I also had the opportunity to feed back to the Project Officer after the demonstration who was in attendance".



There were two recommendations made by the ethics experts after Rieti exercise in regard to access to the scenario and to participate to the debriefings a; in this respect, both have been acted upon by the ethics team during Campus Vesta exercise: The ethics experts have had access to the scenario beforehand and also to the debriefing session with the observers and first responder, though they didn't had access to the participant focus groups organised by the UKHSA. "Yes, this [i.e. scenario] was communicated in the advance online meeting and the on the day presentation". "No, not with the participants (only with the UKHSA partner) [i.e debriefing]. I was not invited to any participant debrief, but I would have benefited from hearing this perspective, not least to help 'fill in the gaps' where I could not observe.

#### **Collection of consent and assent**

The experts agreed that the consent and assent documents were properly redacted and that consent forms were collected properly during the day of the exercise: "Yes, the text was clear and was able to properly inform the participants"; "The informed consent forms shared by the project were comprehensive and informative. I am aware that Flemish versions of the consent form were also prepared. I am not aware if any of the participants required the information communicated in a different language or how much advance notice the participants had before signing the forms". "The information sheet and consent forms were comprehensive and broadly accessible. I had some minor advance comments around accessible language and avoidance of EC parlance (shared a few days before the demonstration) which were implemented in the final consent form. One area for potential improvement in various project communications is the notion of 'anonymised' data. Please see general comments at the end".

#### **Issues related to PPE**

The experts agreed that there were no particular problems related to the wearing of PPE by the first responders. However, one expert mentioned that the PPE could be an impediment in terms of communication and such, to safety. "Not as far as I could see, but it is possible. I witnessed the transfer and showering of contaminated individuals but could not hear the communications. First responders were also slow to wear PPE which was a general concern for their own safety".



### **10.6.4. General observations and Recommendations**

The experts have made mainly general observation, less so recommendations considering it was the last exercise in the PROACTIVE series:

"The surprising lack of loud and clear communication by first responders to victims was the overwhelming take away. Without this, it is very difficult to understand how first responders could identify special (unseen) needs and de-escalate anxieties arising from an unusual and potentially life-threatening experience".

"As a more general observation, having witnessed the demonstration, <u>I</u> would recommend having the observers further away from the demonstration activities and participants but with a better view, e.g., at a height or on a spectator stand. There were high numbers of observers mingling in between the demonstration participants such that it obscured the view at times and, in my opinion, interfered with the 'reality' of the demonstration for participants and first responders".

"There appeared to be some inconsistent usage of the concept of 'anonymisation' in the introductory PPXT delivered to the visitors at the start of the day. Images of a person's face such as would have been processed by the drone should be considered personal data even if the person is not identified by name. While we were asked not to take photos of anyone attending, I did observe several people taking photos during the demonstration. I would therefore support stronger messaging for observers and participants around the protection of personal data on the day and more usage of the term 'pseudonymised' in the consent forms and ethics documents (for greater accuracy and accompanied by an explanation of its meaning".

"I could not understand the part of waiting for so long for some participants when the decontamination took place. I had limited access to real-time information in the English language. It could have been very useful to take part in the focus groups with the participants, but this was not planned, and it is really a side back of the observation process. I could not see how the children were treated in the exercise, meaning that at some point they were wandering around strangely like they were not following the exercise plan and I also wondered whether that was properly dealt with by the organisers. Observers on the other hand were all so scattered at some point, just wondering and trying to see as much as possible, mostly because the view was limited and it was hard to understand at some point what was going on. It would have been better to have one place which covers all parts (places) of the exercise from where the observers could have a better view".



## **11. GOOD PRACTICES**

This chapter presents examples of Good Practice identified as a result of the Ranst exercise:

# Good practice 1 When identifying exercise area/partner, evaluate ability to reach set aims and objectives of both parties.

There is always the possibility that parties have divergent aims and objectives of an exercise. It is therefore crucial to evaluate these potential challenges and identify their possible outcomes. In the Ranst exercise, the PROACTIVE objective (to evaluate first responder interaction with the vulnerable civil society) did not harmonise well with the main objective of Campus Vesta (to examinate PGDM students). The inclusion of civil society (including vulnerable persons) in exercises increases the unpredictability, which was not ideal for Campus Vesta. This resulted in marginalising the involvement of vulnerable persons in main parts of the response (including the decontamination process), limiting the ability for PROACTIVE to collect comprehensive data and reach set objectives.

Shared documents, clearly outlining necessary components of the exercise including a list of musthave elements, are useful and should be incorporated early in the planning process. Previously un-identified areas of conflict can be discovered in this process, with enough time for organisers to re-evaluate and/or adapt.

Good practice 2 Establish ways to identify who the volunteers are for evaluation purposes

Sufficient control over the organisation of the exercise will allow for more comprehensive planning around where to evaluate and observe the behaviours of volunteers, responders and the interaction between them. This is particularly important if different groups of volunteers or responders have been provided with additional information, e.g. pre incident guidance. If role playing actors are incorporated into the exercise, they also need to be identifiable to those responsible for evaluating the exercise.

#### Good practice 3 Focus on what matters most

In a joint activity, neither partner is going to have all their needs and requirements met. In accordance with Good Practice 1 and 2, identify and prioritise requirements before entering negotiations with external partners. Where can you afford to be flexible and where do you have to stand fast?

#### Good practice 4 Being an active part of scenario development process

In order to achieve set aims/goals with the exercise, each responsible party should be able to actively participate in the scenario development process. There is otherwise a risk that scenarios are developed without consideration of the aims and requirements of all parties involved.



Good practice 5	Early clarification, agreement, and implementation of the roles/functions of volunteers (vulnerable/non-vulnerable) with organising parties
During the planning the role that the civi documented during	of the Ranst exercise it became clear that all parties needed to fully understand I society volunteers would have. This should be clearly identified, agreed, and the exercise planning so that it will be implemented during the exercise.
Good practice 6	Consider the development of a joint consent form (Evaluate time spent developing joint ICF vs time saved)
The approach to ha the participants as t disincentivise the participants documents for the reaching an agreen consuming. The time	ve one Informed Consent Form, as opposed to multiple ones, is beneficial to hey have fewer legal documents to review and sign. Information overload can articipants to partake in the exercise. A joint consent form also results in fewer organisers to manage prior to, and on the day of the exercise. However, nent on the content and format of the joint consent form can be very time e spent investing in this saves valuable time on the day of the exercise.
Good practice 7	Ensuring research objectives are respected and protected
While a detailed time flexibility to deal with should be secondar	eline is important, it's also imperative to expect that the timeline needs to some in the unexpected. Self-imposed constrains such as a fixed exercise start time y to the integrity of the research objectives.
Good practice 8	Whilst formally identifying key roles and responsibilities, make use of available local assets
PROACTIVE used to were adapted to me assets. It is important to it knowledge of the ex Some of the most v drivers, front desk s event, their assistar	he same templates to outline and allocate roles and responsibilities, but these et the requirements of the Ranst exercise and left room for support from local dentify people who speak the local language and people who have local cercise location and procedures. aluable assistance can come from unexpected sources. When you find those staff, or masters students who are willing to go the extra mile to support your nce can make a tremendous difference. Foster those connections.
Good practice	Direct dialogue/communication between key decision makers
Direct dialogue betw and speed up the de of the Ranst exercise	ween key decision makers of organising parties prevents misunderstandings ecision-making process. This was not always possible during the preparations we which raised challenges.



# Good practice 10 Include pre-exercise briefing that encourages open dialogue and mutual understanding

Planning an internal staff meeting that covers all aspects of the exercise, including a walk-through of the exercise site, has proven to be of value. It should include an outline of the plans and be set up as close to the exercise as possible. Key aspects, such as planned flow of volunteers should be covered, and task leaders may explain their tasks. This enables the staff to get a good understanding of the exercise as a whole and the tasks of others. This raises the degree of flexibility and resilience as it increases the ability of staff to provide mutual support in case of changes. An open dialogue, where task leaders and staff may raise issues and possible solutions, provides a possibility to make last minute improvements. It also assures the exercise director that staff understand their roles and the set plan.

# Good practice 11 Discourage unauthorised photography by visitors by providing professional photographers/videographers

From an ethical and legal standpoint, participant dignity and data protection rights need to be respected and, site security policy complied with. Inform visitors and observers that professional photos/video teams will be present, and that pictures will be made available, as soon as practicable, after the exercise.

# Good practice 12 Ensure that the logistics and administration processes are appropriate for the number of volunteers attending

A greater number of participants requires more time, space, and resources in terms of participant communication prior to the exercise, registration, and welfare. The registration area should be sufficiently staffed and located in an area where non-participants do not need to pass through. Participants should be informed and asked to sign the Informed Consent Form prior to exercise day if possible. An alphabetically ordered participant list should be available. It should be expected that registration takes time and patience.

Good practice 13 Access to suitable, secure changing facilities with sufficient time to address safety and dignity concerns

Changing facilities should have enough lockers, preferable one per volunteer, and enough space and separation to allow participants to change with sufficient privacy to accommodate gender and family requirements.

# Good practice 14 A clear end of exercise is important for creating a joint sense of conclusion

As identified as a good practice in the first exercise, and implemented with good result in the second exercise, a clearly established end of exercise is of significant value to mark closure and bring the exercise to a formal end. When not implemented, there can be confusion as to when the exercise is over and whether there is more on the agenda. When implemented, all participants and especially the volunteers, receive proper acknowledgement of their contribution to the success exercise.



## **12. CONCLUSION**

This chapter contains a summary of the key findings across the data collected during the Ranst exercise, focused specifically on the relationship between the findings and the tactical objectives outlined in Chapter 4.2.1.



# **12.1.Summary of Tactical Objectives findings**

No	Objective	Summary of Findings
1	To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercises with at least 15% of these representing vulnerable groups.	40 of the 55 volunteers who registered with the project were identified as being a member of a vulnerable group as per the CMIST framework. This constitutes 73% of the total sample and thus far exceeds the number indicated within the tactical objective.
2	To evaluate the effectiveness of First Responders to recognise vulnerable people during a CBRNe incident.	Through the evaluator observations there was some evidence of first responder identification, prioritisation, and triage of individuals with vulnerabilities during the exercise. Specifically, the medical responders did routinely speak to all volunteers (including a group with vulnerabilities who had moved off to the side of location #4), and there was evidence of some adaptations based on additional need (see use of sign language in the following section). The observer guide completed by non-evaluation observers also provides some support for this, with results indicating that first responders appeared to recognise vulnerabile people relatively well, especially for visible vulnerabilities. However, the evaluators noted that the volunteers with vulnerabilities were routinely left until last before being engaged by responders. For example, they were last to be moved to medical triage and there were instances where vulnerable casualties were sat on the ground with no responders offering any assistance. Furthermore, during the incident where an adult feigned a collapse and was subsequently moved to the side of the warm zone (location #3), the evaluators were informed by a Campus Vesta exercise director that the emergency responders had split this adult from their child with additional learning needs. This is consistent with the findings from the observers who noted that some categories of vulnerabilities were overlooked – specifically those less visible. Analyses of the focus group discussions also reveals some reservations concerning the recognition and treatment of vulnerable engage, they did not know how to interact. There was also a perception was that responders. There were, however, some positive experiences with some volunteers reporting being treated as equals and feeling unheard by responders. There were, however, some positive experiences with some volunteers reporting being treated as equals and feeling unheard by responders' ability to recognise and communicate with vulnerable people – despite some clea



No	Objective	Summary of Findings
3	To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe incident phases, through response measures (e.g. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.	Following on from the summary in the preceding section, the evaluators did observe some clear adaptations being made to support and assist those who are members from vulnerable groups. These adaptations largely concerned interactions between responders and individuals with a hearing impairment. Specifically, one of the responders was regularly observed using sign language, and there was the use of non-verbal interactions; for example, one volunteer requested water by waving a water bottle, one responder interacted with a volunteer using written form and hand signals. Furthermore, one responder allowed a volunteer to use their mobile phone to type what they needed – while this represents a positive adaptation for those with additional needs, it may have resulted in cross contamination of the responder's phone. Lastly, the evaluators reported seeing one responder pushing a wheelchair during the exercise. Considered together, these interactions were observed to be visibly positive (accompanied by lots of smilling and some laughing), and at one point involved an individual with a hearing impairment signalling to other participants for the responder to subsequently speak to. There was, therefore, some evidence of high-quality adaptations observed during the exercise. Findings from the Observer Guide also support this conclusion. In general, responses indicates that the responders appeared to be relatively with adheational vulnerabilities, nor decontamination for the guide dog. Furthermore, the estimation of beserve during the weith vulnerabilities. These data also reflect that one responder walked at the same pace as an individual with a wheelchair. However, these findings were not universal: for example, both the evaluators and the observer guide indicated that a general lack of communication between responders and the volunteers would affect individuals from vulnerable groups acutely, and there were mixed findings concerning whether the observers had adapted their equipment to be suitable for those with additional
4	To conduct an experimental trial of the efficacy of the PROACTIVE pre- incident information for influencing attitudes, perceptions and behaviours during an emergency incident response.	27 of the 55 attendees in the initial exercise briefings were provided with the pre-incident information ahead of the exercise. This represented a successful implementation of the experimental methodology. During the initial stages of the exercise, the evaluators saw multiple volunteers undertaking behaviours that were recommended in the pre-incident information. Specifically, the evaluators witnessed: children removing the top layers of their clothing, one participant splashing water into their eyes, and one participant wiping their face with tissues, with others using tissue to wipe their hands. Upon leaving the incident site it was also observed that one individual had removed their clothes down to their vest. While the questionnaire data did not find any effects of the receipt of pre-incident information on expected compliance, the ITT analysis found that those in the pre-incident information condition had greater confidence and knowledge about the actions to take to protect themselves and their loves ones than those in the control condition (though this finding was not echoed in the PP analysis). This suggests a positive impact of the pre-incident information elicited during the focus groups were positive. Volunteers fet that the information was clear, easy to understand, and there were no suggestions for the content. Some suggestions concerning the formating included a desire for pictograms and videos with the key actions which could be shown on tablets or handed out as laminated copies by first responders. Volunteers reported that they tried to apply the pre-incident information. Specifically, this was seen as being helpful for the affected individuals, with one observer reporting that "It appeared that those with information. Specifically, this was seen as being helpful for the affected individuals, with one observer reporting that "It appeared that those with information secreter equipped to help themselves and those without may have copied but not with any underpinning knowledge". Overall, despite som



NO	Objective	Summary of Findings
5	To evaluate if communication with the public during the incident is pitched at an appropriate level in terms of language, complexity, and channels.	The evaluators observed that communication between the volunteers and the responders throughout the exercise was largely undertaken by either medical staff or the police. Generally speaking these interactions were conducted one-on-one or one-to-few (i.e., there was limited mass communication beyond an initial instruction to split the mustered volunteers into the two groups based on likely exposure/ injury) and seemed to largely fall into one of two groups: 1) triage and support (undertaken by the medical staff, asking how volunteers are); and, 2) investigation (undertaken by the police to investigate the incident). While these interactions seemed friendly and positive, there was very little communication en-masse concerning the nature of the incident and what was happening. Specifically, beyond the initial instruction to move into two distinct groups, there appeared to be very little communication about the process, practically no mass communication (and certainly none using any form of amplification device such as a loudhailer), and no instructions to undertake any steps which could have reduced exposure to any contaminant (e.g., removing outer layers of clothing). In addition, there were instances where volunteers attempted to engage the responders and were either passively or actively ignored. Furthermore, none of the responders interacting with the volunteers were wearing any form of protective equipment despite attending a probable CBRN incident. While this meant that there was no barrier to communication, it also represents unrealistic conditions for communication was initially good but was subsequently lacking throughout the exercise. Concerning individuals from vulnerable groups specifically, there was a general sense of anxiety borne from a lack of understanding about what was going on. Similarly, the results from the Observer Guide echo these reservations around the nature of the exercise. Overall, while there was some good one-to-one interaction between responders and the volunteers, there were sever
6	To test the technical aspects of the PROACTIVE Crisis Communication System (App & Web Platform) in a live exercise environment.	Both the App and the web platform performed as expected with no technical issues reported during the exercise. Neither the App nor the web platform experienced any crashes. When compared to the previous two exercises, there was a clear increase in user engagement. App users submitted 47 incident reports, of which 26 had supporting files (e.g., photos, audio) compared to 26 Incident Reports in Rieti, with only 5 files.
7	To evaluate how useable and useful the PROACTIVE Web Platform is for practitioners in a live exercise environment.	Overall, the LEA consortium partner found the web platform usable and useful. They were very confident when using the web platform and found it easy to find critical information. They also found the notifications, incident list and maps features very useful. They rated the web platform 4 out of 5 stars.



No	Objective	Summary of Findings
8	To evaluate how usable and useful the PROACTIVE App is in supporting the needs of Civil Society in a live exercise environment (e.g., communication needs, better information exchange).	Overall, Observers agree that the App is usable and useful. Observers reported that the App was easy-to-use, and that the App enhances situation awareness of the population on CBRNe incidents. Observers also found all the App features (notifications, incident list, maps, CBRNe Library) useful. The app received an average of 4.17 stars, an improvement from the Rieti exercise, which was already an improvement from the Dortmund exercise.
9	To develop the understanding of factors that may increase public compliance during CBRNe incidents.	As part of the evaluator observations, several instances of non-compliance were identified throughout the exercise. One of these was reportedly staged by actors (and involved an attempt to break the cordon), however others appeared to be undertaken spontaneously by volunteers. The most significant of these were the volunteers who moved unaccompanied through the warm zone, potentially risking a significant chance of contamination (particularly as they ran their hands through run-off water from the fire service vehicle), and the volunteers who arrived at the end point of the exercise on foot ahead of the time they were expected. These instances represented some significant losses of control of the incident site. Indeed, there appeared to be no formal point at which the exercise ended, thus further signifying the loss of control that occurred late into the exercise. Evaluators hypothesised that this lack of compliance may have stemmed from the poor communication observed during the exercise. A hypothesis that was explored further in the questionnaire analysis. Specifically, analysis of the post-exercise question sufficiency/ quality and responder legitimacy, were associated with reduced intentions to leave the treatment area if the exercise were real. In other words, the greater the extent to which volunteers perceived recommended behaviours as effective, the responders as legitimate, and the information they were provided with as sufficient and of high enough quality, the less likely volunteers expected that the nature of the communication from responders (or the perceptions of the responder the exercise a real incident). This provides some indirect evidence that the nature of the communication from responders (or the perceptions of the responders themselves) could influence compliance in a real incident (even in the absence of a direct effect of perceived communication). No significant effect was found on expected compliance, however, indicating no overall impact of the exercise play on likely compliance during



No	Objective	Summary of Findings
10	To evaluate the extent to which ethical principles, dilemmas, operational factors, and assessment, as well relevant social issues, are considered by first responders and researchers in dealing with CBRNe incidents.	The combination of ETICAS observations, the survey for the observation conducted by Ethics Experts and ethical questions integrated into the general Observation survey allowed the ETICAS team to achieve this goal. A broad analysis of these issues was conducted in D8.4, Ethics and social impact assessment, by contrasting these data sources and examining the information in light of ethical dilemmas confronted by end users, perception of participants (victims) and practices held by each actor. A general lack of consideration of the differential impact on vulnerable groups and care of participants behaving as victims was detected. Secondly, while principles such as privacy were poorly considered in some stages of response scenarios (such as post-decontamination), this could be understood as a way of prioritising others, such as life protection. Lastly, other technical issues were identified, such as scarce coordination and communication between first responders. Along these lines, the analysis confirmed that PROACTIVE guidelines and Crisis Communication System fields a gap concerning ethics in CRBNe first response.



## 12.2.Conclusion of evaluation

The Ranst exercise provided the opportunity to examine the PROACTIVE tactical objectives in an exercise scenario both larger and more complex than either of the previous exercises. Furthermore, this exercise provided the PROACTIVE project with the opportunity to conduct an initial experiment to examine the potential for the PROACTIVE pre-incident information to influence perceptions and behaviours during an exercise. This section will provide an overview of the key findings from the evaluation (to accompany the extensive summary of the project findings presented in the preceding section), with a focus on both limitations of the evaluation and recommendations for the future.

Firstly, the experimental manipulation of the PROACTIVE pre-incident information was successfully implemented during the exercise. Key findings relating to the experiment include both behavioural and cognitive effects. Specifically, the evaluators observed several volunteers undertaking behaviours consistent with the pre-incident information during the initial stages of the exercise (including removal of top layers of clothing, and use of both tissues and water to remove contaminant). This was echoed by the finding that those individuals who received the pre-incident information reported greater knowledge and confidence concerning the actions to take to protect themselves and their loved ones, when compared to those who did not receive the pre-incident information. Similarly, focus group responses indicated positive attitudes towards the information and self-reported sharing of the information with others during the exercise. While there are caveats associated with these findings (specifically, that it wasn't possible to definitively confirm that those individuals undertaking the recommended behaviours were in the pre-incident information condition, that the statistical effects were only found in the ITT analyses, and that volunteers reported those who they shared the pre-incident information with did not undertake the behaviours), taken together they provide further evidence concerning the utility of pre-incident information in CBRNe preparedness. Indeed, these positive findings are consistent with those reported in response to the two previous exercises (D6.3 and D6.4), the findings from the surveys and focus groups conducted as part of WP5 (D5.1 and D5.2) and previous research (Carter et al., 2019; 2020; 2021). In short, given the lack of clear instructions to disrobe and the lack of decontamination undertaken by responders, the PROACTIVE pre-incident information was the intervention most likely to reduce the harm caused by exposure to the substance deployed across the exercise.

Secondly, the third exercise revealed a series of findings consistent with those from the previous two exercises, particularly relating to communication from responders and responders' engagement specifically with representatives from vulnerable groups. That is, communication from responders, while initially positive (especially when focused one-to-one), was limited throughout the exercise. This was particularly the case for communication relating to the incident response and what to expect, resulting in a self-reported sense of 'panic'(among individuals from vulnerable groups) and, potentially, non-compliance (see paragraph below). This limited communication may have impacted the volunteers' perceptions of the legitimacy of responders which fell from pre-exercise to post-exercise (a finding echoing that from exercise 1). Furthermore, while there was some evidence of good practice in terms of identification of, and interaction with, individuals from vulnerable groups (particularly those with hearing impairments), there was also a perception among the volunteers that the responders avoided engaging with individuals who may be more vulnerable. This was particularly apparent in the responses provided by children both to the questionnaire and during the focus groups. As for previous exercises, there is therefore a clear recommendation for further training and



engagement between responders and the public (and particularly representatives from vulnerable groups) to improve communications and interactions during incident response.

Third, and building on the mixed effects for responder communication, this exercise resulted in greater displays of non-compliance (specifically, leaving the exercise area or moving unaided across the exercise site) than any of the previous exercises. Previous literature highlights that communication and/ or responder behaviour can have an impact on compliance during an incident. Specifically, that a lack of shared identity, low perceived responder legitimacy and poor responder communication impedes compliance of staying on the scene (Carter et al. 2013; Carter et al. 2015), and that issues around poor communication from responders during exercises can influence experiences of volunteers (Carter et al., 2012). Thus, it is possible that issues associated with responder communication (explored above) may have been responsible for these incidents of noncompliance. While there was no significant impact of communication on expected future compliance in the questionnaire dataset, the analyses did reveal that, the more volunteers saw the recommended behaviours as effective, the responders as legitimate, and the information they were provided with as sufficient and of high enough quality, volunteers indicate they would be less likely to leave the treatment area. In other words, and consistent with previous literature, there was a significant relationship between elements of responder behaviour and communication and anticipated future compliance. This effect lends credence to the proposed relationship between responder communication/ behaviour and non-compliance and provides further support for the recommendation for responders to receive additional training and experience in communicating with the public during CBRNe training/ response.

Fourthly, as in the previous two exercises there was some evidence (through the observational and focus group data) of spontaneous helping behaviours between volunteers, particularly where these involved individuals from vulnerable groups. That is, in the perceived absence of information from responders, volunteers with vulnerabilities reported following what other volunteers did. While these interactions were not reported to be extensive, they were friendly and supportive. Indeed, analysis of the evaluator observations revealed a specific incident whereby volunteers spontaneously supported a volunteer who feigned collapse where responders did not initially intervene. This spontaneous helping behaviour is consistent with research suggesting that a shared and supportive identity can develop during an incident (Drury et al., 2019). However, these interactions were not universally positive and supportive, with some volunteers with vulnerabilities being left until last to leave the incident site, and the focus group data revealing that volunteers without vulnerabilities may not have known how to interact with those with vulnerabilities. This suggests that while individuals may want to help others, they may not always know what to do and is therefore further evidence for the importance of pre-incident information and education for the public.

### 12.2.1. Limitations

Despite the best endeavours of the PROACTIVE consortium, there were unfortunately some limitations to the evaluation.

Firstly, despite there being 55 registered volunteers, several additional post-exercise questionnaires were submitted to the evaluation team. Subsequent investigations suggest that some of these were completed by the 'actors' (individuals asked to feign symptoms by the Campus Vesta team) and some may have been completed by individuals who either arrived later than the registration period or who incorrectly attended the wrong briefing (as two exercises were happening concurrently).



These inconsistencies are to be expected when conducting a large-scale evaluation on a third-party site with two concurrent exercises taking place, particularly in a context where volunteers were not permitted to wear participant number ID wristbands as was the case for the previous two exercises. In the interests of preserving as much data as possible and given that all these individuals did participate in the exercise, their data was included in this report. However, steps were taken to ensure that, as far as possible, there were no undue influences from any non-registered volunteers during the analyses (i.e., two versions of the questionnaire analysis were conducted, and all individuals identified as either an actor or having attended the wrong briefing were noted during the focus group analysis). These steps provide the consortium with confidence in the conclusions arising from the evaluation, and consistencies between the findings of this exercise and both previous exercises and previous literature underline this confidence.

Secondly, due to the size and scale of the exercise, the number of moving parts, and the fact that the actors and volunteers were not distinguishable, there were some instances where it was not possible to comprehensively observe the entirety of the exercise leading to some elements of confusion (i.e., concerning exactly who was in the small number of participants decontaminated and the precise nature of the non-compliance leading to the volunteers arriving at the end of the exercise ahead of time). Greater control over the organisation and conduct of the exercise would allow for more comprehensive planning around where to evaluate and observe and could help to reduce some of these issues.

Thirdly, due to time pressures during the conduct of the pre-exercise questionnaire and the preincident information briefing, it was not possible to ensure an equal split of adults across conditions. When considered alongside inconsistencies in the number of volunteers participating in the exercise (see previous point) this resulted in an uneven distribution of participants between the pre-incident information experimental condition and the control condition. In addition, the need to have no identifying characteristics. As noted above, this is unfortunately an unavoidable consequence of conducting an experimental trial in a context over which the research team did not have full control. It is therefore recommended that future experimental trials take place within exercises where the consortium and research leads have complete control of key variables. Furthermore, it was not possible to quickly identify the individuals who had received the pre-incident information during the exercise, which limited the nature of the evaluator observations. Future experiments conducted in exercise conditions should therefore identify novel ways to enable the evaluators to identify which condition volunteers are in while not signalling the presence of different groups to the responders.

### 12.2.2. Recommendations and conclusion

While not an exhaustive summary, the preceding section provides an overview of some of the key findings from the evaluation of the third exercise contextualised with both the findings from the previous two exercise and reference to previous literature. Overall, the findings from this exercise echo those from the previous exercises, highlighting some instances of good practice in communication between responders and the public, and some limited evidence of adaptations made for individuals from vulnerable groups; however, there were clear instances where poor communication had consequences both for the experiences of the general public during the exercise (potentially leading to instances of non-compliance) and a perception of the responders as not knowing how to deal with vulnerabilities was reported.



Given this, there are repeated references to recommendations concerning education and training for both responders and the public throughout this section. Specifically, the need for further work, building on that of the PROACTIVE project, to continue the engagement between responders and the public during CBRNE preparedness work. This will continue to develop both the public understanding of CBRNE response and will provide responders with valuable opportunities to interact with the public and learn from these interactions. Alongside these continued engagements, there is a clear need for additional training and demonstrations of best practice concerning the management and communication with the public during CBRNE incidents. This will ensure that responders know 'what good looks like' and can build on this through their own exercises and training. Finally, the experimental test of the pre-incident information revealed likely behavioural and cognitive consequences of providing this information to the public (albeit delivered in a slightly artificial format) and further strengthen the PROACTIVE project recommendations for pre-incident information to be developed and delivered to the public to ensure optimal initial response should an incident occur.

## 12.3.Final notes

This report details the planning process, the results, and identified good practices from the third PROACTIVE field exercise. This concludes the series of exercises and the project's dominant events at large. While the Ranst exercise did present certain challenges, PROACTIVE was ultimately successful in overcoming these challenges, meeting the set objectives, and conducting the research activities as outlined in the Description of Action.

Some initial recommendations, comparing across the findings from the three exercises, have been made within this report and are reflected in the preceding paragraph. A more strategic-level comparison between the three exercises, taking into account learnings from previous Work Packages, is provided within Deliverable 6.6. This includes conclusions and recommendations, based on the use of PROACTIVE tools and outputs and contextualised in light of the overarching PROACTIVE objectives, designed to inform the future of research and practice including the general public in CBRNe preparedness.



## **13. REFERENCES**

ACP [American College of Physicians] (2012): American College of Physicians ethics manual, Annals of Internal Medicine; Vol 6:156, 73–104.

Arnold, A.; Carbon, D.; Görgen, T.; Havarneanu, G.; Petersen, L.; O'Sullivan, F. (2021): Final report on common approaches of CBRNe practitioners. Deliverable D2.5 of the PROACTIVE project.

Burlin, Å; Hale, N.; Petersen, L. (2022): Involving Vulnerable Groups in CBRNe Incident Training – Ethical Considerations and Risks Worth Taking [abstract]. In: *NEEDS2022*; 2022, November 1-3, Copenhagen, Denmark.

Carbon, D.; Arnold, A.; Wüller, C.; Görgen, T.; Godwin, T.; Hale, N.; Kelly, D.; Marsh, I.; Petersen, L.; Havarneanu, G.; Dennis, A.; Carter, H.; Weston, D.; McCrone, N.; Zamorano, M. (2022): Report on the first field exercise and evaluation workshop. Deliverable D6.3 of the PROACTIVE project.

Clavell, G.; Valbuena León, M.; Zamorano, M.; Marsh, I. (2021): Legal and Ethical State-of-the-Art on CBRNe preparedness and response. Deliverable D8.1 of the PROACTIVE project.

Davidson, L.; Weston, D.; Dennis, A.; Amlôt, R.; Carter, H. (2021): Findings from systematic review of current policy for mitigation and management of CBRNe terrorism. Deliverable D1.2 of the PROACTIVE project.

Dennis, A.; Weston, D.; Hall, C.; Davidson, L.; Phillips, M.; Havarneanu, G.; Petersen, L.; Kardel, D.; Burlin, Å.; Bertelli, V.; Bunkan, A.; Benson, L.; Zamorano, M.; Abbasi, H.; Amlôt, R.; Carter, H. (2023): Final Pre-Incident Public Information Materials for CBRNe terrorism. Deliverable D5.2 of the PROACTIVE project.

Drury J.; Carter H.; Cocking C.; Ntontis E.; Tekin Guven S.; Amlôt R. (2019): Facilitating Collective Psychosocial Resilience in the Public in Emergencies: Twelve Recommendations Based on the Social Identity Approach. In: *Front Public Health*; Vol 7:141. DOI: 10.3389/fpubh.2019.00141.

Godwin, T.; Hale, N.; Kelly, D.; Marsh, I.; Carbon, D.; Arnold, A.; Petersen, L.; Havarneanu, G.; Weston, D.; Abbasi, H.; Amlôt, R.; Dennis, A.; Davidson, L.; Hall, C.; Symons, C.; Markarian, G.; Zamorano, M.; Bertelli, V.; Burlin, Å. (2023): Report on the second field exercise and evaluation workshop. Deliverable D6.4 of the PROACTIVE project.

Godwin, T.; Hale, N. (2021): The PROACTIVE Methodology for the Field Exercises. Deliverable D6.1 of the PROACTIVE project.

Hall, C.; Williams, N.; Gauntlett, L.; Carter; H.; Amlôt, R.; Petersen, L.; Carbon, D.; Newton, N.; Markarian, G.; Weston, D. (2021a): Findings from Systematic Review of Public Perceptions and Responses. Deliverable D1.1 of the PROACTIVE project.



Hall, C.; Weston, D.; Long, F.; O'Sullivan, F.; Amlôt, R.; Carter, H. (2021b): Guidelines and recommendations for mitigation and management of CBRNe terrorism. Deliverable D1.3 of the PROACTIVE project.

Hall, C.; Nicholson, W.; Carter, H.; Long, F.; Godwin, T.; Marsh, I.; Amlôt, R.; Weston, D. (2021c): Scenario Development and Specifications of the Evaluation Methodology. Deliverable D6.2 of the PROACTIVE project.

Kailes; JI. (2007): Moving Beyond "Special Needs" - A FunctionBased Framework for Emergency Management and Planning. In: *Journal of Disability Policy Studies;* Vol 17:4.

Kolev, G.; Markarian, G.; Polushkina, N. (2020): Requirements of the Mobile Application for Vulnerable Citizens and revised technical specifications. Deliverable D5.3 of the PROACTIVE project.

Kolev, G.; Markarian, G.; Polushkina, N. (2021): Report on the High-level Architecture design including an interface control document. Deliverable D4.1 of the PROACTIVE project.

Marsh, I.; Hale, N.; Kelly, D.; Zamorano, M.; Valbuena León, M. (2021): Materials and briefing for PROACTIVE exercises. Deliverable D8.3 of the PROACTIVE project.

Marsh, I; Petersen, L.; Kelly, D.; Zamorano. M. (2023): Including vulnerable people in CBRN field exercises - an ethical approach [abstract]. In: *CBRNE Research & Innovation Conference*; Lille, France.

Nicholson, W.; Hall, C.; Weston, D.; Amlôt, R.; Carter, H. (2021): Initial Pre-Incident Public Information Materials for CBRNe terrorism. Deliverable D5.1 of the PROACTIVE project.

Nozick, R. (1974): Anarchy, state and utopia. New York: Basic Books.

Pope, C.; Ziebland, S.; Mays, N. (2000): Qualitative research in health care: Analysing qualitative data. In: *BMJ: British Medical Journal*; Vol 320:722, 114-116.

Rebera, A.; Rafalowski, C. (2014): On-the-spot ethical decision-making in CBRN (chemical, biological, radiological or nuclear event) response. In: *Science and Engineering Ethics;* Vol 20(3), 735–752.

Rebera, A. (2019): Building Ethics into CBRNE Security. In: *Ethics and Law for Chemical, Biological, Radiological, Nuclear & Explosive Crises*, 37-51. Springer, Cham.

Ritchie, J.; Spencer, L. (1994): Qualitative data analysis for applied policy research. In: Bryman, A.; Burgess, R. G. (eds.): *Analysing Qualitative Data*; 173-194. Routledge, London.

Zamorano, M.; Gonzalo, S.; Clavell, G. (2021): Legal and acceptability recommendations for PROACTIVE toolkit. Deliverable D8.2 of the PROACTIVE project.



## **APPENDIX 1: UKHSA ETHICAL APPROVAL**

WK Health Security Agency	UKHSA Research Support and Governance Office Nobel House,17 Smith Square, London, SW1P 3HX
28 <sup>th</sup> April 2023	Tel: 01980 612922
Dr Charles Symons Research Fellow UKHSA Porton Down Salisbury SP4 0JP Dear Charles	www.ukhsa.gov.uk
Study Title	PROACTIVE
P&D Poforonco:	
Approval date:	28 <sup>th</sup> April 2023
Thank you for registe Governance Office (F	ering your study amendment with the UKHSA Research Support and RSGO).
Following an internal	review, I confirm that UKHSA approval has been granted for your

amendment and you can now continue your study using the protocol: 3<sup>rd</sup> Exercise in Lier, Belgium, 13<sup>th</sup> May 2023; update to the protocol for the 2<sup>nd</sup> Exercise in Rieti, 16<sup>th</sup> November 2022

This approval is granted based on the information provided to the RSGO and on the understanding that your work is conducted in accordance with the conditions of sponsorship.

UKHSA may terminate this arrangement with immediate effect if:

- The project should cease in the interests of the participant and/or staff safety.
- You can no longer act as CI and no mutually acceptable replacement can be found

Yours sincerely

Cates

Dr Elizabeth Coates Head of Research Governance UKHSA



# **APPENDIX 2: ADULT PRE-EXERCISE QUESTIONNAIRE**

ency	n pl		) 🕲 😭	× C	Un res DCC agr	ion's Horizon 2020 earch and innovat pgramme under gr reement no. 83298	D tion rant 81	* ***
		Can	npus Vesta I	Pre-Exercis	e Questior	inaire		
Please car	ı you provide	e us with yo	ur participan	t number, th	nis is on you	r wristband.		
Please hav the follow	ve the curren ing question	it exercise s s. Please re	cenario of the spond to eacl	e release of h statement	a hazardous by circling l	s chemical in m now much you	ind when agree or o	answering disagree
with it.						,		
1. Pl	ease describ	e any expec	tations you h	ave about t	he way in w	hich the emerg	gency resp	onders
(e	.g., firefighte	ers, police of	fficers, etc) w	vill manage t	he incident	today.		
2. Pl	ease describ	e any expec	tations you h	ave about tl	he way in w	hich other exer	rcise volu	nteers will
2. Pl be	ease describ have during	e any expec the exercis	tations you h e today.	ave about tl	he way in w	hich other exei	rcise volu	nteers will
2. Pl	ease describ have during	e any expec the exercise	tations you h e today.	ave about tl	he way in w	hich other exei	rcise volu	nteers will
2. Pl	ease describ have during	e any expec the exercis	tations you h e today.	ave about ti	he way in w	hich other exer	rcise volu	nteers will
2. Pla be	ease describ have during	e any expec the exercis	tations you h e today.	ave about tl	he way in w	hich other exer	rcise volu	nteers will
2. Pl be	ease describ have during	e any expec the exercis	tations you h e today.	ave about tl	he way in w	hich other exer	rcise volu	nteers will
2. Pl be	ease describ have during	e any expec the exercis	tations you h e today.	ave about tl	he way in w	hich other exer	rcise volu	nteers will
2. Pl be	ease describ have during	e any expec the exercis	tations you h e today.	ave about ti	he way in w	hich other exer	rcise volu	nteers will
2. Pl be 3. If	ease describ have during have during	e any expec the exercise nt of this typ	tations you h e today. be were to oc	ccur, I would	he way in w	hich other exer	rcise volui	nteers will
2. Pla be 3. If	ease describ have during a real incider	e any expec the exercis	tations you h e today. be were to oc	ave about tl	he way in w	hich other exer	rcise volui	nteers will
2. Pl be 3. If Strongly disagree	ease describ have during a real incider	e any expec the exercise nt of this typ	tations you h <u>e today.</u> be were to oc	ccur, I would	he way in w	hich other exer	e to prote	nteers will ct myself. Strongly agree
2. Pla be	ease describ have during a real incider 1	e any expective exercises	tations you h e today. be were to oc	ccur, I would	he way in w	hich other exer	e to prote	nteers will ct myself. Strongly agree
2. Pla be 3. If Strongly disagree 4. If	ease describ have during a real incider	e any expec the exercise nt of this type 2 nt of this type	tations you h e today. be were to oc 3 be were to oc	ccur, I would	he way in w I know what 5 I know what	hich other exer actions to take	e to prote	nteers will ct myself. Strongly agree ct my loved
2. Pla be 3. If Strongly disagree 4. If or	ease describ have during a real incider 1 a real incider hes.	e any expective exercises the exercises of the exercises	tations you h e today. be were to oc 3 be were to oc	ccur, I would	he way in w I know what 5 I know what	hich other exer actions to take 6 7	e to prote	nteers will ct myself. Strongly agree ct my loved
2. Pla be 3. If Strongly disagree 4. If or Strongly	ease describ have during a real incider 1 a real incider nes.	e any expective exercises the exercises of this type and the exercises of this type and the exercises of this type and the exercises of the ex	tations you h e today. be were to oc 3 be were to oc	ccur, I would	he way in w I know what 5 I know what	hich other exer	e to prote	nteers will cct myself. Strongly agree cct my loved Strongly
2. Pla be 3. If Strongly disagree 4. If or Strongly disagree	ease describ shave during a real incider 1 a real incider nes.	e any expec the exercise nt of this type 2 nt of this type 2	tations you h e today. be were to oc 3 be were to oc 3 3	ccur, I would	he way in w I know what 5 I know what 5	hich other exer actions to take 6 7 actions to take 6 7	e to prote	nteers will ct myself. Strongly agree ct my loved Strongly agree
2. Pla be 3. If Strongly disagree 4. If or Strongly disagree 5. If	ease describ have during a real incider a real incider a real incider a real incider	e any expective exercises the exercises of the exercises of the exercises of the exercises of this type of the type of type of the type of th	tations you h e today. be were to oc 3 be were to oc 3 a	ccur, I would	he way in w know what 5 know what 5	hich other exer actions to take 6 7 actions to take 6 7 ent that I could	e to prote	nteers will ct myself. Strongly agree ct my loved Strongly agree
2. Pla be 3. If Strongly disagree 4. If or Strongly disagree 5. If ur	ease describ chave during a real incider a real incider a real incider a real incider a real incider	e any expective exercises the exercises of the exercises	tations you h e today. be were to oc 3 be were to oc 3 be were to oc ions in order	ccur, I would 4 4 4 4 4 4 4	he way in w	hich other exer actions to take 6 7 actions to take 6 7 ent that I could	e to prote	nteers will ct myself. Strongly agree ct my loved Strongly agree ully
2. Pla be 3. If Strongly disagree 4. If or Strongly disagree 5. If ur	ease describ have during a real incider a real incider es. 1 a real incider dertake app	e any expective exercises the exercises of the exercises	tations you h e today. be were to oc 3 be were to oc 3 be were to oc tions in order	ccur, I would ccur, I would 4 4 ccur, I would 4 ccur, I would	he way in w know what 5 know what 5 l know what 5	hich other exer	e to prote	ct myself. Strongly agree ct my loved Strongly agree ully
2. Pla be 3. If Strongly disagree 4. If or Strongly disagree 5. If ur Strongly	ease describ shave during a real incider a real incider a real incider a real incider a real incider	e any expective exercises the exercise of the exercise of this type of the type of type of the type of type of type of the type of the type of type of type of the type of type of the type o	tations you h e today. be were to oc 3 be were to oc 3 be were to oc ions in order	ccur, I would 4 4 4 4 4 4 4 4 4	he way in w know what 5 know what 5 l feel confid myself.	hich other exer	e to prote	nteers will ct myself. Strongly agree ct my loved Strongly agree ully Strongly
2. Pla be 3. If Strongly disagree 4. If or Strongly disagree 5. If ur Strongly disagree	ease describ have during a real incider a real incider a real incider a real incider a real incider 1 1 1 1	e any expective exercises the exercises of the exercises	tations you h e today. be were to oc 3 be were to oc 3 be were to oc tions in order 3	ccur, I would 4 4 ccur, I would 4 ccur, I would to protect r	he way in w know what 5 know what 5 l know what 5 l feel confid myself. 5	hich other exer actions to take 6 7 actions to take 6 7 ent that I could 6 7	e to prote e to prote d successfu	nteers will ct myself. Strongly agree ct my loved Strongly agree ully Strongly agree






6. If a real incident of this type were to occur, I would feel confident that I could successfully undertake appropriate actions in order to protect my loved ones.

Strongly	1	2	2	4	F	c	7	Strongly
uisagiee	T	Z	5	4	5	0	/	agree
7. If a res	real inciden oonders.	t of this type	e were to oc	cur, I would	comply wit	h the instru	ctions of the	emergency
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
8. Ith	ink that the	emergency	responders	will behave	in a respectf	ul way duriı	ng the exerci	se.
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
9. Ith	ink that the	emergency i	responders	will behave i	in a fair way	during the	exercise.	
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
-								-
10. lf a	real inciden	t of this type	e were to oc	cur, I would	expect emo	tional supp	ort from oth	er
me	mbers of the	public who	were involv	/ed.				
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
0							J	0
11. lf a	real inciden	t of this type	e were to oc	cur, I would	expect to re	eceive help f	rom other n	nembers of
the	public who	were involve	ed.					
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
		_			-			-8
12. lf a	real inciden	t of this type	e were to oc	cur. I would	be willing to	o help other	members o	f the public.
Strongly								Strongly
disagree	1	2	з	4	5	6	7	agree
albagice	-	-	5	-	3	0	,	agree
13 Ifa	real incident	t of this type	were to oc	cur Lwould	feel confide	ent that I cou	ıld successfi	ıllv heln
oth	er members	of the publi	ic.		leer connue			iny neip
Strongly								Strongly
dicagroo	1	2	2	4	5	6	7	agroo
uisagiee	1	2	5	4	5	0	/	agree
14 Lid	ontify with t	ha athar val	untoors who	a ara taking	nort in the e	wordico toda		
14. 1100	entity with t	le other vor	unteers who	are taking	part in the e		ay.	a
Strongly	1	2	2		-	C	-	Strongly
disagree	1	2	3	4	5	6	/	agree
45 14			اهم ما	lumber 1				
15. Tfe	ei a sense of	unity with t	ne other vo	lunteers wh	o are taking	part in the	exercise toda	ay.
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

Pre-exercise V2.0; 10/05/2023

Page 2 of 3



K Health ecurity gency	р				Z	This project h funding from Union's Horiz research and programme u agreement no	has received the European con 2020 innovation under grant o. 832981	***
16. I id	entify with	the emerg	ency respor	nders who	will be takin	ng part in the	e exercise toda	ay.
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
17. l fe tod	el a sense o lay.	of unity wit	h the emer	gency resp	onders who	will be takin	ng part in the e	exercise
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
18. lf a	real incider	nt of this ty	ype were to	occur, I w	ould feel ne	rvous.		
18. If a Strongly disagree	real incider	nt of this ty	ype were to	occur, I w	ould feel ne	rvous. 6	7	Strongly agree
18. If a Strongly disagree 19. If a	real incider	nt of this ty 2 nt of this ty	ype were to 3 ype were to	4 occur, I w	ould feel ne 5 ould feel an	rvous. 6 xious.	7	Strongly agree
18. If a Strongly disagree 19. If a Strongly disagree	real incider	nt of this ty 2 nt of this ty 2	ype were to 3 ype were to 3	4 4 occur, I w 4 occur, I w 4	ould feel ne 5 ould feel an 5	rvous. 6 xious. 6	7	Strongly agree Strongly agree
<ol> <li>18. If a Strongly disagree</li> <li>19. If a Strongly disagree</li> <li>20. If a</li> </ol>	real incider          1         real incider         1         real incider	nt of this ty 2 nt of this ty 2 nt of this ty	ype were to 3 ype were to 3 ype were to	4 occur, I w occur, I w 4 occur, I w	ould feel ne 5 ould feel an 5 ould feel sca	rvous. 6 xious. 6 ared.	7	Strongly agree Strongly agree

Pre-exercise V2.0; 10/05/2023

Page **3** of **3** 



# **APPENDIX 3: ADULT POST-EXERCISE QUESTIONNAIRE**

curity ency	1-	(		() () () () () () () () () () () () () (	res DCG agr	earch and inno gramme under eement no. 83	vation r grant 2981	***
		Lam	pus vesta r	OST EXERCIS	e Question	inaire		
lease can	you provide	us with you	r participant	t number, th	iis is on you	r wristband.		
hese first o ne exercise	questions w e.	ill concern yo	our knowled	ge and unde	erstanding a	nd some of y	our experie	ences during
1. If th Strongly	nis were a re	eal incident,	I would kno	w what acti	ons to take 1	o protect m	yself.	Strongly
disagree	1	2	3	4	5	6	7	agree
2. If th	nis were a re	eal incident,	I would kno	w what acti	ons to take t	o protect m	y loved one	es.
Strongly	1	2	2	4	5	6	7	Strongly
uisagree	I	2	3	4	5	0	7	agree
3. If th	nis were a re	eal incident,	I would feel	confident t	hat I could s	uccessfully u	undertake a	ppropriate
acti Strongly	ions <u>in orde</u>	r to protect	myseir.					Strongly
disagree	1	2	3	4	5	6	7	agree
4. If th acti Strongly	nis were a re ions <u>in orde</u>	eal incident, <u>r to</u> protect	I would feel my loved on	confident t es.	hat I could s	uccessfully u	undertake a	ppropriate Strongly
disagree	1	2	3	4	5	6	7	agree
5. I wa Y 6. Do	ent through 'es No you have ar Vis He Ma De Lea	decontamir ny conditions sion (for examinaring (for examinaring (for examinaring (for examination)) exterity (for examinaring or un- emory	nation during s or illnesses mple blindna ample deafr xample walk xample liftii derstanding	g the exercis that affect ess or partia ness or parti ing short di ng and carry or concentr	se. you in any c l sight) al hearing) stances or cl ing objects, ating	of the followi imbing stair: using a keyk	ing areas? s) poard)	
	Me Ma Sta So wh Ot Pre No	ental health amina or bre cially or beha nich includes her (please o efer not to sa ne of the ab	athing or fat aviourally (fo Asperger's, describe) ay oove	tigue or example a or attentior	nssociated w n deficit hyp	ith autism sp eractivity dis	bectrum dis sorder (ADH	order (ASD) HD))
7. l fe	It capable o	ental health amina or bre cially or beha nich includes her (please or afer not to sa one of the ab f interacting	athing or fat aviourally (fc Asperger's, describe) ay iove with the em	tigue or example a or attentior nergency res	sponders.	ith autism sp eractivity dis	bectrum dis sorder (ADH	order (ASD) HD))







8. I had difficulty undergoing the required procedures (e.g., decontamination shower if applicable).									
Strongly								Strongly	
disagree	1	2	3	4	5	6	7	agree	

The following questions relate to how you felt based on the information being made available to you during the scenario

9.	Stay	ing where I/	was and fol	lowing instr	uctions wou	ld help to pi	rotect me if	I had been e	exposed to
	the	chemical							
	r								

Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

10. Removing the clothing that I was wearing would help to protect me if I had been exposed to the chemical

Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

11. Going through a decontamination shower would help to protect me if I had been exposed to the chemical

Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

The following questions relate to your experiences during the exercise.

Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
U								U
13. l th	ink that the	emergency s	services beh	aved in a fai	r way durin	g the exercis	se.	
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
14. If a	real inciden	t of this type	e were to oc	cur, I would	expect emo	tional suppo	ort from oth	er
me	mbers of the	e public who	were involv	/ed.				
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
15. lf a	real inciden	t of this type	e were to oc	cur, l would	expect to re	eceive help f	rom other n	nembers of
the	public who	were involve	ed.					
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
16. lf a	real inciden	t of this type	e were to oc	cur, I would	be willing to	o help other	members o	f the public.
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

Post-exercise V2.0; 10/05/2023

Page **2** of **7** 



UK Health Security	pr		cti	ve	Thi fun Uni res	s project has ro iding from the ion's Horizon 2 earch and inno pgramme unde	eceived European 020 wation r grant	*** * **
17 Jwa	as willing to	heln other r	nembers of	the public d	agr uring the ex	eement no. 83 ercise	2981	
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
18. lf a	real inciden	t of this type	e were to oc	cur. I would	feel nervou	15.		
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
19. lf a	real inciden	t of this type	e were to oc	cur, I would	feel anxiou	s.		
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
20. lf a	real inciden	t of this type	e were to oc	cur, I would	feel scared			
Strongly				_				Strongly
disagree	1	2	3	4	5	6	7	agree
21. l ide	entified with	n the other v	olunteers w	ho took par	t in the exe	rcise todav.		
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
22   fol	t a conco of	upity with t	ho othor vol	untoors who	a took part	in the everci	ico today	
Strongly							se touay.	Strongly
disagree	1	2	3	4	5	6	7	agree
22 111								
23. 1 Ide Strongly	entified with	the emerge	ency respon	ders who to	ок part in tr	e exercise t	oday.	Strongly
disagree	1	2	3	4	5	6	7	agree
								-
24. I fel	t a sense of	unity with t	he emergen	cy responde	ers who tool	k part in the	exercise too	day.
disagree	1	2	3	4	5	6	7	agree
U		1	1	1		1		] 0
The next qu	estions will	ask you abo	ut informati	on provided	before and	during the e	exercise.	
25. To y	what extent	was the info	ormation vo	u were giver	n in advance	e of the exer	cise consist	ent or
inco	onsistent wi	th the inforr	, nation provi	ded by eme	rgency resp	onders duri	ng the exerc	ise?
Very					_			Very
inconsister	nt 1	2	3	4	5	6	7	consistent
26. Did the Y	you receive exercise? es No	a briefing a	nd pre-incid	ent informa	tion sheet a	bout action	s you could	take before
If NO nlease	skip to 031	L If YES nlea	se comnlete	the followir	na auestion	5		
ij <u>No</u> piedse	. 510 10 401		se complete	the johown	ig questions	,		
27. lf ye Y	es, did you u es 🗌 No	ise any of th	is information	on during th	e exercise?			
28. lf ye y	es, did you d	liscuss the ir	nformation v	with other p	eople durin	g the exercis	;e?	

Yes No Post-exercise V2.0; 10/05/2023

Page **3** of **7** 





funding from the European programme under grant agreement no. 832981



### 29. If YES to Question 27 and/or 28, please give details about how you used/ discussed the information during the exercise

30. If NO to Questions 27 and 28, please give details about why you did not use the information during the exercise

The next questions will ask you for more information about your experiences during the exercise.

31. Em	ergency resp	onders expl	lained clearl	y what was	happening c	luring the ex	kercise.	
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
32. I fo	und it easy t	o communio	ate with em	nergency res	ponders du	ring the exe	rcise.	
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
33. I fe	lt that emer	gency respo	nders were	open about	what was ha	appening du	ring the exe	rcise.
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
34. I wa	as provided v	with sufficie	nt informati	on about wl	hy decontan	nination was	s necessary.	
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
35. l ur	derstood wl	hy I was beir	ng asked to g	go through t	he decontai	mination pro	ocess.	
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
36. I ha	ive been pro	vided with s	ufficient pra	actical inforr	nation abou	t what we w	vere suppose	ed to do
dur	ing the deco	ntamination	n process.					
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

Post-exercise V2.0; 10/05/2023

Page 4 of 7



K Health ecurity	pr		cti	ve	Th fur Un res	is project has re nding from the ion's Horizon 2 search and inno ogramme unde	eceived European 020 wation r grant	*** * ***
37 Lw	as clear abou	ıt what I wa	s sunnosed	to do at eac	ag h stage of t	reement no. 83 he decontan	2981	C655
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
38. I fo	und it difficu	lt to unders	stand the inf	ormation pr	ovided by t	he emergen	cy responde	rs.
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
39. I ha	ad to ask em	ergency res	oonders to r	epeat the in	formation	they provide	d.	
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
40. l tr situ	usted that th uation appro	ne emergeno priately.	cy responde	rs who took	part in this	exercise kne	ew how to m	anage the
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
41. l fe	el confident	that emerge	ency respon	ders are pre	pared to de	eal with a rea	al incident of	f this kind.
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
42. Em	ergency res	onders too	k appropriat	e actions to	manage th	is incident.		
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
43. I ha	ad sufficient	privacv duri	ng the deco	ntamination	process.			
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
44. lt v	vas embarra:	ssing for me	to remove	my clothing	in this situa	tion.		
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
45. I w	as concerne	d about rem	oving my clo	othing in thi	s situation.			
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
46. I sa	w volunteer	s co-operati	ng with eac	h other duri	ng the exer	cise.		
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
47 Vo	unteers wer	e courteous	to each oth	er during th	e exercise			
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

Post-exercise V2.0; 10/05/2023

Page 5 of 7



203	
UK Health	
Agency	



48.	Son	netimes volu	unteers need	ded other vo	olunteers to	help during	the exercise	·-

Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

49. I felt emotionally engaged during this exercise.								
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

The next questions will ask you about what you would do if the situation you experienced during the exercise today had been real.

50.	If this	situation	had	been	real, I	would	have	complied	with	the	instructions	of	the	emergen	ю
	respor	nders.													

Strongly								Strongly			
disagree	1	2	3	4	5	6	7	agree			
51. If th	51. If this situation had been real, I would have been willing to undergo a decontamination shower.										
Strongly								Strongly			
disagree	1	2	3	4	5	6	7	agree			
52. If th	nis situation	had been re	eal, I would	have been v	villing to rer	nove <u>all of</u> r	ny clothing	down to my			
unc	lerwear befo	ore going th	rough the de	econtaminat	ion shower.						
Strongly								Strongly			
disagree	1	2	3	4	5	6	7	agree			
53. lf tł	nis situation	had been re	al, I would h	nave gone st	raight to the	e nearest ho	spital witho	ut following			
any	of the emer	rgency respo	onders' instr	uctions.							
Strongly								Strongly			
disagree	1	2	3	4	5	6	7	agree			
54. If th	nis situation	had been re	eal, I would	have left th	e area with	out followin	g any of the	emergency			
res	oonders' inst	tructions.									
Strongly								Strongly			
disagree	1	2	3	4	5	6	7	agree			
55. If th	55. If this situation had been real, I would have sought further information before taking any action.										
	nis situation	had been re	al, I would h	nave sought	further info	rmation bef	ore taking a	ny action.			

#### These final questions will focus further on your experiences relating to the exercise

3

2

56. I think the procedures that emergency responders used to manage this exercise were ethical.								
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree

4

5

6

7

Post-exercise V2.0; 10/05/2023

disagree

1

Page **6** of **7** 

agree



UK Health Security Agency	pr		cti	ve	This fun Uni rese	project has re ding from the I on's Horizon 2 earch and inno gramme under	eceived European 020 vation grant	**** * * ***	
57. I thi	nk the eme	rgency respo	onders mana	aged this exe	ercise ethica	illy.	2301		
Strongly disagree	1	2	3	4	5	6	7	Strongly agree	

58. Please explain any ways the procedures and behaviours from emergency responders were or were not ethical and how they could have been improved.

59. Did you use the PROACTIVE app during or before the exercise? Yes No

60. I felt confident using the app.

Strongly	1	2	3	Λ	5	6	7	Strongly
uisagi ee	1	۷	5	4	5	0	/	agree
61. The	e app design	is easy to us	se.					
Strongly disagree	1	2	3	4	5	6	7	Strongly agree
0								0
62. The	e app has eff	ective acces	sibility featu	ires.				
Strongly	1	2	2	4	E	c	7	Strongly
uisagree	1	Ζ	3	4	5	0	1	agree
63. The	e app visualis	ations and t	text were ap	propriate.				
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
		<b>6</b> 1 .						
64. Ine	e app will be	useful to me	embers of tr	ne public.				
Strongly	1	2	з	4	5	6	7	Strongly
albagiee	-	-	5	-	5	0	,	ugiee
65. The	e informatio	n provided ir	n the app wa	as helpful.				
Strongly								Strongly
disagree	1	2	3	4	5	6	7	agree
66 Dia	aco ovelaie a	ny ways the			1			
66. Pie	ase explain a	iny ways the	app could i	se improved				

### Thank you for taking the time to complete this questionnaire

Post-exercise V2.0; 10/05/2023

Page **7** of **7** 



# **APPENDIX 4: CHILD PRE-EXERCISE QUESTIONNAIRE**



Children's pre-exercise V1.0; 28/04/2023

Page 1 of 3







7. Do you feel calm about the exercise today?



8. Do you feel scared about the exercise today?



11. Do you feel afraid about the exercise today?



14. Do you feel nervous about the exercise today?

15. Yes	No
$(\circ \circ)$	$(\circ \circ)$

17. Do you feel sad about the exercise today?

18. Yes	No
00	00

Children's pre-exercise V1.0; 28/04/2023

Page 2 of 3







# 20. Do you feel frightened about the exercise today?



Children's pre-exercise V1.0; 28/04/2023

Page 3 of 3



# **APPENDIX 5: CHILD POST-EXERCISE QUESTIONNAIRE**



Children's pre-exercise V1.0; 28/04/2023

Page 1 of 5







#### 7. Did you trust the police and firefighters?



8. Did you understand why it was important to do what the emergency responders were asking you to do?



9. Did you find it easy to do what the emergency responders were asking you to do?



10. Did you find it hard to do what the emergency responders were asking you to do?



11. Did you understand why the decontamination shower was needed?



Children's pre-exercise V1.0; 28/04/2023

Page 2 of 5







12. Did you want to do what the emergency responders were asking you to do?



#### 13. Did you feel happy during the exercise?



### 14. Did you feel interested during the exercise?



#### 15. Did you feel proud during the exercise?



#### 16. Did you feel excited during the exercise?

Yes	No
	$\left( \circ \circ \right)$
<u> </u>	

#### 17. Did you feel calm during the exercise?



Children's pre-exercise V1.0; 28/04/2023

Page 3 of 5





Children's pre-exercise V1.0; 28/04/2023

Page 4 of 5







# 24. Did you feel frightened during the exercise?



Children's pre-exercise V1.0; 28/04/2023

Page 5 of 5



# **APPENDIX 6: OBSERVATION GUIDE OF EVALUATORS**

# **Campus Vesta Observational Data**

# Communication

Emergency responders communicating with participants

Emergency responders passively ignoring participants (not communicating with them)

Emergency responders actively ignoring participants (not listening or dismissing when participants are attempting to speak with them)

# **Pre-incident information behaviours**

Participants undertaking any of the behaviours recommended in the pre-incident information (particularly before hearing from the emergency responders)

Participants instructing others to undertake any of the behaviours recommended in the preincident information (particularly before hearing from the emergency responders)

# Non-compliant behaviours

Participants refusing to carry out instructions (<u>e.g.</u> refusing to move from exercise starting position, refusing to remove outer clothing if instructed)

Participants leaving the area without being escorted

# **Helping behaviours**

Participants helping others (e.g. to open disrobe packs if applicable)

# Confusion

Participants looking to see what others are doing before carrying out any actions

Participants asking other participants to explain what they should be doing

Participants asking emergency responders to explain what they should be doing

# Adaptions for Vulnerable Individuals

Emergency responders providing tailored, specific support to vulnerable individuals and/or families of vulnerable individuals

Emergency responders helping people to read the instructions provided



# **APPENDIX 7: WEB PLATFORM QUESTIONNAIRE**



# INTRODUCTION TO THE JOINT ACTIVITY

PROACTIVE exercises are run as a Joint Activity of the H2020 eNOTICE project.

The exercise organiser is an eNOTICE partner with the resources and infrastructure necessary to facilitate an event of the necessary magnitude and complexity.

Campus Vesta is the eNOTICE partner organising this Joint Activity. Campus Vesta is a training center for police officers, fire fighters and ambulance staff of the Province of Antwerp. Campus Vesta is also a partner in the inter-university (with KU Leuven, U Gent, U Antwerp, VUB, Royal Military Academy) Post Graduate course on Disaster Management (PGDM). Every year Campus Vesta organizes a multidisciplinary disaster exercise for the PGDM Students. The exercise serves as their evaluation and is also the framework for the joint event between eNOTICE and PROACTIVE.

This tri-partite arrangement can be seen in Figure 1.



# Figure 1 Tri-partite Arrangement between PROACTIVE, eNOTICE & Campus Vesta

For PROACTIVE, a central component of the exercises is the inclusion of volunteers from the civil society, including vulnerable persons. These are non-trained members of the public with one or more functional needs limitations rendering them vulnerable in the CBRNe scenario of the exercise. Examples of vulnerabilities include hearing and vision loss, physical impairments, and age-related vulnerabilities. The inclusion of vulnerable volunteers is in line with the main objective of the project: to bridge the gap between various groups of first responders and the vulnerable civil society in the event of a CBRNe event.

Observer Guide - Ranst field exercise, 13 May 2023



pr**eactive** 

# PROACTIVE TACTICAL OBJECTIVES

In order to meet its goals, the PROACTIVE project has developed the following Tactical Objectives for this exercise. As the Practitioner using the PROACTIVE Web Platform, you are directly contributing to Objective 7.

No.	Objective
1	To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercises with at least 15% of these representing vulnerable groups.
2	To evaluate the effectiveness of First Responders to recognise vulnerable people during a CBRNe incident.
3	To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe incident phases, through response measures (e.g. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.
4	To conduct an experimental trial of the efficacy of the PROACTIVE pre-incident information for influencing attitudes, <u>perceptions</u> and behaviours during an emergency incident response.
5	To evaluate if communication with the public during the incident is pitched at an appropriate level in terms of language, <u>complexity</u> and channels.
6	To test the technical aspects of the PROACTIVE Crisis Communication System (App & Web Platform) in a live exercise environment.
7	To evaluate how useable and useful the PROACTIVE Web Platform is for practitioners in a live exercise environment.
8	To evaluate how useable and useful the PROACTIVE App is in supporting the needs of Civil Society in a live exercise environment (e.g., communication needs, better information exchange).
9	To develop the understanding of factors that influence public compliance during CBRNe incidents.
10	To evaluate the extent to which ethical principles, dilemmas, operational factors, and assessment as well as societal dimensions are considered by first responders and researchers in dealing with CBRNe incidents.

Page 3 of 10





# 1. QUESTIONS ABOUT THE PROACTIVE WEB PLATFORM

# 1.1. Web Platform usability

Instruction: Choose the answer which best reflects your impression (for each question tick only one option).

1. I felt confident using the web platform

Strongly disagree	1	2	3	4	5	6	Strongly agree				

Please describe why and give examples:

2. The web platform design is easy-to-use

Strongly disagree	1	2	3	4	5	6	Strongly agree
-------------------	---	---	---	---	---	---	-------------------

Please describe why and give examples:

3. Most people would learn to use the PROACTIVE web platform guickly

Strongly disagree	1	2	3	4	5	6	Strongly agree

Please describe why and give examples:

Observer Guide – Ranst field exercise, 13 May 2023

Page 4 of 10



Dr	a	С	ti	V	e
	$\left( \overset{\circ}{\oplus} \overset{\circ}{\oplus} \right)$	(愛)		()	

4. The web platform has effective accessibility features

Strongly	1	2	3	4	5	6	Strongly
disagree	-	2	5	-	5	Ū	agree

Please describe why and give examples:

5. The amount of text displayed was appropriate

Strongly disagree	1	2	3	4	5	6	Strongly agree

Please describe why and give examples:

6. The visualisations were appropriate

Strongly disagree	1	2	3	4	5	6	Strongly agree

Please describe why and give examples:

7. It was easy to report the critical information about the incident (e.g., time, location, severity) to the public using the Create an Incident feature.

Strongly disagree	1	2	3	4	5	6	Strongly agree
----------------------	---	---	---	---	---	---	-------------------

Please describe why and give examples:

Observer Guide – Ranst field exercise, 13 May 2023

Page 5 of 10



	_	_	т;		Ma.
pr	a	С	τı	V	C
1	$(\bar{\mathfrak{B}}_0)$	(愛)	$\begin{pmatrix} \Phi_{n}\Phi\\\Phi \end{pmatrix}$	()	

8. Using the admin <u>panel</u> I was able to find all the information I needed to increase my situational awareness

Strongly disagree	1	2	3	4	5	6	Strongly agree

# 1.2. Web platform usefulness

Instruction: Choose the answer which best reflects your impression (for each question tick only one option).

9. I would use the PROACTIVE web platform in the case of a real CBRNe incident

Strongly disagree	1	2	3	4	5	6	Strongly agree
----------------------	---	---	---	---	---	---	-------------------

Please describe why and give examples:

10. I was confident that the incident I created was successfully received by the public using the PROACTIVE app

Strongly disagree	1	2	3	4	5	6	Strongly agree
----------------------	---	---	---	---	---	---	-------------------

Please describe why and give examples:

Observer Guide - Ranst field exercise, 13 May 2023

Page 6 of 10



Dr	a	С	ti	V	e
		(愛)		()	

11. The PROACTIVE web platform enhances the situation awareness of the population on CBRNe <u>events</u>

Please desc		2	3	4	5	6	Strongly agree
	cribe why a	and give ex	amples:				
12. The GDF	web platf PR obligation	orm respec ons and pri	ts my priv nciples, su	acy (e.g., ch as trans	the privacy parency an	statemen d fairness	t, compliance with )
Strongly disagree	1	2	3	4	5	6	Strongly agree
lease deso	cribe why a	and give ex	amples:				
13. I wo	ould be cor	nfident putt	ing informa	ation resou	rces/ mater	rials (e.g.,	SOPs) on the topi
CBR	RNe in a pr	ivate library	/ space, ac	cessible or	nly by other	admins	
Strongly	1	2	3	4	5	6	Strongly
	cribe why a	and give ex	amples:				
lease desc			ampies.				
Please desc							
Please desc							
Please deso							
Please desc 14. Base	ed on func	tionalities (	i.e. CBRNe	e library, no	otifications,	reporting a	an incident), contex
Please desc 14. Base facto (i.e.,	ed on func ors (i.e. on	tionalities ( going disas	<u>i.e.</u> CBRNe ter, particip f collected	e library, no pation of vu	otifications, Inerable po on and dat	reporting a pulations)	an incident), contex and data managen on purposes), the
Please desc 14. Base facto (i.e., platf	ed on func ors (i.e. on type and form does i	tionalities ( going disas amount c not burden	<u>i.e.</u> CBRNe ter, particip f collected users' priva	e library, no pation of vu l informatio acy rights.	otifications, Inerable po on and dat	reporting a pulations) a collectio	an incident), contex and data managen on purposes), the
Please desc 14. Base facto (i.e., platf Strongly disagree	ed on func ors (i.e. on form does n	tionalities ( going disas amount c not burden 2	i.e. CBRNe ter, particip f collected users' priva 3	e library, no bation of vu l informatio acy rights. 4	otifications, Inerable po on and dat 5	reporting ; pulations) a collectic 6	an incident), contex and data managen on purposes), the Strongly agree





Instruction: Please rate the following web platform features in terms of their usefulness during a CBRNe incident. For each question choose only one answer:

15. In-web platform live notifications on the homepage

Not at all useful	1	2	3	4	5	6	Very useful
Please des	cribe why a	and give ex	amples:				
16. Pus	h up notific	ations on y	our <u>smartp</u>	hone			
Not at all	1	2	3	4	5	6	Very
							userui
lease des	cribe why a	and give ex	amples:				
17. Inci	dent list						
Not at all useful	1	2	3	4	5	6	Very useful
Please des	cribe why a	and give ex	amples:				
	-	-	-				

Observer Guide - Ranst field exercise, 13 May 2023

Page 8 of 10



# 18. Maps showing incidents

Not at all useful	1	2	3	4	5	6	Very useful

Please describe why and give examples:

19. Heat	Maps
----------	------

	Not at all useful	1	2	3	4	5	6	Very useful
--	----------------------	---	---	---	---	---	---	----------------

Please describe why and give examples:

### 20. CBRNe Information Library

Not at all useful	1	2	3	4	5	6	Very useful	
Please describe why and give examples:								

21. Based on today's experience, how many stars would you give the web platform, out of five? Please fill in each star that you are giving. (Five stars is the best rating).



Observer Guide – Ranst field exercise, 13 May 2023

Page 9 of 10





22. Describe any new feature(s) you would like to see in the web platform to ensure its future uptake and market adoption:

23. What information would you expect to find in the News section?

24. Provide any other comments about the web platform here:

Observer Guide - Ranst field exercise, 13 May 2023

Page 10 of 10



# **APPENDIX 8: ADULT FOCUS GROUP GUIDE**





This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981



# PROACTIVE: Campus Vesta Focus Groups

### 1. Introductions

- First, I just want to thank you all for your time today.
- I am just going to pass round this paper and if you can write down your participant number that is on your wristband, we don't need you to write down your name just the number. *Hand out participant number paper*
- If I just introduce myself My name is ..... and I am a ...... and I am one of the members of the PROACTIVE project.
- <u>So</u> if we go round and you introduce yourselves, we aren't recording yet so none of this is being used it's just so we can introduce ourselves.

### 2. Overview

I just want to start with explaining the reasons we are running the focus group. In this focus group, we are interested in understanding your experiences of the exercise that you just took part in. There are no right or wrong answers we just want to hear about your experiences. The information you provide will be used to develop procedures and policy for the management of incidents like the one simulated in the exercise today.

I'd just like to remind you that all information that you give will be confidential, and any published data from these focus groups will be anonymous. I'd also like to remind you that we are recording these focus groups [using Dictaphones]; these will only be used to allow us to analyse the data collected.

# 3. House rules

So I am just going to go over the housekeeping and rules for this focus group

- Respect each other's opinions challenge and disagree but be respectful
- There are no wrong or right answers we are interested in understanding your experiences of the exercise
- Do not talk over each other please raise your hand if someone is talking and you would like to talk next
- Don't hold back be honest as this is a safe space to do so, there are no right or wrong answers
- Answers will remain anonymous with the exception of disclosing any information that we think means you or someone else is at risk of harm. This means that you can't withdraw any information you have already provided once we start, as we won't be able to identify you to remove your contribution.
- Please don't say anything during the focus group that will enable us to identify you
- Confirm that you will now begin the recording

# 4. \*Start recording focus group and state your (focus group leader) name\*

Version 1; 28/04/2023

Page 1 of 5







### 5. Run focus group using the following questions and prompts

### General Experiences

- Tell me about your experience of the exercise
  - Do you have any initial reflections?
  - How do you feel it went?
  - Was there anything that went particularly well?
  - Was there anything that went particularly badly?

### Focus on Vulnerabilities

- The next questions are about vulnerabilities. By "vulnerabilities", what we mean is factors that might make it more difficult for some of you to go through procedures today. This could be, for example, due to having a physical disability or due to having a learning difficulty or mental health issue.
- Did you feel that the emergency responders noticed yours or others' vulnerabilities during the exercise?
- [If yes to identified vulnerabilities] Did you feel emergency responders understood these vulnerabilities?
- [*If yes to understood vulnerabilities*] Did the emergency responders make any modifications to how they dealt with the situation based on vulnerabilities?
  - How did you feel about these modifications?
  - What modifications would you have liked to see emergency responders make based on vulnerabilities?
  - $\circ$   $\;$  Are there any other modifications or considerations that were not mentioned?
- [*If yes to identified vulnerabilities*] Were these modifications enough to allow vulnerable individuals to go through the procedure that was instructed [state decontamination if decontamination was used]?
  - Why/ why not?
- Is there anything emergency responders could have done different or in addition to aid vulnerable individuals through the procedure [state decontamination if decontamination was used]?[If yes to identified vulnerabilities] Do you feel vulnerabilities were treated with respect?
- [If no to identified vulnerabilities] What do you feel that the emergency responders missed?
- [*If no to identified vulnerabilities*] How could they make sure that they identified vulnerabilities in a real incident?

Version 1; 28/04/2023

Page 2 of 5







### **Perceptions of Responders**

- Generally, how do you feel the emergency responders managed the exercise?
  - Did this match your expectations of how they would manage the exercise?
  - $\circ$   $\;$  How did you expect emergency responders to manage the exercise?
  - Do you feel you were treated fairly and respectfully?
- How did you feel about the <u>procedures</u> emergency responders used to manage this exercise?
  - Did you feel confident they would be effective?
  - o Do you feel these procedures included people with vulnerabilities?
  - Are there any changes to procedures that you would recommend based on your experiences?
- Based on your experiences today, how do you think emergency responders would behave during a real incident of this type?
  - o Do you think they would they treat you fairly/ with respect?
  - Why / why not?

### **Communication and Information Needs**

- Tell me about any interactions that you had with the emergency responders
  - How did the emergency responders communicate with you?
  - What kind of information did they give you?
  - How did you feel about the interactions and communications with the emergency responders?
- What do you think of the information that you received during the exercise?
  - Do you think it would be enough information for you to know what to do during a real incident?
  - Would it be enough information for you to feel willing to follow responders' instructions if this was a real incident?
  - o If not, why?
- Was it easy to understand the information provided?
  - Why?/Why not?
  - Going back to what we were discussing earlier about vulnerabilities, did you find the information provided was inclusive?
  - Is there any further information that you would want if this were a real incident?
    - If yes, what information?
- Do you know how you would have behaved if this were a real incident, based on what was said to you or what information you were provided by responders?

### [If used in the exercise] Perception of Decontamination

- Did the procedures you went through earlier match with what you would have expected to go through in an incident like this?
- How did you feel about going through a decontamination shower during the exercise?

Version 1; 28/04/2023

Page 3 of 5







programme under grant agreement no 832981



- Did you feel comfortable?
- Did you know how to go through the shower?
- Did you face any challenges when going through the shower?
- If a real incident of this type were to occur, would you be willing to remain at the scene and undergo a decontamination shower?
  - Would you feel comfortable undergoing a decontamination shower?
  - Would you find it easy to go through a decontamination shower? 0
  - Would you be willing to remove your clothes in order to undergo a decontamination shower during a real incident?
- What are your thoughts about protection of privacy during this exercise?
  - Would you want to seek further treatment after undergoing a decontamination shower? o If so / not, why?

    - Would you feel confident that you were clean after undergoing a decontamination 0 shower?

### **Interactions with Volunteers**

- Tell me about any interactions that you had with other volunteers, or observed between volunteers, during the exercise
  - How did you interact with each other?
  - What did you talk about? What did you do?
  - o Did you notice anything about the way that individuals were interacting with each other? Was it friendly? Unfriendly? Helpful? Unhelpful? [these prompts might not be ideal but they or a version of them could be used with other sub-questions here]
- Is there anything else you would like to talk about in relation to the exercise that we haven't already covered?

# **Pre-incident Information**

Were you provided with the pre-incident information and briefing?

For those of you that were:

- What did you think of the information you were provided with before the exercise?
  - Was there anything you did not understand, or which could be made clearer?
  - Was there anything that you would change?
  - Which organisation would you expect to provide this information?
  - Which organisation would you want to provide this information?
  - Do you think you would remember this information in a real incident? If not, why?
- Did you recall the information when going through the procedures in the exercise?
  - Did you use the information when going through the procedures?
  - $\circ$  When going through the procedures earlier, did you feel confident taking the actions recommended in the information sheet?
  - Did you discuss the information with others or use the information to help others?
  - Was the information provided before the exercise broadly consistent with the information provided by emergency responders?

Version 1: 28/04/2023

Page 4 of 5







• Is there anything about the information that you would change?

For those of you that were not:

- Did anyone who had received it discuss the pre-incident information with you?
   If yes, what did they say?
  - Did you use the information when going through the procedures?
- Did you see any other people undertaking behaviour such as removing leaving the area and/ or removing clothing before the emergency responders gave any instructions?
  - If yes, did this have any impact on your behaviour?

Altogether generally:

- How do you feel about information like this being made available to people?
- In general, do you think the provision of this kind of information is a good idea?
  - If so, why?
    - o If not, why?

Thank participants for their time and state their answers have <u>been helpful in understanding</u> the experiences during exercises.

Version 1; 28/04/2023

Page 5 of 5



# **APPENDIX 9: CHILDRENS FOCUS GROUP GUIDE**

UK Health Security Agency



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. <u>832981</u>



### Children's Campus Vesta Focus Groups

### 1. Introductions

- First, I just want to thank you all for your time today.
- I am just going to pass round this paper and if you can write down your participant number that is on your wristband, we don't need you to write down your name just the number. *Hand out participant number paper*
- If I just introduce myself My name is ..... and I am a ..... and I am one of the members of the PROACTIVE project.
- <u>So</u> if we go round and you introduce yourselves, we aren't recording yet so none of this is being used it's just so we can introduce ourselves.

### 2. Overview

I just want to start with explaining the reasons we are running the focus group. In this focus group, we are interested in understanding your experiences of the exercise that you just took part in. There are no right or wrong answers we just want to hear about your experiences. The information you provide <u>will be</u> used to develop procedures and policy for the management of incidents like the one simulated in the exercise today.

I'd just like to remind you that all information that you give will be confidential, and any published data from these focus groups will be anonymous. I'd also like to remind you that we are recording these focus groups [using Dictaphones]; these will only be used to allow us to analyse the data collected.

### 3. House rules

So I am just going to go over the housekeeping and rules for this focus group

- Respect each other's opinions challenge and disagree but be respectful
- There are no wrong or right answers we are interested in understanding your experiences of the <u>exercise</u>
- Do not talk over each other please raise your hand if someone is talking and you would like to talk <u>next</u>
- Don't hold back be honest as this is a safe space to do so, there are no right or wrong answers
- Answers will remain anonymous with the exception of disclosing any information that we think means you or someone else is at risk of harm. This means that you can't withdraw any information you have already provided once we start, as we won't be able to identify you to remove your contribution.
- Please don't say anything during the focus group that will enable us to identify you
- Confirm that you will now begin the recording

### 4. \*Start recording focus group and state your (focus group leader) name\*

Version 1; 28/04/2023

Page 1 of 3







### 5. Run focus group using the following questions and prompts

"Thinking about what you have just done today..."

### **Overall participation**

- How did you feel during the exercise?
- Did you enjoy it?
  - Try to list 3 things that you enjoyed about the exercise today.
  - Try to list 3 things that you didn't like about the exercise today or that you think could have been better.
- Were the other adult volunteers who were with you during the exercise helpful?
  - Can you think of anything else that you would have liked them to do for you?
- Did you find any part of the exercise scary? [If YES] which parts?
- Were you ever too cold during the exercise?
- Were you ever too hot during the exercise?
- Was there anything about the exercise that you think could have been better?

# **Responder Communication**

- Did you understand the instructions police and firefighters gave you?
  - Were the instructions easy to understand?
  - Were the instructions easy to hear?
  - Did you know what you had to do?
  - Was there anything that you weren't sure about?
- What did you think of the police and firefighters?
  - Were the police and <u>firefighters</u> kind? And why?
  - Did the police and firefighters treat you fairly? And why?
  - Did the police and firefighters help you? If so, how?
  - Did you trust the police and firefighters? And why?

# Exercise process/ behaviours

- What did police and firefighters tell you about what you would have to do during the exercise?
- What instructions did police and firefighters give you about what you had to do during the exercise?

Version 1; 28/04/2023

Page 2 of 3







• How did you feel about what the police and firefighters asked you to do?

ctive

- Were you happy or unhappy to do it? Why?
- Was there anything that made it hard to do what the police and firefighters were asking you to do? If yes, what was it?
- Were the police and firefighters helpful and did they answer any questions that you had?
- [If decontamination was used] How did you feel about having to wash in the showers?
  - Was it easy to understand what you had to do?
  - Did you enjoy it?
    - i. [If NOT] what did you not like about it?
- What did you think of the suits that the police and firefighters were wearing? Which one did you like best? Why?

# Conclusion

• Is there anything else you would like to tell us about how you felt during the exercise today?

Version 1; 28/04/2023

Page 3 of 3



# **APPENDIX 10: OBSERVER GUIDE**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. <u>832981</u>



# **PROACTIVE Observer Guide**

Ranst Field Exercise 13 May 2023

Through this Observer Guide PROACTIVE aims to collect your impressions of the exercise.

We recommend reading through this observer guide before the exercise takes place, so you become fully aware of what kinds of information to look for.

You will notice that specific details (such as the time an action occurs or the exact person who performs a task) are not asked of you.

Feel free to also take any notes as you see fit during the exercise.

Lastly, please do not take any photographs or videos of the exercise.

Official photos and videos will be shared in a later stage.

The filled in anonymous observer guide will be collected from each participant at the end of the day.

Please do not leave the exercise without turning in your copy 😳

© Copyright 2023 PROACTIVE Project (project funded by the European Commission). All rights reserved.

No part of this document may be copied, reproduced, disclosed or distributed by any means whatsoever, including electronic without the express permission of the International Union of Railways (UIC), Coordinator of PROACTIVE Project. The same applies for translation, adaptation or transformation, arrangement or reproduction by any method or procedure whatsoever.


# pr**eactive**

## INTRODUCTION TO THE JOINT ACTIVITY

PROACTIVE exercises are run as a Joint Activity of the H2020 eNOTICE project.

The exercise organiser is an eNOTICE partner with the resources and infrastructure necessary to facilitate an event of the necessary magnitude and complexity.

Campus Vesta is the eNOTICE partner organising this Joint Activity. Campus Vesta is a training center for police officers, fire fighters and ambulance staff of the Province of Antwerp. Campus Vesta is also a partner in the inter-university (with KU Leuven, U Gent, U Antwerp, VUB, Royal Military Academy) Post Graduate course on Disaster Management (PGDM). Every year Campus Vesta organizes a multidisciplinary disaster exercise for the PGDM Students. The exercise serves as their evaluation and is also the framework for the joint event between eNOTICE and PROACTIVE.

This tri-partite arrangement can be seen in Figure 1.



Figure 1 Tri-partite Arrangement between PROACTIVE, eNOTICE & Campus Vesta

For PROACTIVE, a central component of the exercises is the inclusion of volunteers from the civil society, including vulnerable persons. These are non-trained members of the public with one or more functional needs limitations rendering them vulnerable in the CBRNe scenario of the exercise. Examples of vulnerabilities include hearing and vision loss, physical impairments, and age-related vulnerabilities. The inclusion of vulnerable volunteers is in line with the main objective of the project: to bridge the gap between various groups of first responders and the vulnerable civil society in the event of a CBRNe event.

Observer Guide - Ranst field exercise, 13 May 2023

Page 2 of 18





## **PROACTIVE TACTICAL OBJECTIVES**

In order to meet its goals, the PROACTIVE project has developed the following Tactical Objectives for this exercise. As an Observer, you are directly contributing to Objectives 6 & 8 through your role as a witness in the exercise. Your answers to this guide will also inform the other objectives, but the main responsibility for evaluating these fall with dedicated PROACTIVE partners.

No.	Objective
1	To involve and engage with Civil Society (members of the public as volunteers) in CBRNe exercises with at least 15% of these representing vulnerable groups.
2	To evaluate the effectiveness of First Responders to recognise vulnerable people during a CBRNe incident.
3	To evaluate the effectiveness of First Responders in supporting and assisting vulnerable people during the CBRNe incident phases, through response measures (e.g. tools, equipment, procedures) which are adapted to the needs of vulnerable persons.
4	To conduct an experimental trial of the efficacy of the PROACTIVE pre-incident information for influencing attitudes, <u>perceptions</u> and behaviours during an emergency incident response.
5	To evaluate if communication with the public during the incident is pitched at an appropriate level in terms of language, <u>complexity</u> and channels.
6	To test the technical aspects of the PROACTIVE Crisis Communication System (App & Web Platform) in a live exercise environment.
7	To evaluate how useable and useful the PROACTIVE Web Platform is for practitioners in a live exercise environment.
8	To evaluate how useable and useful the PROACTIVE App is in supporting the needs of Civil Society in a live exercise environment (e.g., communication needs, better information exchange).
9	To develop the understanding of factors that influence public compliance during CBRNe incidents.
10	To evaluate the extent to which ethical principles, dilemmas, operational factors, and assessment as well as societal dimensions are considered by first responders and researchers in dealing with CBRNe incidents.

Observer Guide - Ranst field exercise, 13 May 2023

Page 3 of 18





## OBSERVATIONS

Observers are participants who witness the exercise while remaining separate from exercise activities. This means that you will stand some distance away from the action.

You are not expected to know Belgian CBRNe Standard Operating Procedures - indeed, these will not be shared with you. This is partly because you are not there to observe whether or not procedures were followed. Instead, you should simply observe the interactions between first responders and casualties.

That said, there will be a narrator with you on the day to help explain what is happening, and <u>whether</u> or not this is in line with typical practices (to avoid false learning). You should feel free to ask them any questions you might have about what you are observing.

In short, what we want from Observers is their impressions of what is happening (e.g., do you feel like the first responders were able to identify vulnerable persons?). To do so, please fill in the questionnaire found within this Observer Guide.

However, **Observers are NOT evaluators**. PROACTIVE will also have dedicated evaluators on the scene. Your comments in the questionnaire will only serve to supplement the evaluation performed by PROACTIVE partners.

## WITNESSING

A key role you will play during the exercise is as an active user of the PROACTIVE app.

Please use the PROACTIVE app to look for information about the incident, as if you were a witness. Notifications will be sent out during the exercise.

We ask that you also use the app to **report an incident more than once**, as if you were an incident witness during the exercise (feel free to use the feature of submitting a photo or an audio message with your incident report – just not a photo of the exercise! E.g., your feet, an old photo of your cat).

In addition, the guide includes some questions on the app usability and usefulness.

Make sure you have downloaded and installed the app:





Observer Guide - Ranst field exercise, 13 May 2023

Page 4 of 18





## **1. TELL US ABOUT YOURSELF**

Instruction: Choose / tick the answer which best suits you.

1.	I represent:	
	□ Civil society organisation	Emergency medical responder
	□ Law enforcement agency	Civil protection
	□ Firefighting brigade	□ Other, please specify:
	□ Military	
2.	In general, how familiar are you	with the topic of CBRNe?
	□ Very familiar	Please explain your choice (optional):
	□ Rather familiar	
	□ Neither unfamiliar nor fami	iar
	□ Rather unfamiliar	
	□ Very unfamiliar	
3.	I have attended a CBRNe field	exercise before (either as an observer or a participant):
	□ Yes □ No	
4.	Before this exercise, had you re	ad the PROACTIVE Pre-incident Information Materials?
	🗆 Yes 🛛 🗆 No	
5.	How familiar were you with the	PROACTIVE app before this exercise?
	□ I do not use smartphone app	B Rather familiar (I have tried the different

□ Very unfamiliar (I have only downloaded	features, e.g., reporting an incident)
<ul> <li>Somewhat unfamiliar (I have downloaded it and have had a look around)</li> </ul>	

Observer Guide - Ranst field exercise, 13 May 2023

Page 5 of 18





## 2. QUESTIONS ABOUT THE FIELD EXERCISE

Instruction: Choose the answer which best reflects your impression (for each question tick only one option).

6. I feel confident about reporting on what I observed

7. The exe	rcise was i	n line with r	ny <u>expecta</u>	<u>tions</u>			
Strongly disagree	1	2	3	4	5	6	Strongly agree
Please des	cribe why a	and give ex	amples. De	escribe any	thing which	may have	surprised you
		doro mono	aged the aff	ect person	s effectively	L	
Overall, the	first respor		igou ino un	oot poroon		_	
Overall, the Strongly disagree	first respor	2	3	4	5	6	Strongly
Overall, the Strongly disagree Please desc	first respor 1 ribe why a	2 nd give exa	3 amples:	4	5	6	Strongly agree
Overall, the Strongly disagree Please desc	first respor 1 ribe why a	2 nd give exa	3 amples:	4	5	6	Strongly agree
Overall, the Strongly disagree Please desc	first respor 1 ribe why a	2 nd give exa	3 amples:	4	5	6	Strongly agree
Overall, the Strongly disagree Please desc	first respon 1 rribe why a responder	2 nd give exa	3 amples:	4 tively with t	5	6 Dersons	Strongly agree
Overall, the Strongly disagree Please desc 9. The first	first respor	2 nd give exa	3 amples: cated effec	4 tively with t	5	6	Strongly agree
Overall, the Strongly disagree Please desc 9. The first Strongly disagree	first respor 1 cribe why a responder 1	2 nd give exa s communi 2	3 amples: cated effec	4 tively with t	5 the affected 5	6 I <u>persons</u> 6	Strongly agree Strongly agree
Overall, the Strongly disagree Please desc 9. The first Strongly disagree	first respon 1 sribe why a responder 1 cribe why a	2 nd give exa s communi 2 and give ex	3 amples: cated effec 3 amples:	4 tively with t	5 the affected	6 persons 6	Strongly agree Strongly agree

Observer Guide - Ranst field exercise, 13 May 2023

Page 6 of 18



# prêactive

10. The first responders were effective in recognising vulnerable persons

disagree	1	2	3	4	5	6	Strongly agree
Please descr	ibe why a	nd give exa	amples:		I		
1. The first r	responder	s were effe	ctive in sup	porting and	d assisting v	ulnerabl	e <u>people</u>
Strongly disagree	1	2	3	4	5	6	Strongly agree
lease descr	ibe why a	nd give exa	amples:				
		Dro incident	Informatio	n motoriala	accord to	ho of ho	In for those offe
2. The PRO	ACTIVE	re-inciden	t Informatio	n materials	seemed to	be of ne	ip for those <u>afte</u>
Strongly	1	2	3	4	5	6	Strongly
	iho why o		mplaa				ugree
lease desci	ibe wity a	nu give exa	ampies.				
3. First resp	onders we	ere respect	ful of the as	sistive tech	nologies us	ed by pe	rsons with <u>vulne</u>
3. First resp Strongly	onders we	ere respect	ful of the as	sistive tech	nologies us	ed by per	rsons with <u>vulne</u>
3. First resp Strongly disagree	onders we	ere respect	ful of the as	sistive tech	nologies us 5	ed by per	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc	onders we	ere respect 2 and give ex	ful of the as 3 amples:	sistive tech 4	nologies us 5	ed by per 6	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc	onders we	ere respect 2 and give ex	ful of the as 3 amples:	sistive tech 4	nologies us 5	ed by per 6	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc	onders we 1 ribe why a	ere respect 2 and give ex	ful of the as 3 amples:	sistive tech 4	nologies us 5	ed by per	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc	onders we 1 ribe why a	ere respect 2 and give ex	ful of the as 3 amples:	sistive tech 4	nologies us 5	ed by per 6	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc 4. The equip	onders we 1 ribe why a	ere respect 2 and give ex	ful of the as 3 amples: esponders v	sistive tech 4 was adapte	nologies us 5 d for persor	ed by per 6 ns with <u>v</u>	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc 4. The equip Strongly	onders we	ere respect 2 and give ex ed by first re	ful of the as 3 amples: esponders v	sistive tech 4 was adapte	nologies us 5 d for persor	ed by per 6 Is with <u>vr</u>	rsons with <u>vulne</u> Strongly agree <u>ulnerabilities</u> Strongly
3. First resp Strongly disagree Please desc 4. The equip Strongly disagree	onders wa 1 ribe why a oment use	ere respect 2 and give ex ed by first re	ful of the as 3 amples: esponders v	sistive tech 4 was adapte 4	nologies us 5 d for persor 5	ed by per 6 ns with <u>vi</u> 6	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc 4. The equip Strongly disagree	onders we	ere respect 2 and give ex ed by first re 2 nd give exa	ful of the as 3 amples: esponders v 3 amples:	sistive tech 4 was adapte 4	nologies us 5 d for persor 5	ed by per 6 ns with <u>vi</u> 6	rsons with <u>vulne</u> Strongly agree <u>ulnerabilities</u> Strongly agree
3. First resp Strongly disagree Please desc 4. The equip Strongly disagree	onders wa 1 ribe why a oment use 1 ibe why a	ere respect 2 and give ex ed by first re 2 nd give exa	ful of the as 3 amples: esponders v 3 amples:	sistive tech 4 was adapte 4	nologies us 5 d for persor 5	ed by per 6 ns with <u>vi</u> 6	rsons with <u>vulne</u> Strongly agree
3. First resp Strongly disagree Please desc 4. The equip Strongly disagree	onders we	ere respect 2 and give ex ed by first re 2 nd give exa	ful of the as 3 amples: esponders v 3 amples:	sistive tech 4 was adapte 4	nologies us 5 d for persor 5	ed by per 6 ns with <u>vi</u> 6	rsons with <u>vulne</u> Strongly agree Unerabilities Strongly agree



nr	cti	v	0
	(愛) (會)	<b>(</b> 郷)	C

15. The unfolding of the exercise was realistic

Strongly disagree	1	2	3	4	5	6	Strongly agree					
Please describe why and give examples:												
16. Please police, f	share at le ïrefighters)	ast three e interacted	examples of with vulnera	f good prac able groups	tice vis-à-v that you o	/is how pra bserved in	actitioner players (e.g., today's exercise.					
Please other as	focus only spects such	on the inter as the org	raction betv anisation o	veen the re f the exerci	scuers and se, this is a	d the victin ddressed	ns. Do not comment on later on.					
17. Please during tl	share at lea he exercise	ast three ex vis-à-vis vu	kamples of ulnerable gr	the how th roups and tl	e actions u ne public at	Indertaken large coul	by practitioner players d have been improved?					
Please not com <u>on</u> .	limit your co nment on o	omments to ther aspect	o the impro 's such as t	vement of t the organis	he rescuer ation of the	s' actions t e exercise,	owards the victims. Do this is addressed <u>later</u>					
18. Do you	have any fu	urther obse	rvations ab	out today's	field exerc	ise to shar	e with us?					

Please feel free to comment on any aspects of the exercise which were not addressed above, except organisational aspects which are addressed <u>later on</u>.

Continue to next section.

Observer Guide – Ranst field exercise, 13 May 2023

Page 8 of 18



nr	act	ivo
	(為) (愛) (含	t v C ♦) (≋)

## 2.1. For Civil Society Organisations

Instruction: Skip this section and go to section 3.2. if you are a practitioner.

19. The treatment of affected persons reflected how I would expect to be treated during a CBRNe incident decontamination.

Ctuanalu							Churcher
Strongly	1	2	3	4	5	6	Strongly
disagree							agree

Please describe why and give examples:

20. Thanks to this exercise, I will be better prepared to deal with first responders in a CBRNe incident.

Strongly disagree	1	2	3	4	5	6	Strongly agree
Diagon dag	oribo udav d	and give av	a man la a .				

Please describe why and give examples:

## 2.2. For Practitioners

Instruction: Skip this section if you are a member of the civil society and go to section 4.

21. In my organisation there are SOPs that take vulnerable groups into account.

Strongly disagree	1	2	3	4	5	6	Strongly agree
----------------------	---	---	---	---	---	---	-------------------

Please briefly describe the SOP. Is it different/similar to what you have seen here today?

22. Thanks to this exercise, my organisation will be better prepared to deal with vulnerable groups.

Strongly disagree	1	2	3	4	5	6	Strongly agree
Please des	scribe why a	and give ex	amples:				

Observer Guide – Ranst field exercise, 13 May 2023

Page 9 of 18





## 3. QUESTIONS ABOUT THE PROACTIVE APP

## 3.1. App usability

Instruction: Choose the answer which best reflects your impression (for each question tick only one option).

23. I fel	lt confident	using the a	pp				
Strongly disagree	1	2	3	4	5	6	Strongly agree
Please des	scribe why a	and give ex	amples:				
24 The	ann desig	n is easy-to					
Strongly	1	2	3	4	5	6	Strongly agree
Please des	scribe why a	and give ex	amples:				
25. Mos	st people w	rould learn t	to use the F	PROACTIV	E app <u>quic</u> ł	<u>sly</u> 6	Strongly
disagree Please des	scribe why a	and give ex	amples:				] agree

Observer Guide - Ranst field exercise, 13 May 2023

Page 10 of 18



			<b>.</b>		Mar
pr	a	С	τI	V	C
1	(m) (m)	(愛)		()	

26. The app has effective accessibility features

		9.70 0.00					
27. The	amount of	text display	red was ap	propriate			
trongly							Strongly
isagree	1	2	3	4	5	6	agree
ease desc	ribe why a	ind give exa	amples:				
28. The	visualisatio	ons were <u>ap</u>	propriate				
trongly	1	2	3	4	5	6	Strongly
isagree	-	2	3	-	5	Ŭ	agree
ease desc	ribe why a	ind give exa	amples:				
					in eident (e	a time a	
		ind aritical i	normanor				ocation, seventy)
29. It wa	s easy to f	ind critical i	Inormation		incident (e.	g., ume, i	
29. It wa trongly isagree	s easy to f	ind critical i	3	4	5	g., ume, i	Strongly
29. It wa trongly isagree	s easy to f	ind critical i	3	4	5	g., ume, 1 6	Strongly agree
29. It wa trongly isagree ease desc	s easy to f 1 ribe why a	ind critical i	3 amples:	4	5	6	Strongly agree
29. It wa trongly isagree ease desc	s easy to f 1 ribe why a	ind critical i	3 amples:	4	5	6 6	Strongly agree
29. It wa trongly isagree	s easy to f 1 ribe why a	ind critical i	3 amples:	4	5	6	Strongly agree

Deliverable D6.5 – Report on the third field exercise and evaluation workshop – 31/07/2023 Page 188 of 258



prê	a	С	ti	v	e
	$\left( \overset{\circ}{\otimes}_{0} \right)$	(愛)		()	

30. I was able to find information resources/ materials on the topic of CBRNe

Strongly disagree	1	2	3	4	5	6	Strongly agree
----------------------	---	---	---	---	---	---	-------------------

Please describe why and give examples:

## 3.2. App usefulness

Instruction: Choose the answer which best reflects your impression (for each question tick only one option).

31. I would use the PROACTIVE app in the case of a real CBRNe incident

Strongly disagree	1	2	3	4	5	6	Strongly agree
							-

Please describe why and give examples:

32. I was confident that the incident information I saw on the app was the most recent update

Strongly disagree	1	2	3	4	5	6	Strongly agree
Please des	scribe why a	and give ex	amples:				

Observer Guide - Ranst field exercise, 13 May 2023

Page 12 of 18



pr**eactive** 

33. The PROACTIVE app enhances the situation awareness of the population on CBRNe events

Strongly disagree	1	2	3	4	5	6	Strongly agree

Please describe why and give examples:

34. The app respects my privacy (e.g., the privacy statement, compliance with the GDPR obligations and principles, such as transparency and fairness)

Strongly disagree	1	2	3	4	5	6	Strongly agree
-------------------	---	---	---	---	---	---	-------------------

Please describe why and give examples:

35. Based on functionalities (<u>i.e.</u> CBRNe library, notifications, reporting an incident), contextual factors (i.e. ongoing disaster, participation of vulnerable populations) and data management (i.e., type and amount of collected information and data collection purposes), the app does not burden users' privacy rights.

Strongly disagree	1	2	3	4	5	6	Strongly agree
----------------------	---	---	---	---	---	---	-------------------

Please describe why and explain how data protection could be potentially improved (if applicable):

Observer Guide – Ranst field exercise, 13 May 2023

Page 13 of 18



Dr	a	С	ti	v	e
		(愛)		()	

Instruction: Please rate the following app features in terms of their usefulness during a CBRNe incident. For each question choose only one answer:

36. In-app live notifications on the homepage

useful	1	2	3	4	5	6	useful
lease desc	ribe why a	and give ex	amples:				
37. Push	up notific	ations on y	our <u>smartp</u>	hone			
Not at all	1	2	3	4	5	6	Very
	ribowby		amplaa				userui
lease desc	nbe wny a	and give ex	ampies:				
	-		•				
			· 				
38 Incid	ent list						
38. Incid	ent list						
38. Incide Not at all useful	ent list	2	3	4	5	6	Very useful
38. Incide Not at all useful Please desc	ent list 1 ribe why a	2 and give ex	3 amples:	4	5	6	Very useful
38. Incida Not at all useful Please desc	ent list 1 ribe why a	2 and give ex	3 amples:	4	5	6	Very useful
38. Incid Not at all useful Please desc	ent list 1 ribe why a	2 and give ex	3 amples:	4	5	6	Very useful

Observer Guide – Ranst field exercise, 13 May 2023



nr		cti	1	0
	u	CII	V	C
1	$(\bar{e}\bar{\hat{e}}_{0})$	(愛) (論)	(寧)	

39. Maps showing incidents

useful	1	2	3	4	5	6	Very useful							
Please des	lease describe why and give examples:													
40. CBF	RNe Inform	ation Libra	ry											
Not at all useful	1	2	3	4	5	6	Very useful							
Not at all useful Please des	1 cribe why a	2 and give ex	3 amples:	4	5	6	Very useful							
Not at all useful	1 cribe why a	2 and give ex	3 amples:	4	5	6	Very useful							

41. Based on today's experience, how many stars would you give the app, out of five? Please fill in each star that you are giving. (Five stars is the best rating).

42. Describe any new feature(s) you would like to see in the app to ensure its future uptake and market adoption:

Observer Guide - Ranst field exercise, 13 May 2023

Page 15 of 18





43. What information would you expect to find in the News section?

44. Provide any other comments about the app here:

Observer Guide - Ranst field exercise, 13 May 2023

Page 16 of 18





## 4. QUESTIONS ON ETHICS

45. How did the first responders manage to balance the duty of care to victims and the personal wellbeing of the victims (e.g., during triage, decontamination, etc.)?

46. Based on what I observed in this exercise, what role should ethics have in CBRNe SOPs. (You can also include suggestions about ethics in CBRNe SOPs beyond the context of this particular exercise):

47. What recommendations do you have to improve the ethical dimension of the response actions regarding vulnerable groups:

48. Do you have any further observations about ethics you'd like to share with us?

Observer Guide - Ranst field exercise, 13 May 2023

Page 17 of 18





## 5. QUESTIONS ABOUT THE ORGANISATION OF THE EVENT

- 49. Please provide any suggestions on how we might improve the organisation of your participation as an observer in a similar exercise in the future:
- 50. Please provide any additional notes or comments about your experience observing this exercise, especially regarding organisational aspects:

Observer Guide - Ranst field exercise, 13 May 2023

Page 18 of 18



## **APPENDIX 11: PROACTIVE PRE-INCIDENT INFORMATION MATERIAL**

Agency



funding from the European agreement no. 832981



## Pre-Incident Public Information Materials for CBRNe Incidents

The information in this document outlines the steps you can take to protect yourself in the initial stages of an incident involving the release of a hazardous substance. Emergency responders refer to these as CBRNe incidents - where the letters stand for Chemical, Biological, Radiological, Nuclear, or explosive (CBRNe). The incident described in the following scenario is an example of this type of incident:

Mid-morning, you and other passengers, are awaiting to board a train at a Railway Station when there is a loud noise from up the railway track followed by a cloud of gas which drifts onto the platform. The passengers show signs of irritation, such as coughing, breathing difficulties, and streaming eyes.

In this example, a hazardous substance may have been released, and is causing symptoms in the passengers. The information on the following pages outlines steps you can take in this scenario.

Please note: The yellow splodges in the following images represent a hazardous substance and indicate danger. In reality, some harmful substances may not be visible.

Pre-Incident Information v8, 01/04/2023

Page 1 of 6



UK Health Security

Agency



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981





If you think you have been exposed to a potentially harmful substance, whether you can see it or not, **move away from the hazard as soon as possible** to prevent any further contact with the substance. Get fresh air if possible – this can help with any symptoms you are experiencing.

While you should move away from the hazard, you should remain in the general area as emergency responders will soon arrive to help you. While you are waiting you should avoid doing the following things:



1. Do not eat, drink, smoke or touch your face to avoid swallowing any potentially harmful substance.

Pre-Incident Information v8, 01/04/2023

Page 2 of 6



UK Health Security Agency



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981





2. **Remove your outer clothing.** This will help to remove any harmful substances. Remember that not all harmful substances will be visible, so you should remove your outer clothing even if you think there isn't any substance on you. When removing your outer clothing **try to avoid pulling any clothes over your head.** If this is not possible, try to avoid clothing touching your face whilst removing over your head.



3. If any of your skin has the potentially harmful substance on it, use a dry tissue or similar absorbent materials to either soak it up or brush it off. This will help to remove the substance from your skin. If your skin is itchy or burning, then rinse the affected area continually with as much freshwater as possible.

Pre-Incident Information v8, 01/04/2023

Page 3 of 6



Agency



This project has received funding from the European agreement no. 832981





4. Avoid coming into contact with other people, where possible, to prevent spreading any substance.



5. Minimise contact with your surroundings. Not all hazards are visible.

Pre-Incident Information v8, 01/04/2023

Page 4 of 6



UK Health Security Agency



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981





6. When first responders or authorities arrive, make sure you listen to any instructions they give you. Tell them if you have a vulnerability which may impact your ability to complete the instruction. Responders will also provide specialised assistance to vulnerable individuals.



7. Emergency responders or authorities may also ask you to **remove your clothing to your underwear and then wash yourself all over** in a shower system that they will set up.

Pre-Incident Information v8, 01/04/2023

Page 5 of 6



UK Health Security Agency



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981





8. You should not put your old clothes back on after removing the substance from yourself. Emergency responders will help to provide you with clean clothing.

To protect yourself in a CBRNe incident, remember to:

- > Move away from the hazard as soon as possible
- > Do not eat, drink, smoke or touch your face
- > Remove your outer clothing, try to avoid pulling any clothes over your head
- Use a dry tissue or similar absorbent materials to either soak up or brush off the hazardous substance
- Continuously rinse your skin with water if you have symptoms of itching or burning
- > Avoid coming into contact with other people
- > Minimise contact with your surroundings
- Make sure you listen to instructions from emergency responders. Tell them if you have a vulnerability which may impact your ability to complete the instruction.
- Remove your clothing to your underwear and then wash yourself all over in the shower system set up by emergency responders
- > Do not put your old clothes back on after removing them

Pre-Incident Information v8, 01/04/2023

Page 6 of 6



# **APPENDIX 12: EXERCISE TIMELINE**

	Ethical related actions and Data	Ethics External	Health & Safety and Risk	Child Velfare	Insuran	Procurement &	Transport and	Registration	Site Co-ordination	Food/Assistance	Clothing and	Head of	Interpretation	Media	PR	App Direction	App Technical	Evalation and	Manager Focus	Focus Group	Observer Liaison	Observer Liaison	Observer Liaison C	Observer Liaison	¥olunteer
Responsibl	Protection M. Burgos	Auvisor	Coordination N. Hale	L. Callug	D. Kelly	P-E. Johannson	H. Tobergte	Ă. Burlin	T. Godwin	D. Kelly	F. Ibsen (Changing	L. Petersen	CV	L. Petersen	CV	G. Markarian	Z. Tomesic	D. Veston	D. Veston	Leaders	G. Havarneanu	Ă. Burlin	L. Peterson	M. Burgos	Ă.Burlin
e Partners	CV representative		CV representative	L.Gielen		D. Kelly	A. Gavel CV	B. Carbon A. Arnold		CV representative	Area) H. Tobergte	S. Deman	representative	R. Bundy (APP notifications)	video/media team		R. Bundy (APP notifications)	R. Amlot C. Symons			L. Petersen				Sven BuPont
							representative	C+ representative			(Exercise Area)							H. Cater							
																		CV representative							
ezercise											Prior to	o ezercise week													
	Final version consent forms				Check		Identify transportation routes and vehicles					Check final media & dissemination plan		Check final media ( plan vit)	k dissemination h CV	Launch App fr	or final testing				Send out reminder of registration deadline				Send out reminder of registration deadline
												Arrange pre-exercise		Arrange pre-exerc	ise briefing of	Official Jaunch of An	n GB oode/APP VS				Form, Information				Send out briefing
												online	-	videoteam	n online						Sheet and Observer				material
3. Mag								Deadline registration of volunteers													observers incl.				
5. Mag																					ADD doesile	APP VS	and pre-exercise briefing	online	
Attencop											9. Check availability of spare	. May/Tue			1										
			0		_						clothes 10	. Mag/Wed					I								
All day			assessment; check weather forcast and	assessment; check		Check			Prepare signage logos	Check catering with CV (menus, set-up, etc.)				Create interview											
			exchange with CV	to exercise	-	Buy missing stuff								,	-										
and the second											Procure spare-clothes	. Mag/Thu													
All day			Print out Accident Book				Check transportation details are still valid		Print out Toilet Signs, PROACTIVE logos,									Print out surveys, guides etc.			Send out final reminder of				
							check list (observer/volunteers)	Pack registration equipment			Property equipment for transport to CV														
A A COLUMN	Final check of signed										12	2. Mag/Fri													
Morning	consent forms Print out spare consent								Final oheok			-													
	orms Prepare folder for EEAB		Final Risk Assessment Planning at Training	Final pre-exercise assessment of risks		Transport procurements to CV		Transport registration	requirement of additional	Final pre-exercise check catering with CV	Transport equipment to CV					Final pre-exercise App check	Final pre-exercise IT Check of App at				Acciet with transm	extation of PPDACT	Æ nationen and quarter to	hotal Antuan	
	observer		Area with CV	for children				equipment to CV	demarcations with CV								Training Area				Assist with transp	Set-up observer	(briefing) room	noter Antwerp	Final mail reminder of transportation details
Afternoon								Set-up registration			Prepare locker rooms														
							Check successful	Final check set-up				-													
Evening							arrival of observers &	registration with CV													Es	coort observers & VIPs	to Meet & Greet location	1	
											12	Man/Sat	1									Observer M	eet & Greet		
7.00 am																									
7.15 am				Concentra			Supervise		T HINGING OF	Breakfast for First Responders															Constanting
7.20.5m	Prepare consent form table at check-in area		Final Risk Assessment Check on site	transportation of children		Check all procurements have	transportation of observer to train	Commissioning of check-in area	demarcation and signage activities at												Supe	rvise transportation of	observer to train station l	Lier	transportation of
1.00 am				on a ch		placing of procurements in	station Lier	Check-in of PROACTIVE partners	NPC		Prepare Changing Booms	1			Taking pictures/videos	Set-up IT support	Set-up IT support	Meeting	Prepare volunteer	Meeting					- on and the
7.45 am						PROACTIVE activity locations		and third party facilitators			Briefing of first responders with CV			Set-up media desk; final check with PR	activities (videoteam):	desk	desk	Group Leaders	Briefing Rooms	Group Leaders					
8.00 am	Supervise Consent Forms during check-in						Observer shuttle pick- up train station Lier	Check-in of volunteers; demarcate		Breakfast volunteers	Supervise hand-out bags for valuables; store		Support registration	Facilitators; preparing live tweets etc.	approving live media and	Final check of App	Final check of App	Final exercise walk-			Su	pervise observer shuttl	e pick-up train station Lie	ı	Supervise check-in of volunteers and
8.15 am							transportation to CV	consent form if nec. Check-in of			rooms; hand out wrist	-	process		dissemination activities (PR			and dyn or evaluators				Supervise transportati	on of observers to CV		breakfast Supervise briefing of
8.30 am 8.45 am		handling of		Supervise safety of children				PROACTIVE		Breakfast observers			Support pre-exercise	-	NBCJ	Technical Support	Management IT		Supervise pre-	Conduct pre-exercise	Manage arrival bus vi	in; breakfast; ha	rs at U #; redirecting to ce nd-out lunch bag	neck-in area; check-	volunteers Support pre-exercise
9.00 am		Contractory											surveys in Briefing Rooms			recimical support	support desk		exercise surveys in Briefing Rooms	survey with volunteers in Briefing	9	upervise welcome and	safety briefing observers		survey with volunteers
9.15 am																				Conduct pre-info with half volunteer group		Escort observers	to Observer Area		Exercise Area (1st group 2nd group)
9.30 am	Supervise ethical	Supervise ethical		Supervise safety of							Sta Supervise handling of	rt of exercise Supervise all	Support evaluators	Supervise pictures,	Take media	Managa Arr. on	tifications and IT	Fushista	Set-up focus group	Set-up facus group		Superviso	obseniers		2 (ap, and group)
1.00 pm	handling of volunteers	handling of		children							property from outside the En	communication d of exercise	and media team	videos, live tweets	material	Manage App no	oncadoris and T	Evaluate	rooms	rooms		adpervise	observers		
1.15 pm 1.30 pm 1.45 pm										Supervise lunch preperations for	Manage re-dressing in locker rooms/collect and		see Foous Grown			Participate in observer debrief	Participate in observer debrief	oupport Hocus Group Leaders if neccessaruiPossible	Supervise Forum	6 Focus Group Booms/	R. Amlot: Perform observer debrief	Support with	observer debrief if necces	ssary; lunch	oupervise change into spare-private- clothes/
2.00 pm 2.15 pm	Supervise ethical handling of volunteers in	Supervise ethical handling of		Supervise safety of children during re-						volunteers in focus group rooms	hand out used clothes	-	Leaders					participate in first responders hot	Group Leaders	Conduct post- exercise survey		Supervise re	freshments		Support escort of volunteers to Focus
2.30 pm	post-exercise phase	exercise phase		dressing process						Refreshments for			<u> </u>		Arrange follow-			debrief among evaluators	among evaluators	Focus Groups among evaluators					Group Rooms; lunch
2.45 pm										everyone		PR activities with PR facilitators		PR activities with PF facilitators	up PR activities with			and Focus Group	and Focus Group	and Focus Group					
3.00 pm												revenerura	Support in leaving of guests/farevells	ravanavor3	PROACTIVE							Support i	nitiate leaving of guests/f	arvells	
2.20.007						Start clean-up and	Organise	Manage check-out of	Unhang demarcation					-								Supanira okaok	d transportion to k-t-1		Supervise check-out
4.00 pm					-	packing of Pick-up	transportation of Organise	guests	and signs													Supervise oneox-Out at	a a waspondon to noter		and leaving
4.15 pm						procurements	transportation of						1												
																					Opt	tional PROACTIVE me	ets for social dinner in Lie	rr (	



# **APPENDIX 13: H&S RISK REGISTER SUMMARY TABLE**

PROACTIVE Campous Vetsa Health and Safety Risk Register

#### Pre-amble ref the Health and Safety Risk Assessment 1.Exercise will simulate the effects on a group of people, of a chemical incident in a meeting hall

2. The exercise is to be under the control of Campus Vesta but CBRNE Ltd and UMEU will control volunteers at times and PROACTIVE attendees.

3. The exercise will take place at Campus Vetsa's siete in Ranst..

4. Those involved will be - PROACTIVE members, emergency/defence/security staff / trainees and eNotice staff, Vulnerable Volunteers), Translators, guests and EU representatives. Volunteers will be adults and children (>14 years old). Some may have impairments not divulged.

 The volunteers will gather at the site on exercise day and will be directed to a reception area where they will be briefed before transferring to the exercise area.
 All of the volunteers will be provided with a H&S briefing before the exercise.

7. Volunteers will be evacuated following a simulated chemical incident.

8. Volunteers will be decontaminated with cold water.

9. Volunteers will be de-briefed in Flemish.

10. The whole exercise will be under constant surveillance by Directing Staff from PROACTIVE and Campus  $\mathsf{Vesta}/$ 

11. The number of volunteers involved at each stage has been minimised to that consistent with the exercises goals.

12. First aid will be available on-site

PROACTIVE Campus Vetsa Health and Safety Risk Register



PROACTIVE Campous Vetsa Health and Safety Risk Register

No.	Hazard / Event Type	Exposed Persons	Commentary	ι ι	Jnmitigate	d	Existing Mitigation in plans	Further mitigation measures to be	Mi	itigated Ri	sk	Status
				Prob	Impact	Risk		considered	Prob	Impact	Risk	1
	Notes for all Hazards.		All PROACTIVE staff are responsible for ensuring the health and safety of themselves and others as far as is reasonably practicable. We (PROACTIVE) DO NOT ABDICATE RESPOSIBILITY.				1 Final site inspection immediately before exercise. 2. H&S attendance at exercise areas 3. Volunteers will be supervised at all times, either by CV or by PROACTIVE. 4. Responders are first aid trained and emergency services are immediately available.					
1	Slips, trips and falls within the exercise site.	All	Initial site visit has already taken place. The site is enclosed and is generally flat and easily accessible.	Low	Medium	Low	1. Sturdy footwear other than after decontamination.     2. Rubber shoes in re-robe packs     3 Bus transfer to avoid walking in open site area.     4. First aiders will be available from CV     5. Access routes etc have been agreed.		Low	Low	Low	Closed
2	Crushing during exit from areas?	All	e.g. as a result of a real emergency within the exercise area. There could be a significant number of people present (CV Staff + volunteers + eNolice+ PROACTIVE + External guests +EC).	Low	High	Medium	<ol> <li>Site and proposed facilities are generally open with easy access and agress.</li> <li>Exit routes to be identified to all at site briefing on exercise day.</li> <li>Rendevous points on site already identified and will be briefed to all.</li> </ol>		Low	Medium	Low	Closed
3	Rough surfaces on Site	Volunteers	Volunteers may have to undress in or walk in areas where surface is rough or has surface rubble / dirt - injury to feet once undressed might be an issue.	Low	Low	Low	<ol> <li>Areeas are generall flat and well prepared.</li> <li>Transport on site will be provided by CV and PROACTIVE.</li> <li>Overshoes will provided if necessary.</li> </ol>		Low	Low	Low	Closed
4	Vehicle / Person collision in exercise area	All	Traffic within site area is limited (it is an enclosed site) but emergency vehicles will be present and possibly moving.	Low	High	Medium	1 Site is enclosed and only authorised vehicles should be present. 2. High Viz jackets for PROACTIVE staff on-site 3. Escorts identified. 4. Traffic routes identified.		Low	High	Medium	Open - keep under review
5	Injury during decontamination (cold water?)	Volunteers	<ol> <li>People will be cold water decontaminated in a temporary 'decon unit' (to be determined by CV planners and controllers).</li> <li>vulnerable (adult and chilren) may be at higher risk from cold water than others.</li> <li>Weather forecast is for warm dry weather.</li> <li>Aready identified as an issue by CV and is in their minds.</li> </ol>	Low	Medium	Low	<ol> <li>Responders are trained in decontamination</li> <li>Standard process for FR.</li> <li>All volunteers to be briefed how they can indicate real need to help.</li> <li>Re-robe packs available if needed.</li> </ol>	1. Weather forecast check immediately prior to exercise.	Low	Low	Low	Open - keep under review
6	Injury during decontamination (water?)	Wet surfaces might be slippery	Wet surfaces in the decon area may become slippery. Arrangements for decon not confirmed yet	Low	Medium	Low	1. For CV to supervise. Not an unusual isue for them.		Low	Medium	Low	Closed
7	Dehydration, hunger etc	Volunteers and Mentors and Directing Staff	<ol> <li>Exercise day weather is likely to be mild.</li> </ol>	Low	Low	Low	<ol> <li>Welfare arrangements will be provided</li> <li>All players to be briefed how they can indicate real need to help - to be confirmed in joining note and at briefing on the day.</li> <li>Refreshments are to be provided by caterers on site and PROACTIVE will have drinking water available</li> </ol>		Low	Low	Low	Closed
8	Fire / other external incident	All	A fire could lead to a real emergency and need for evacuation	Low	High	Medium	1. Emergency evacuation and fire arrangements are not adversely impacted by the exercise scenario 2. Fire Fighters are present for the exercise. 3. Players can be alerted to a real emergency by controllers and Umpires. 4. END EX will be called. 5. Emergency services already in attendance and near by 6. No significant fire sources or loadings will be introduced by PROACTIVE		Low	Low	Low	Closed
9	Electrocution (tools, laptops etc)	Office users	No high powered tools or equipment are evisaged from CBRNE Ltd or PRACTICE partners (only laptops, cameras and the like).	Low	Low	Low	Individual organisations responsible for ensuring suitability of equipment supplied to their staff.     Site visit did not identify other electrical hazards.	1. Random inspection of laptops etc on the day. (Done)	Low	Low	Low	Closed

PROACTIVE Campus Vetsa Health and Safety Risk Register



#### PROACTIVE Campous Vetsa Health and Safety Risk Register

10	Sunburn/ hypothermia	Volunteers and Mentors and Directing Staff	Decon volunteers may be standing around outside for a while (hopefullu mostly clothed) until after decon. Weather forcast is for sunshine.	Low	Medium	Low	1. Disrobe packs/clothing will provide some protection     2. Volunteers will only be 'undressed' for short periods,     initial changing into swimwear (if needed) will be indoors.     3. First aiders present.     4. PROACTIVE have a supply of sun-cream.	Low	Low	Low	Closed
11	Real injury / emergency	All	Not likely in such a small group but a possibility - age mix and abilities might be wide	Low	High	Medium	Supervisors and directors will be specifically looking out for things diverting from the plan and they will know who the fake casualties will be: 2. All attendees to be briefed how they can indicate real need to help - to be confirmed in joining note and at briefing on the day. 3. Emergency services are present / adjacent	Low	Medium	Low	Closed
12	Inadequate assessment of the H&S needs of vulnerable persons	Vulnerable people	This group must be considered to be at a potentially greater risk than others	Low	High	Medium	1 Needs of vulnerable groups will have been discussed with volunteer representatives prior to the exercise (NH and AB). 2. Rest and recovery areas to aviilable at the Site	Low	High	Medium	Keep under review
13	Manual Handling Injury	PROACTIVETeam	<ol> <li>PROACTIVE team will be resposible for the handling and movement of volunteers belongings. These are unlikely to be significantly heavy items but they may be bulky, difficult to handle and numerous.</li> </ol>	Low	Medium	Low	1. Volunteers to be pre-warned to minimise the number of items they bring with them 2. Those handling items to be fit and suitable to the task. 3. Area is generally flat and well surfaced. 4. Items will be moved in small numbers (1 or 2) and only short distances. 5. 1. Staff briefed about taking care when handling items.	Low	Low	Low	Closed
14	Psychological distress caused by the exercise or by the CV actors sumilating illness.	All	It is possible that even though the exercise is a simulated incident that our volunteers may find is stressful and that they may need psychological support.	Low	Medium	Low	Parents and first aiders and carers will be present.     All to be briefed how they can indicate real need to help -     to be confirmed in joining note and at briefing on the day.	Low	Medium	Low	Keep under review
15	Welfare facilities (toilets, rest areas, worship areas etc) unknown	All	Need to identify and address welfare needs of the	Low	Medium	Low	Suitability of facilities confirmed (suitable for children, those with mobility problems etc)	Low	Medium	Low	Keep under
16	Allergies from food / soap / materials	All	Potential for allergic reactions to food and/or cleaning products used by CV during decon and/or clothing provided.	Low	High	Medium	1. CV to use water only 2. Extenal caterers	Low	Medium	Low	Closed
17	Volunteers' need for medications etc.	Volunteers	Possible deprivation of access to personal medications.	Low	Medium	Low	Volunteers will only be separated from their personal belongings in the period between undressing and re-robing.     Their belongings will be close to them during this period and easily accessible.	Low	Medium	Low	Closed
18	Rest and quiet child friendly areas required for welfare of children	Child volunteers	Rest, recovery and separation areas are provided. Parents are present for children.	Low	Medium	Low		Low	Medium	Low	Closed
19	Ethic breaches	Child volunteers	There are special ethical issues associated with working withsafeguarding children	Low	High	Medium	Ethics review are ongoing and are an intimate part of our planning.	Low	Medium	Low	Closed

PROACTIVE Campus Vetsa Health and Safety Risk Register



## **APPENDIX 14: COMMUNICATION AND DISSEMINATION PLAN**



## 1. INTRODUCTION

This document presents the communication, dissemination and media plan for the joint activity field exercise from the PROACTIVE project side.

## 2. ETHICAL & LEGAL ISSUES - CONSENT

Consent will be obtained for all communication & dissemination activities as per the ethical rules of project PROACTIVE. Participants need to give their free and Informed Consent according to the best ethical practices and in compliance with the requirements of the GDPR. To comply with Article 13 of GDPR, consent forms including all the necessary information regarding the processing of their data will be produced. Participants also need to give Informed Consent regarding their expectations of the exercise, e.g. consent to take part, consent to undergo filming, etc.

Along these lines, all persons who partake in the exercise will be required to give specific, explicit and informed consent for communication & dissemination purposes besides consenting data processing for research and logistic purposes (see the Information sheet and Consent Form). All filming and photography will be done following the rules of the General Data Protection Framework of the EU. To ensure this, informed consent also details how dissemination data will be used after the exercises, allow to opt-out this processing without preventing participants from taking part in the process, and be available in local languages.

First responders who are exercise players belonging to Campus Vesta will not provide consent and their data will be processed under the legitimate interest of the parties due to Campus Vesta's internal rules and requirements.

If people present who have a vulnerability preventing them from giving their Informed Consent in written form (for example, a visual disability), the consortium will have to find alternative methods enabling these people to give consent. For example, if individuals with a visual impairment take part in field exercises, they could be provided with the necessary information and give their Informed Consent orally (Recorded Audio Consent).

Moreover, research will be conducted following international standards and requirements for research with human subjects. In particular, the Nuremberg Code (1947), the Declaration of Helsinki (1964), and The Belmont Report (1979) will be observed. The Nuremberg Code underlined the need for guaranteeing and respecting the voluntary nature of human participation in research and pointed out the requirement of establishing mechanisms for Informed Consent, also ensuring people involved in research can withdraw from it at any time. Following the Code, researchers must ensure the welfare and protect the interests of participants. With this aim in mind, researchers must establish in advance mitigation measures for addressing any risk of harm for them.

Lastly, PROACTIVE researchers role in data management and ethics monitoring of human participants in the exercise will follow the four key ethical principles for responsible research established by the Belmont Report:

Ranst Field Exercise Communication & Dissemination Plan

Page 5 of 9





- Respect for people: research subjects must be treated so as to protect their safety, respect their autonomy and ensure their consent on an informed basis;
- Beneficence: possible benefits for the participants will be maximised while possible harm or risk will be minimised;
- Justice: any benefits and burdens derived from research must be balanced;
- Competence: the limitations and boundaries of the researchers' competence must be recognised and made explicit.

### 3. AUDIENCE

### 3.1. General Public

One intended audience for the dissemination of the exercise is the general public. This is to help educate them about the realities of a CBRNe incident, to inform them about correct behaviours, and overall increase preparedness.

### 3.2. Practitioners

One intended audience for the dissemination of the exercise is other CBRNe practitioners. The dissemination materials from the exercise will allow them to extract lessons learned from including the general public and vulnerable citizens in a field exercise.

#### 3.3. European Commission & other policy makers

Another intended audience for the dissemination material is to demonstrate the success of the PROACTIVE project in meeting its goals. Further, PROACTIVE hopes to impact policy making so that CBRNe SOPs are harmonized and better take into account the needs of vulnerable groups.

## 4. MESSAGES NOT TO BE SHARED

Messages that should not be shared on social media before and during the exercise are preestablished here.

Before the event:

- No information will be shared directly with the media (e.g., press releases)
- To avoid the Campus Vesta students from learning too much about the exercise in advance, PROACTIVE must not:

Ranst Field Exercise Communication & Dissemination Plan

Page 6 of 9



# pr**eactive**

- o Share scenario generalities (e.g., that there will be decon, or attack modus operandi)
- o SOPs
- Tag Campus Vesta (but we are asked to please mention them)
- Furthermore, since the volunteer recruitment is being handled by Campus Vesta, PROACTIVE digital media channels will not be used for this purpose.

During the event:

- Avoid sharing the SOP
- Generalities about the event are ok (e.g., now the decontamination process has started), but avoid specifics!

Lastly, Campus Vesta has instructed us to not say "hosted by" but rather "organised," i.e., "3rd and Final PROACTIVE exercise organized, by Campus Vesta."

## 5. PROACTIVE TOOLS

### 5.1. Photography and videography for dissemination purposes

At the request of Campus Vesta, PROACTIVE will make use of the same videography/photography company as the eNOTICE project, so as to limit the number of persons on site during the exercise. Campus Vesta agrees to the use of a drone, pending that the media company obtain all related permits (the site being next to an airport).

PROACTIVE & Campus Vesta agree that photography and videography will be limited to the professional crew and the PROACTIVE research team.

### 5.1.1. Dissemination videos

PROACTIVE will create a documentary of the event. This video will serve for the promotion of the exercise and the project. This video will only be shared post-exercise.

This video will be closed captioned at least in English and Dutch/Flemish.

The following constraints will be applied:

- Campus Vesta will give a briefing to the media team ahead of the exercise;
- Filming and photography will take place from respectable distance of the exercise play and a Campus Vesta staff member will most likely accompany the media team;
- In the public edited photos and videos, the following element should NOT appear:

Ranst Field Exercise Communication & Dissemination Plan

Page 7 of 9



# pr**eactive**

- The volunteers' naked bodies during sensitive processes as part of the exercise (e.g., undressing process, decontamination process, etc.)
- o Keep first responders as unrecognisable as possible:
  - Film from the back
  - Film from a distance
  - Blur faces where necessary
- Police that do not want to be filmed will wear a red armband
- Photos/videos will go through a strict ethical screening from the PROACTIVE project.
- The PROACTIVE project will also ensure that the video reflects the project's goals and objectives.
- · Campus Vesta will need to approval of the finalized video and photographs as well.

## 5.1.2. Dissemination photography

The edited photographs will be put online on the PROACTIVE website and also used for further dissemination of the project (e.g., on social media, in presentations)

## 5.2. Photography and Videography for research purposes

PROACTIVE will use static, standing cameras & go-pros to film for research purposes.

Consortium partners will use mobile devices (smartphones) for further observational coding of the event (both videos and photos). Only six observers will be allowed to code the live exercise, therefore filming and photography of the exercise will allow for the inclusion of further research codes and help ensure all necessary objectives are measured.

## 5.3. Photography and Videography by Campus Vesta

Campus Vesta has their own media team and eNOTICE project will also have a media team onsite.

## 6. PROACTIVE CHANNELS

## 6.1. Social Media

PROACTIVE has social media accounts on Twitter and LinkedIn and Youtube will show all communication & dissemination materials on these sites (photos, short descriptions of what is happening, etc.).

Ranst Field Exercise Communication & Dissemination Plan

Page 8 of 9





With agreement from Campus Vesta, PROACTIVE will live-tweet the exercise, with a 5 - 10 minute delay as to what is happening on the ground. However, Campus Vesta has imposed that no photos be shared in the live tweet. Campus Vesta should be mentioned in the live tweet.

## 6.2. Press Release

PROACTIVE & eNOTICE/Campus Vesta will have separate press releases. Campus Vesta will approve the PROACTIVE Press Release before it is sent to the media. Press Releases from UIC are translated into three languages: English, French & German. Will be on the PROACTIVE website.

## 6.3. UIC eNews

PROACTIVE will take advantage of the UIC eNews platform to publish a summary of the exercise after the event. This eNews will be the same text as the Press Release and will be published only in English.

## 6.4. PROACTIVE website

The PROACTIVE website has active links to the PROACTIVE Twitter account and the UIC eNews articles are directly published on the website. There is also the possibility to blog. The photographs from the exercise will be published as a photo blog.

## 6.5. Scientific Publications

The outputs from the exercise, especially the research video, will be used to create scientific publications going beyond the project deliverables. This will be done in line with the general PROACTIVE dissemination plan. It is not foreseen to require approval from Campus Vesta for such publications.

## 6.6. Conferences and Expos

The videos/photos from the exercise will be showcased as part of promotional materials of PROACTIVE at various conferences/expos, as per the general PROACTIVE dissemination plan. It is not foreseen to require approval from Campus Vesta for such publications.

## 6.7. 3<sup>rd</sup> Party Journalists

Campus Vesta will invite journalists / media they are familiar with.

Ranst Field Exercise Communication & Dissemination Plan

Page 9 of 9



## **APPENDIX 15: INTERVIEW MANAGEMENT PLAN**

Role	Name	Back-up	Interview Questions
Campus Vesta Exercise Director	TBC (Campus Vesta is checking)	TBC	<ol> <li>Could you please describe the scenario A (the one with PROACTIVE) that Campus Vesta is training?</li> <li>What were the steps involved?</li> <li>Why are such trainings important?</li> <li>What is the added value of including the public at large as role play victims?</li> <li>What are the key takeaways from the training?</li> </ol>
Fire OR Ambulance OR Police Responder who interacted with the civil society volunteers	TBC (Campus Vesta is checking)		<ol> <li>How different was this exercise compared to previous exercises?</li> <li>What are the challenges and benefits of having civilian volunteers?</li> <li>Do you feel better prepared now to manage vulnerable groups?</li> </ol>
PROACTIVE Project Coordinator	Grigore Haxâmeanu		<ol> <li>Partnership with eNOTICE &amp; cumulation of 5 years of hard work (and the main scope of PROACTIVE)</li> <li>Concludes a long-term cooperation.</li> </ol>
PROACTIVE VIP	Project Officer (TBC)	DG Home (TBC)	<ol> <li>What was your overall impression of the exercise?</li> <li>How different was it compared to exercises without civilian volunteers (especially considering volunteers with vulnerabilities)?</li> <li>What is the value for the EU and policy makers to directly involve citizens in security research?</li> <li>Based on what you've seen in the exercise, do you believe PROACTIVE is helping to make societies more resilience and better fight crime?</li> </ol>
PROACTIVE Dissemination Manager	Laura Petersen		<ol> <li>Added value for societal resilience, CBRNe P&amp;R more inclusive</li> <li>Synergies we've developed</li> </ol>
PROACTIVE Pre-Incident Information Materials	Richard <u>Amlột</u> (UKHSA)		<ol> <li>Please describe the Pre-Info Mats</li> <li>Please describe the co-creation method</li> <li>How were the materials used in the exercise?</li> <li>What is the added value to society of these materials/PROACTIVE outputs?</li> </ol>
PROACTIVE Exercise Director	Daniel Strömberg	Åsa Burlin	<ol> <li>Explain the PROACTIVE ETHOS, why it's important to bring vulnerable persons to role play victims during training <u>exercises</u></li> <li>How many volunteers we had with us</li> </ol>
PROACTIVE Ethics	Leanne Cochrane (TBC)	Marina <u>Andeva</u> (TBC)	<ol> <li>What place should ethics have in CBRNe preparedness and response?</li> <li>What are the ethical dilemmas that practitioners face when managing vulnerable populations during such incidents?</li> <li>How does PROACTIVE help responders perform their duties in an ethical manner?</li> </ol>
PROACTIVE Advisory Board	Pascal De <u>Rooze</u> (TBC)		<ol> <li>What was your overall impression of the exercise?</li> <li>How different was it compared to exercises without civilian volunteers (especially considering volunteers with vulnerabilities)?</li> </ol>



			3.	What were some good practice examples you saw in the exercise that would be useful for your own organisation?
PROACTIVE Practitioner Partner	Pawel Zawadka (Polish National Police)		1. 2. 3.	What was your overall impression of the exercise? How different was it compared to exercises without civilian volunteers (especially considering volunteers with vulnerabilities)? What were some good practice examples you saw in the exercise that would be useful for your own organisation?
PROACTIVE Observer (Civil society)	Johan (Flemish Disability) (TBC) OR Filip <u>Verstaete</u> (Deaf Flanders) (TBC)	Mikaela Wikström (Save the Children Sweden) (TBC)	1. 2. 3. 4. 5.	What was your overall impression of the exercise? Do you feel better prepared for a CBRNe incident? How effective were the first responders in managing the affected persons (volunteers), esp. re: persons w/vulnerabilities? Why is it important to include [persons with disabilities, persons who are deaf OR children] in training exercises? What are your impressions of the Info Mats?
(Vulnerable) volunteer who has been given the Pre-Info Mats	To see on the day if any agree	To see on the day if any agree	1. 2. <b>3.</b> 4.	What was it like to partake in a disaster exercise as a role play victim? What was your impression of the first responders? <b>What was your impression of the PROACTIVE Pre-</b> <b>Incident Info?</b> Do you feel better prepared for a CBRNe incident?



# **APPENDIX 16: CONSENT FORM VOLUNTEERS**



European Omon's Horizon 2020 research and innovation programme under grant agreement no. <u>832981</u>



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. EC-HORIZON2020-PR740521-eNOTICE.



# Participant information and consent form for the management of the Joint Activity of the EU projects eNOTICE and PROACTIVE organised by Campus Vesta in Ranst, Belgium in May 2023

The exercise is the annual exercise for the Post Graduate Disaster Management Course at Campus Vesta. It is also the third exercise for PROACTIVE and the closing activity of eNOTICE. In this exercise, PROACTIVE will **examine the behaviour of a group of the population** that unexpectedly comes into contact with a hazardous substance due to an accident and is therefore to be decontaminated. For this purpose, a fictitious but realistic scenario will be set up to simulate the accident and the release of the substance (Important: No real substances are used in the exercise and there is no risk of participants coming into contact with hazardous substances during the exercise.)

### 1) What is the eNOTICE project?

**eNOTICE** is a European (H2020) project (project funded by the European Commission n° 740521) in which Campus Vesta is participating as a consortium partner. The overall goal of the eNOTICE project<sup>1</sup> is to establish a European network of CBRN training, testing, and demonstration centers aiming at enhancing CBRN training capacity for improved preparedness and incident response through increased collaboration between CBRN training centers and practitioners' needs driven CBRN innovation and research.

### 2) What is the PROACTIVE project?

This study is funded by Project **PROACTIVE** (project funded by the European Commission No 832981). Project PROACTIVE aims to **improve how well-prepared you and emergency workers are in the case of an accident involving harmful materials**. PROACTIVE is especially interested in helping people who may have additional needs because of things like age, illnesses, disabilities or other characteristics.

For the purposes of processing data in this fieldwork activity the three organizations involved are acting as joint data controllers, that is PROACTIVE, eNOTICE and CAMPUS VESTA<sup>2</sup> (from now on, the "PROJECTS").

<sup>&</sup>lt;sup>1</sup> The privacy policy of the eNOTICE project can be consulted on https://www.h2020-enotice.eu/static/privacy\_policy.html You can contact olga.vybornova@uclouvain.be at any time if you no longer wish to receive any communication about the project.

<sup>&</sup>lt;sup>2</sup> According to the GDPR Art 26, a joint data controller relationship arises when two or more controllers jointly determine the purposes and means of processing. A Joint Data Processing Agreement has been signed between the three parties involved in the data processing.

27 JULY 202325 APRIL 2023



INFORMED CONSENT

### Why have I been invited to take part?

You have been invited because live in the area of Campus Vesta and are between 10 and 80 years old.

### Do I have to take part?

There is no obligation to take part. We would appreciate it if you will indeed take part in the exercise. You can ask questions about the exercise and evaluation before deciding whether or not to take part. If you do agree to take part, you may withdraw yourself at any time, with no consequences and without giving a reason by advising Marta Burgos (*marta@eticas.tech*) or Dr Irina Marsh (*irina.marsh@cbrneltd.com*) of your decision. All your personal data will be deleted from the project databases if you withdraw your participation.

Should you for whatever reason, not be able to attend the exercise on May 13th. 2023, please inform Mr. Luc Calluy (0477 43 82 78) or Ms. Maaike Van de Vorst (0473 56 45 63).

### What will happen to me if I take part in the research?

The exercise will take place both indoors (the incident) and outdoors and within a secured and controlled area. It is based on a simulated accident according to the following description:

The scenario will be played out at a simulated celebration at a university. Members of the public will be invited and some may unintentionally come in contact with biological and/or chemical agents necessitating medical intervention. This simulation will mimic a case of food poisoning, as well as contamination with a chemical or a biological agent. However, **any agents used in the scenario will be completely harmless and safe for human contact**.

Please note that as there is a possibility of undergoing a decontamination shower during the exercise, you will be asked to wear a **swimming costume** underneath your clothes and you will have the opportunity to change into a fresh set of clothes after the exercise.

Please be advised that **photographs and video** will also be taken to record the exercise (see page 4 for further information). However, no photographs and/ or video will be taken whilst you are showering. Should you have any questions or concerns regarding this aspect of the study, you are welcome to contact us.

This exercise will be evaluated using a series of **surveys**, focus groups, and observations. If you take part in the evaluation, you will be asked to answer both written and verbal questions about your experiences of taking part in the field exercise. This will include filling out a pre-exercise survey before taking part in the exercise, a second survey immediately after the exercise, and participation in a focus group in which you will discuss your experiences of taking part in the exercise. During the exercise we will also have evaluators taking observational notes on certain behaviours. The exercise will also be video recorded for research purposes, this recording will only be seen by the exercise evaluation team, used to understand behaviours undertaken during the exercise, and will be deleted once data analysis has been completed.

Your participation in the exercise should take maximum approximately **8 hours (from 08:00 till 16:00)** interspersed with refreshments and including the briefing before and the debriefing after the exercise.

Page 2 of 8


#### INFORMED CONSENT

We ask you to sign the Consent Form. You may sign it ahead of time and email it to <u>PETERSEN@uic.org</u> or you may bring it with you on the day of the exercise. You may also sign it when you arrive at Campus Vesta on the 13<sup>th</sup> of May 2023.

#### Are there any potential risks in taking part?

There is the potential that an exercise involving a hypothetical chemical incident may be **distressing**. However, if at any point you feel distressed, you are free to withdraw from the exercise and/or evaluation without giving a reason. There are also risks associated with **breaches of confidentiality** (regarding your personal data), and physical risks associated with moving around the exercise area and being decontaminated.

To **reduce any potential risks**, we carry out detailed risk assessments and will provide protection and safety measures. For those who are vulnerable, we have also consulted advisory bodies. Furthermore, all your personal data collected for research purposes (i.e., pictures, names, audios, etc.) will be anonymised before publication or any dissemination outside the PROACTIVE and eNOTICE project consortiums. Only if you agree by signing this consent form, your pictures and videos will be used to publicly disseminate the PROACTIVE and eNOTICE projects online and offline (i.e. through brochures and presentations).

If you feel distressed after taking part in this evaluation, further support can be obtained by contacting Luc Calluy (0477 43 82 78) or Maaike Van de Vorst (0473 56 45 63).

#### Are there any benefits in taking part?

There will be no direct personal benefit to you from taking part. However, the information that you provide will help us to: a) **develop recommendations** to improve the management of incidents involving hazardous substances having the potential impact of helping victims of these incidents in the future; b) **develop scenarios** concerning incidents involving hazardous substances that can be used in future exercises.

#### Which personal data do we process?

As far as necessary within the scope of the eNOTICE-PROACTIVE joint activity in May 2023 organized by Campus Vesta, we collect and process your personal identification data in the following way:

Page 3 of 8

27 JULY 202325 APRIL 2023



#### INFORMED CONSENT

Video/Image	These data are collected	If you consent, data will be used to analyse your behaviour
s with your	for PROACTIVE,	during the exercise.
personal data	eNOTICE-Campus Vesta	We will be video recording the exercise and will be taking
	research purposes.	observational notes on certain behaviours. The video
		recording will be seen by the exercise evaluators to aid
		with data analysis. All observational notes are completely
		anonymous and only behaviours are noted. Research
		data will be <b>anonymised before publication</b> .
Video/Image	These data are collected	If you consent specifically your data will be used for
s with your	for PROACTIVE,	dissemination purposes and publicise the project
personal data	eNOTICE-Campus Vesta	results online. These will be conducted by a film crew.
	dissemination	Photographs, video and audio recordings will undergo a
	purposes.	strict screening process to comply with the dignity of all
		participants before being shared publicly.
Name,	These data are collected	If you consent, these data will be used to organise the
signature,	for <b>research and</b>	exercise. These data will not be released outside the
email	logistic purposes.	projects and will be deleted after the established retention
		period.

# Campus Vesta-eNOTICE-PROACTIVE will take measures to limit the collection of personal information to what is directly relevant and necessary to accomplish the above purposes and collect personal data covered by this document only.

Survey responses before and after the exercise, focus group discussion recordings, observational notes made by researchers during the exercise, and video recordings of the exercises collected for observational analysis **will be collected and stored by UKHSA behavioural scientists for research purposes**. Surveys will be completely anonymous. You will be given a participant number for the exercise and this will be used to link your pre-exercise survey to your post-exercise survey. Transcripts will be made anonymous and any identifiable information (e.g., names) you say during these focus groups will be deleted. The information you provide during the evaluation will be anonymous and will be **stored securely by the UK Health Security Agency (UKHSA)**. Any identifiable information will be removed during transcription and the recordings of focus groups will be deleted once the focus groups have been transcribed. survey, focus group recordings/transcripts, and video recordings for observational analysis will be processed lawfully in compliance with GDPR and the Data Protection Act 2018. UKHSA will act as the data processor for the evaluation data collected, which will only be processed for research <u>purposes</u>.

#### Why and on which basis do we process your personal data?

Expressing interest in attending the eNOTICE-PROACTIVE joint activity, organized by Campus Vesta, referred to above, constitutes an **agreement**. On the basis thereof, we process your personal data for the purpose of event administration (including insurance) and follow-up, including the evaluation of the exercise and dissemination of project results. If you fail to provide the required data, you might not be able to attend the event at hand. As a project funded by the European Commission, sharing knowledge and engaging with stakeholders is part of the activities.

Moreover, the eNOTICE-PROACTIVE partners request your **explicit consent** to process your personal data.

Page 4 of 8

27 JULY 202325 APRIL 2023



INFORMED CONSENT

#### How do we collect your personal data?

We may collect information about you:

- directly from you, such as the information you provided to us when you registered to an event;
- from other sources, such as the person registering you for the visit or event, your peers.

Information provided (including consent forms) will be processed lawfully in compliance with the European GDPR and the Data Protection Act 2018. UKHSA will act as the data processor for the data collected and data will only be processed for research purposes.

#### Who has access to your personal data?

All joint data controllers will have access to your personal data. The dissemination videos and photographs will be made publicly available.

#### With whom do we share your personal data?

To fulfil the above purposes, PROACTIVE, Campus Vesta and eNOTICE will only share your personal data with third parties, if one of the following circumstances applies:

- if required for co-organising the event at hand;
- for meeting a legal obligation (e.g., ensuring access control to technical installations).

In case data sharing outside the purposes defined above is required to be conducted, the controllers will follow the above standards for data protection and will inform you as required by law.

The PROACTIVE, eNOTICE and Campus Vesta partners may transfer **your personal data to a third country** or international organization outside the European Economic Area (EEA). This will occur in the case of UKHSA and may happen in other exceptional cases (e.g., if required for a non-EEA coorganizer of an event) and the transfer will then be based on one of the following conditions as provided by law:

- an adequacy decision by the European Commission;
- appropriate safeguards to make sure that your data is protected;
- a derogation for specific situations.

The PROACTIVE, eNOTICE and Campus Vesta partners do not transfer your personal data to any online advertising service.

To receive information about the safeguards or for more details, please contact the PROACTIVE, eNOTICE, or Campus Vesta project coordinators or representatives (see below).

#### For how long will we store your data?

The PROACTIVE, eNOTICE and Campus Vesta partners retain your personal data for as long as it is relevant for its purposes and as legally required and **no more than 5 years** after the end of the PROACTIVE project. For certain processing activities, an explicit retention period applies. To receive more information on an explicit retention period, please contact us (see below).

The information you provide during the exercise will be stored securely by each data controller, including those located in third countries such as the UK Health Security Agency (UKHSA). In this case, any identifiable information will be removed during transcription and analysis of the focus groups and video recordings, including video and audio recordings of focus groups and the exercise.

#### What are your rights and how can you exercise them?

In accordance with the applicable legislation and within its limits, you may request:

- access to your personal data, and a copy;
- rectification of your data if they are not correct or incomplete;

Page 5 of 8



L

INFORMED CONSENT

# Informed consent form for participants of the Joint Activity organised by Campus Vesta in May 2023

In the framework of the eNOTICE-PROACTIVE Joint Activity, the eNOTICE-PROACTIVE project partners process your personal data in accordance with the EU General Data Protection Regulations and the UK Data Protection Act 2018. If we process your personal data, we will treat such data carefully in order to safeguard your privacy. In order to keep track of your consent regarding the use of your personal data for the management of PROACTIVE and eNOTICE events, we ask you to fill in this form.

Consent form statement		Please tick a box for each numbered statement	
			l disagree
1	I confirm that I have been given the chance to read and understand the information sheet for the above activity. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.		
2	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences or penalty.		
3	I understand that this project has been reviewed by, and received ethics clearance through, the UKHSA Research Ethics and Governance Group.		
4	I understand who <u>will have access to data</u> provided, how the data will be processed and stored and what will happen to the data at the end of the project.		
5	I understand how this research will be written up and published (i.e., including only anonymized data).		
6	I understand how to raise a concern or make a complaint.		
7	l agree to take part in the research activity.		
8	I understand that during focus groups, audio recording will take place. I give my permission for audio recordings to be taken of me during the focus group. I understand that the audio recordings will be used for this study alone and will be deleted once they have been transcribed.		

Page 7 of 8



#### INFORMED CONSENT

27 JULY 202325 APRIL 2023

9	I understand that video data will be recorded throughout the exercise for the purposes of analysing behavioural data. I understand that the research recordings will be used for this study alone and will be deleted once they have been analysed.	
10	I consent to having IP and password data collected for research purposes (only if/ when using the PROACTIVE app).	
11	I consent to being video and audio recorded – with the exception of the decontamination process– and having my photo taken for dissemination purposes.	
12	I acknowledge and accept the liability measures outlined herewith for compliance.	
13	l agree to take part in the exercise.	

Name of Participant

Date (dd/mm/yy) Signature

Name of person taking consent

Page 8 of 8



### **APPENDIX 17: CONSENT FORM OBSERVERS**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981



### PARTICIPANT INFORMATION AND CONSENT FORM FOR THE MANAGEMENT OF THE JOINT ACTIVITY OF THE EU PROJECTS ENOTICE AND PROACTIVE ORGANISED BY CAMPUS VESTA IN RANST BELGIUM, SATURDAY, MAY 13 2023

#### Background and aims of the activity.

This study is funded by Project PROACTIVE (project funded by the European Commission No 832981). Project PROACTIVE aims to **improve how well prepared you and emergency workers are in the case of an accident involving harmful materials**. We are especially interested in helping people who may have additional needs because of things like age, illnesses, disabilities or other characteristics. We are getting the information we need by having three exercises which we will evaluate by engaging with the public and the emergency services.

#### What is this exercise?

The exercise is the annual exercise for the Post Graduate Disaster Management Course at Campus Vesta. It is also the third exercise for PROACTIVE and the closing activity of eNOTICE. In this exercise, PROACTIVE will **examine the behaviour of a group of the population** that unexpectedly comes into contact with a hazardous substance and is therefore to be decontaminated. For this purpose, a fictitious but realistic scenario will be set up to simulate the release of the substance **(Important: No real substances are used in the exercise and there is no risk of participants coming into contact with hazardous substances during the exercise.)** 

#### Why have I been invited to take part?

You have been invited to take part as an Observer of the exercise since you are a member of the one of the PROACTIVE Advisory Boards.

#### Do I have to take part?

No. You will have the opportunity to ask questions via email before deciding whether or not to take part. If you do decide to take part, you may withdraw yourself at any time either prior to the exercise commencing, or at any part during the exercises, without giving a reason. The exercise will be video recorded; therefore, it will not be possible to withdraw information once it has been provided.

PROACTIVE - GA no. 832981

Page 1 of 7





#### What will happen during the exercise?

The exercise will take place both indoors (the incident) and outdoors and within a secured and controlled area. It is based on a **simulated incident** according to the following description:

The scenario will be played out at a simulated celebration at a university. Members of the public will be <u>invited</u> and some may unintentionally come in contact with biological and/or chemical agents necessitating medical intervention. This simulation will mimic a case of food poisoning, as well as contamination with a chemical or a biological agent. However, **any agents used in the scenario will be completely harmless and safe for human contact.** There follows a process in which the emergency services react to the event and the civilian volunteers role play their part as appropriate.

During the exercise, you, as an Observer, will observe the exercise from the observer's area, will use the PROACTIVE app, will fill in the Observer Guide and will partake in a hot debrief. Afterwards, the exercise day is scheduled to end.

When you arrive at the site of the exercise, the organisers will talk you through the exercise procedures and give you the chance to ask any questions.

Your participation in the exercise should take **approximately 8 hours**. You will be offered regular breaks. You can ask to withdraw from the exercise at any time.

#### Are there any potential risks in taking part?

The risks associated with you taking part are those associated with **breaches of confidentiality** (regarding your personal data).

**To reduce any potential risks**, we have carried out detailed risk assessments and have provided protection and safety measures. You will be advised in detail of all of these before the exercise. For those who are vulnerable, we have also consulted with advisory bodies.

Furthermore, all your personal data collected for dissemination purposes (i.e., pictures, names, etc.) **will be anonymised before publication** or any dissemination outside the PROACTIVE project consortium. Only your consent data will be kept during the stated retention period. Lastly, only if you agree, your pictures and videos will be used to disseminate the PROACTIVE project online.

#### Are there any benefits in taking part?

There will be no direct or personal benefit to you from taking part. However, by participating, you will help improve disaster management in Belgium and beyond. The participation of particularly vulnerable people helps to improve the inclusivity of response measures.

#### What happens to the information provided?

The research data you provide during the exercise will be only shared with members of the PROACTIVE project team, will be used to write the project reports and will be stored securely for 5 years after the end of the PROACTIVE project.

The consent forms will be stored for 5 years after the end of the PROACTIVE Project.

PROACTIVE - GA no. 832981

Page 2 of 7





#### Will I be photographed / filmed?

The organisers will video and audio record the exercise for research and dissemination purposes. Also, photographs will be taken during the exercise.

#### Will findings from the exercise be published?

Findings including those from the Observer Guide may be published in academic publications and PROACTIVE reports.

#### Who has reviewed this work?

This work has been approved by the Project Ethics Officer of Project PROACTIVE, Dr. Irina Marsh.

#### Who do I contact if I have a concern about the exercise or I wish to complain?

If you have a concern about any aspect of this field exercise, please contact PROACTIVE PEO: Irina Marsh <u>irina.marsh@cbrneltd.com</u> and Virginia Bertelli <u>virginia@ethicas.tech</u>. We will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with.

#### **Data Protection**

Below you will find information about the **processing of your personal data (pictures and video)** collected during PROACTIVE 3<sup>rd</sup> exercise

#### Data Controllers: UMU, UIC and RINISOFT.

#### Types of Personal data:

- Data necessary for the organisation and management of PROACTIVE exercise and other project activities such as: name, surname, organisation, position, e-mail addresses, signature;
- Image, video and voice (via photos and audio-visual recordings) and photo, voice and location (via the PROACTIVE app)

#### Purposes of the Processing:

- the purpose of the processing of personal data is the management and organisation of PROACTIVE project activities (e.g., information sharing, drafting of minutes, keeping of attendance list). These data will not be released outside the consortium.
- the scientific research purposes of assessing the PROACTIVE toolkit, exercise processes
  associated with CBRNe response and testing its technical capabilities, as well as its
  compliance with legal requirements and social impact. All research data will be anonymized
  before any sharing outside the PROACTIVE consortium or publication.
- dissemination and communication activities (in printed and/or digital form to be published
  offline and/or online in various channels, e.g., print publications, websites, posters banners,
  social media, conferences, workshops.). These data will be released outside the consortium
  under your consent only.

PROACTIVE - GA no. 832981

Page 3 of 7



#### Which personal data do we process?

As far as necessary within the scope of the eNOTICE-PROACTIVE joint activity in May 2023 organized by Campus Vesta, we collect and process your personal identification data in the following way:

My personal data collected	Why is my data collected?	How is my data used?
Video/Images.	These data are collected for PROACTIVE dissemination purposes	If you consent specifically your data will be used for dissemination purposes (leaflets, photos, audio- visual recordings) and to publicise the project results. Photographs, video and audio recordings will be conducted by a film crew and will undergo a strict screening process to comply with the dignity of all participants before being shared publicly.
Name, signature, email.	These data are collected for <b>logistic purposes</b>	If you consent, these data will be used to organise the exercise. These data will not be released outside the project and will be deleted after the established retention period.
Data related to the PROACTIVE app (name, location, email address, voice, IP)	These data are collected for PROACTIVE research purposes	Your data will be used to test the PROACTIVE project app (you can check its <u>(Proactive - Privacy Policy</u> <u>(proactive-app.net)</u> for more information)
Data related to the Observer Guide (name, your answers to the questions)	These data are collected for PROACTIVE research purposes	Research data will be anonymised before publication.

#### Legal basis:

Personal data which are collected for the drafting of minutes and information sharing among the Consortium is processed based on the PROACTIVE Consortium Agreement and Grant Agreement. Processing is necessary for the performance of these contracts. Personal data which are collected for research, dissemination and communication purposes and for development of the PROACTIVE toolkit are processed based on your consent.

#### Data Controllers coordinator:

UMU as the exercise organiser and UIC as the project's Coordinator are the contact points to coordinate the communication between data subjects, controllers and the data protection officers.

#### Contact Point:

The Consortium partners have appointed internal Data Protection Officers who will be immediately notified through UIC, email: <u>dpo@uic.org</u> acting as a central contact point from UIC, in case any queries arise. Therefore, <u>dpo@uic.org</u> is the central e-mail account to which you can send your emails if you have any questions relating to this consent form or the way we are planning to use your information. You can refer to this address if you want to exercise your data protection rights, especially if you wish to withdraw your consent to processing your personal data.

PROACTIVE - GA no. 832981

Page 4 of 7



#### Recipients:

The PROACTIVE Consortium partners. With respect to (screened) photos and the audio-visual recordings, they will be uploaded online, fully or partially, onto the PROACTIVE website and its social media accounts, accessible to the general public worldwide.

#### Storage Period:

Your Personal Data will be securely stored and retained for as long as necessary. They will be kept for a maximum period of 5 years after the end of the project, namely until August 2028 at the latest, in the project image and media bank, which is accessible to the Consortium members and will be safely deleted afterwards. Photos and videos uploaded on PROACTIVE website and its social media accounts will be retained so long as the site and the social media account exist according to the website's 'Terms of Use' and 'Privacy Policy', but for a maximum period of 5 years after the end of the project and will be safely deleted afterwards.

#### Your Rights:

You have the right to:

- Request information about whether, how and why we hold your personal information.
- Request access to your personal information and receive a copy.
- Request rectification of your personal information.
- Request erasure of your personal information.
- Request the restriction of processing of your personal information.
- Request transfer of your personal information in an electronic and structured form to you or to another party (right to "data portability").
- Lodge a complaint with a supervisory authority <u>https://www.cnil.fr/en/home</u>
- Withdraw your consent, at any time, by sending an e-mail to <u>dpo@uic.org</u>.

Please, note that the withdrawal does not affect the processing of your data which is based on the consent you have given before the withdrawal.

Page 5 of 7



prêactive

#### PARTICIPANT CONSENT FORM

PROACTIVE Project Ethics Officer Approval Reference: no19/ 24.04.23

PROACTIVE 3rd exercise, Campus Vesta, 13th of May 2023

#### Purpose of the study

PROACTIVE aims to improve how well-prepared citizens and emergency workers are in the case of an accident involving harmful materials. We aim to do this by encouraging common approaches across the EU. We are especially interested in helping people who may have additional needs because of things like age, illnesses, disabilities or other things. In this context, we will get the information that we need by having an exercise with practitioners and individuals directly affected by these events.

This study is carried out by project PROACTIVE (project funded by the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981).

1	I confirm that I have read and understand the information sheet for the above research activity. I have had the opportunity to consider the information, ask questions and, where relevant, have had these answered satisfactorily.	
2	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences or penalty.	
3	I understand that research data collected during the study may be looked at by authorised people outside the research team. and I give permission for these individuals to access my data. The research data will be fully anonymised in the project reports.	
4	I understand that this project has been reviewed by, and received ethics clearance through, the Project Ethics Officer of project PROACTIVE.	
5	I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.	
6	I understand how this research will be written up and published (i.e., including only anonymized data).	
7	I understand how to raise a concern or make a complaint.	
8	I consent to being video recorded for research purposes.	
9	I consent to having my photo taken and to being video and audio recorded for dissemination purposes.	

PROACTIVE - GA no. 832981

Page 6 of 7

Please initial each box



- 10 I understand how / videos / photos will be used in PROACTIVE outputs.
- 11 I consent to having IP and password data collected for research purposes (only if/ when using the PROACTIVE app).
- 12 I agree to take part in the research activity

Name of Participant

Date (dd/mm/yy) Signature

Name of person taking consent

PROACTIVE - GA no. 832981

Page 7 of 7



### **APPENDIX 18: ASSENT FORM**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. <u>832981</u>



#### Child Information Sheet and Consent Form Joint Activity of the EU projects eNOTICE and PROACTIVE organised by Campus Vesta in Ranst, Belgium Saturday 13<sup>th</sup> of May 2023

	We are trying to learn more about emergencies and emergency services. On 13 <sup>th</sup> May we are pretending that there has been an emergency, so that police and firefighters, doctors and other rescuers in uniform can practice doing their jobs.
Q	We would like to hear about how you felt during the event on 13 <sup>th</sup> May. You will do this by answering some questions.
	You can talk to someone you trust before deciding whether to answer our questions if you want.

#### Why have I been invited to answer these questions?

$\Box \frown$	You have been invited to answer these
Q	questions because you will be coming and
	participating in the event on 13" May.

#### Do I have to answer these questions?

?	You do not have to answer our questions. If you say 'No' then that is OK. It is your choice.
	If you say ' <u>Yes</u> ' then we will ask you some questions about how you felt during the event. There are no right or wrong answers – we just want to hear how you felt.
	If you change your mind and want to stop answering our questions, that is OK too. You don't have to tell us why.

Children's participant information sheet, v2.0 04/10/2022

Page 1 of 5



#### What will happen to me if I decide to answer these questions?

	You will come to an event with your parents or grandparents. You will see a pretend emergency and help some firefighters and police to practice doing their jobs.
	Before the event starts you will answer some questions about how you feel.
<u>_</u>	During the event, a pretend gas will be released, the firefighters and police will arrive.
	The gas is just pretend and is not dangerous.
	You will then go in a big shower with your swimming costume on.
	You will answer some more questions about how you feel.
	Later, you will sit in a group with some other <u>children</u> and you will be asked some more questions about how you felt during the event.
<b>L</b>	We will use a machine to record what you say to us, so that we can remember what you tell us.

#### What are the good things about answering these questions?

***	By answering the <u>questions</u> we ask you, you will be helping police and firefighters to help other children in real emergencies.
-----	---

#### What if there is a problem?

You can talk to us or someone you know, such as your parents/relatives, about it.
You can ask questions.
You can tell us you don't want to answer any
more questions.

Children's participant information sheet, v2.0 13/05/2023

Page 2 of 5





#### Will you keep what I tell you secret?

	If you tell us how you feel, we won't tell anyone
(())	that it was you that said it.
	We will lock the information you give us away.
Y	This is to keep your information safe so that
	others can't take it.

#### What will happen to the things I tell you?

ma	We will write about what you and the other people who came to the event told us.
	We will not use your real name when writing about it so no one will know it is you.

#### Who has checked that it is ok for you to ask me these questions?

UK Health Security Agency	People from UK Health Security Agency have checked what we're planning to do to make sure it is safe for me to ask you these questions.
---------------------------------	--

#### Contacts for further information:

Dale Weston Principal Behavioural Scientist Dale.Weston@ukhsa.gov.uk

#### **Consent form**

Your name:

Date:

#### Please circle the smiley face for all boxes if you are happy to answer our <u>questions</u>

I have read the information sheet and I understand what it means.
I have asked any questions that I wanted to ask.
I am happy to answer the questions.
I am happy for my voice to be recorded.

Children's participant information sheet, v2.0 13/05/2023 Page 3 of 5







This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981



#### Joint Activity of the EU projects eNOTICE and PROACTIVE organised by Campus Vesta in Ranst, Belgium, Saturday 13<sup>th</sup> of May 2023

#### Presentation of the activity:

We want to tell you about a **research study we are doing**. A research study is a way to learn more about something. We would like to find out more about how people react if they <u>come into contact</u> with a dangerous substance due to an accident and need to be cleaned. To learn more about this, we are going to set up a pretend accident and release a fake risky substance to see how people react. It's <u>really important</u> that you know that there are no actual risky substances and there is no real accident – everything will be pretend.

#### Why have I been invited?

You are being asked to join the study because you are **under the age of 16**, and we want to know how children like you react to these situations.

#### What will the day involve??

If you agree to join this study, you will be asked to take part in the following **pretend accident** happening in a closed area of the Campus Vesta training site prepared for this purpose:

The day will involve a pretend party at a university. You and your parent(s)/ guardian(s) and other people will be <u>there</u> and some might come into contact with a powder, everyone at the pretend party might need to be cleaned after this. This day will also involve people pretending to feel sick who might be coughing or pretending to have difficulty breathing. **This is all only pretend and is nothing to worry about.** All we want you to do on the day is just act like you would if this was real.

The exercise will take place both indoors (the incident) and outdoors. Please note that this might involve being asked to take a shower and so we ask you to wear a swimming costume. You should bring a small bag with you and will have the opportunity to change both during and after the exercise. Before the exercise you will be given some information and will be asked to answer some questions about what you think will happen and how you feel on some pieces of paper. After the exercise, you will be asked some questions about your experience during the exercise; these will be asked in a group setting with your parent(s) or guardian(s) and with other children and their parent(s) or guardian(s) who also took part in the exercise present. During the exercise, photos and videos will be used to talk to other people about the day, and others will only be used to help with the research, your parents will have been given more information about what will happen with this information. There will also be some people there who are pretending to cough or feel sick – these people are only pretending and are part of the day. There is nothing to worry about.

#### And, If I don't want to take part anymore?

If you do not wish to take part in any part of the day for any reason, you don't have to – please just tell you parent(s) or guardian(s) or one of the people working on the day. We will also be taking photographs and video to record the exercise. If you or your parents have any questions or concerns about the <u>day</u> then please do just contact us using the details below.

If you decide to take part, the organisers will explain the day to you before it starts and will give you the chance to ask any questions. The whole day should take around **8 hours including time for snacks and lunch**. Just to remind you: you don't have to do any part of the day that you don't want to, just let your parent(s)/ guardian(s) or anybody working on the day (wearing a colourful top) know.

Children's participant information sheet, v2.0

Page 4 of 5

13/05/2023



preactive

#### Are there any potential risks in taking part?

The risks associated with you taking part are those associated with your personal data (such as photos), physical risks associated with moving around the area and being showered and psychological risks associated with being involved in an exercise that involved a fictional accident. To reduce these risks, we have tried to think of all possibilities and to provide protection and measures to make sure everyone is safe. If you sign this consent form you agree to let your pictures and video be used for research purposes and to be used to publicly disseminate the PROACTIVE project online. Please ask your parent(s) or guardian(s) who have had more information about the exercise or ask one of the people working on the exercise on the day if you would like to talk about this more.

#### What are the benefits of this study?

This study will help us learn more about managing accidents in Belgium and beyond. In addition, we may learn something that will help other children when these accidents happen.

#### Do I have to be in the study?

You do not have to join this study. It is up to you. You can also say okay now and change your mind later. All you have to do is tell us you want to stop. No one will be mad at you if you don't want to be in the study or if you join the study and change your mind later and stop. If there are any problems you can talk to us or anyone you know about it at any time. You can also ask any questions you want at any time.

#### Do my parents know about this study?

This study was explained to your parents and they said that we could ask you if you want to be in it. You can talk this over with them before you decide. One of your parents will have to sign this form with you.

#### Who will see the information collected about me and from me?

The information collected about you during this study will be kept safely locked up by the researchers. Nobody will know it except the people doing the research. The study information about you will only be given to your parents. The researchers will not tell your friends or anyone else. We will write about what you and the other people who came to the event told us when we asked you questions before and after the exercise. We won't use your real name when writing about it, so no one will know it was you.

#### What if I have any questions?

Before you say yes or no to being in this study, we will answer any questions you have. If you join the study, you can ask questions at any time. Just tell the researcher that you have a question and you can also contact Virginia Bertelli (virginia@eticas.tech) and Dr Irina Marsh (irina.marsh@cbrneltd.com).

Yes, I will be in this research students	udy. 🛛 🗌 No, I don't want	to do this.
Child's name	Signature	Date
Parent's name	Signature	Date

PROACTIVE PROJECT ETHICS OFFICER (PEO) Approval Reference: no19/24.04.2023

Children's participant information sheet, v2.0 13/05/2023

Page 5 of 5



## APPENDIX 19: PROACTIVE ETHICS FRAMEWORK OBSERVATIN AND EVALUATION PLAN



#### **1. LITERATURE REVIEW NOTES**

There is a lack of a general consensus on how to address the legal and ethical dimensions of CBRNE events (O'Mathúna,2019; Rebera, 2019). So further study and analysis is required to set ethical frameworks adapted to operational scenarios.

Aspects addressed by the literature include:

- Disaster triage (Barilan et al. 2014; Ten Have 2014; Wagner and Dahnke 2015)
- Obligations and rights of healthcare professionals (Eckenwiler 2004; Grimaldi 2007)
- Disaster bioethics the investigation of ethical questions raised by the occurrence of disasters and by the needs of those affected by them (<u>O'Mathúna</u> et al. 2014)
- Operational issues raised by CBRNE security (Carter et al. 2013; Davis and McHenry 2005).

The literature review underlines the need for developing and implementing ethical guidelines, codes of conduct, and training (Rebera, 2019). A broad ethical consideration is the degree to which and ways in which the society generally and the community(ies) that are at-risk or that have been affected are engaged in transparent discourse regarding preparedness planning for CBRNE and immediate response to events. To ensure equitable participation, such engagement must be based on relevant, valid data and information; recognizing and addressing the complexity of setting priorities and allocating resources for preventive action, intervention, and post-crisis response; and the ethics of trade-offs – balancing societal and individual rights and the roles and responsibilities of emergency responders (Rebera, 2019).

Moreover, new methods and technologies should be introduced: "The deployment of technology – decision support tools, for instance – could promote ethical behaviour if it has been through some process of 'ethical design' aimed at mitigating certain potential ethical problems.", addressing issues such as privacy by design (Rebera, 2019:39).

As reported by Bertrand et al. (2019), for any CBRNE events with casualties, there is a requirement to allocate resources on a priority basis whenever resources are outweighed by demand. This is based on the sorting of casualties so that the greatest good is provided to the greatest number of casualties. Triage is thus vital for ensuring the success of disaster management. Success relies on previous training in applying specific plans. Triage is part of the medical response to the incident that also requires cordoning, appropriate command and control, communications, assessment and hazard management. The World Medical Association's Declaration of Lisbon on ethics and emergencies highlights key points: preserve autonomy; offer the best health care, avoid negative consequences, preserve equity, prevent doctors to be under pressure.

Ethics Briefing Pack 16 November 2022

Page 2 of 23





Ethical dilemmas to be addressed are multiple and content dependent- but also not always aligned with societal frameworks for <u>analyzing</u> social impact or interpretations of fundamental rights (Rebera, 2019).

CBRNE incidents raise the genuine possibility of ethical dilemmas:

- 1. i.e. lose-lose situations for responders in which decisions must be taken amid extreme **timepressure**, **information gaps**, **and other stressors to decision-making** (Karadag and Hakan 2012; Rebera and Rafalowski 2014).
- Ethical challenges such as, for example, administering drugs (Castle et al. 2010), conducting field triage (Ramesh and Kumar 2010), and gathering patient consent (Rebera and Rafalowski 2014) may all be more difficult in CBRNE incidents due to the use of PPE (personal protective equipment, such as hazmat suits).
- The duty of care that healthcare professionals bear to their patients cannot be simply assumed to outweigh personal interest in their own wellbeing, nor the responsibilities owed to loved ones (Sokol 2006).

According to Rebera (2019) and <u>O'Mathúna</u> et al. (2014), standard operating procedures (SOPs) are unlikely to adequately support responders in non-standard situations, when considering the kinds of ethical dilemmas faced by practitioners. They are seen by the authors as aspirational and lack the flexibility and creativity required to manage these situations. Alsan and Barilan (2019) suggest having openly prepared research protocols as part of CBRNE preparedness, especially regarding the care of CBRNE related workers, emergency and health services

#### 2. METHODOLOGY:

In PROACTIVE Ranst field exercise, we will follow the 'modified consequentialist approach' proposed by Rebera and Rafalowski (2014). It is an on-the-spot ethical decision-making perspective which works by setting a central value or principle (i.e. saving lives, for example) and using it as the basis of a "goal-oriented heuristic" (Rebera, 2019: 42). "Additional core rights and values are factored-in as 'side-constraints' (Nozick 1974; cf. Kinslaw et al. 2009), i.e. minimum standards beyond which any violation is unacceptable" (Rebera, 2019: 42).

This represents a flexible basic framework but it should also be noted that:

- an ethos must recognise that priorities may change in the event of, or during, an incident (ACP 2012: 37).
- significant and ongoing effort is required to ensure that the values given by an ethos can be readily operationalised, i.e. translated into actions and decisions in the field.

Ethics Briefing Pack 16 November 2022

Page 3 of 23



## prêactive

The framework, therefore, works as a raising awareness tool. Such awareness, which requires openness, capacity to deal with such situations using creativity and innovation (Mendonca and Fiedrich 2006; Webb 2004), as well as awareness of the impact of stress, cognitive bias and moral framing on judgement and decision-making (Greene et al. 2008; Starcke et al. 2012).

An appropriate social response to CBRNE must reflect two fundamental goods:

- the promotion of the common good
- protection of people from the subjection of anybody's interests to either the interests or will
  of others, without an appropriate structure of consent (Shapiro 2003).

Cultural diversity as a challenge for CBRNe ethics when trying to achieve international cooperation is firmly established as a principle of disaster bioethics and humanitarianism and regional and country-levels are key. Where agreements on shared approaches to ethical problems can be found, they should be vigorously pursued. Agreed approaches to resolving situations, in which the values and principles guiding the responders' decisions clash, should be established (Rebera, 2019: 46-47).

Recognition of the role of diverse spiritual beliefs and of bioethics is vital. Recently, the West has enriched the discourse on bioethics and enabled a broader understanding of both health ethics generally and its implications for CBRNE. Rights would be considered in the context of :

- interpersonal ethics (including freedom of choice)
- public health ethics (including equity and access to emergency response services)
- environmental rights, which pertain to all members of society (Jillson, 2019: 57).

**Our tactical goal** during the Ranst exercise is to present, discuss and contrast several ethical dilemmas that work as mechanisms for building a general ethos or code of conduct in similar contexts and which:

- ensure a good balance between generalization and application
- capture most casuistic occurring under unpredictable conditions

#### 3. "KEY TASKS" TO BE ADDRESSED BY THE ETHICS FRAMEWORK

We have identified the main actions that will require an ethics oversight during the RANST field exercise:

#### 1. conducting of disaster triage,

Ethics Briefing Pack 16 November 2022

Page 4 of 23



#### prêactive <sup>(\*)</sup> (\*) (\*) (\*)

- 2. decontamination,
- 3. evacuations, dealing with the public,
- 4. effective communication while in PPE
- 5. management of volunteers and healthcare workers

Task	Overriding goal of the task and main principle	Side ethical constraints	<b>Choices and constraints</b> (minimum standard for violation of main principle)
<ol> <li>conducting of disaster triage</li> </ol>	mitigate impact on health	impact on privacy,	water-curtains in public view
	avoid negative consequences		
	preserve equity	decide the order of treatment of (patients or casualties)	prioritize vulnerable groups (properly pre-established)
	Protect nearby hospitals from a sudden overload of work		Tag and trace all people involved
2. decontami nation	i.e. save lives	i.e. impact on respect for autonomy	balance individual rights with social good
	consent	when the patient is unconscious	

Ethics Briefing Pack 16 November 2022

Page 5 of 23



#### prêactive (\*) (\*) (\*) (\*)

	privacy		to determine the use of water- curtains in public view
3. evacuation s, dealing with the public	i.e. save lives	i.e. physical and psychological impact	help and information points outside targeted area
4. effective communic ation while in PPE and at a general level	prevent risks and complications to increase public compliance	i.e. physical and psychological impact	factual, trustworthy and timely information to the public
5. managem ent of volunteers and healthcare workers	reduce harm		principles: restriction of individual liberty, proportionality, reciprocity, clarity, transparency and trust, solidarity, and respect for human dignity, non-discrimination and equity

### 3.1. Triage steps

 get situational awareness which should provide a global view shared in real time with first responders and the general population via reliable communication means and secured information networks;

Ethics Briefing Pack 16 November 2022

Page 6 of 23



pr**eactive** 

- safety and security issues which should be provided to the population and FRs equipped with suitable personal protective equipment (PPE);
- 3. safe health for the population, including the management of casualties with fast medical triage and appropriate treatment at scene and in hospitals.

#### 3.2. Ethical dilemma game questions

The responder must decide between competing plausible courses of action, each of which carries some serious negative consequence, (the goal to aim for is to save life).

- 1. Which were the contextual factors limiting respect to main principles?
- 2. Were there any moments where it was needed to choose between competing plausible courses of action?
- 3. Was it necessary to take care of cultural differences when dealing with patients?
- 4. How have cultural differences been taken care of during the exercise?
- 5. Were there any situations where cultural values and principles which guide the responders decision clashed?
- 6. Was wearing PPE an impediment to administering drugs, conducting field triage or gathering patient consent?
- 7. Were there any moments where it was necessary to choose between duty of care to patients and personal wellbeing or responsibility owed to loved ones?
- 8. Have the role of diverse spiritual beliefs been recognized during the exercise?
- 9. Have environmental rights been respected?
- 10. Have patients been properly treated?
- 11. Have vulnerable groups been prioritized?
- 12. Have privacy and autonomy of patients been respected?

Ethics Briefing Pack 16 November 2022

Page 7 of 23





# 4. ETHICAL SUPERVISION OF ACTIVITIES DURING PROACTIVE 2ND EXERCISE, RANST, 16<sup>TH</sup> OF NOVEMBER 2022

To provide ethical oversight during the PROACTIVE 1st Field exercise, the Ethics and Data Protection Supervisor (EDPS) has been appointed. The role is fulfilled by the PROACTIVE PEO, Dr. Irina Marsh. The role of EDPS is to ensure The Ranst field exercise is carried out in a manner that is ethically compliant with the relevant legislation set out in D8.1 Legal and ethical State-of the Art on CBRNe preparedness and response and D8.3 Materials and briefings for PROACTIVE exercises and will carry out an on-site evaluation of ethical aspects of the exercise seeking to ensure, in particular that:

- the Exercise is being carried out with respect for human dignity at all times;
- all proper authorisations have been obtained;
- the exercise briefings have been carried out in accordance with recommendations;
- volunteers have completed a consent form(s) as recommended;
- relevant legislation has been complied with.

The EDPS will be supported by the External Ethics Advisory Board (EEAB) members and other invited ethics experts. The ethics experts will provide a consultative role for the exercise planning team and:

- will provide advice and guidance on the conduct of the exercise where it relates to the management of the volunteers, safety and risks;
- will review materials and advice on their content (e.g. information sheets, consent forms etc.);
- will work in close relation with the EDPS, exercise planning team and emergency services participating in the exercise.

The supervising and the evaluation process will follow the *Ethical impact assessment framework* established in D8.1 (sections 3.4 and 3,5) and the associated ethical documents:

- PROACTIVE Ethics Observation and Evaluation plan (Annex 1);
- PROACTIVE Ethics Risk Assessment Template (Annex 2);

The PROACTIVE Ethics Observation and Evaluation Plan<sup>1</sup> is constructed as a package of interdependent values that underline the work of response teams and emergency medical staff when

Ethics Briefing Pack 16 November 2022

<sup>&</sup>lt;sup>1</sup> See PROACTIVE D8.1, section 3 and Stanciugelu et al., 2014



## 

confronted with disaster situations. The document provides the knowledge background that supports understanding and interpretation of ethical issues that could arise during a CBRN incident as presented in the ethical framework.

The PROACTIVE Ethics Risk Assessment Template<sup>2</sup> should be used in close relation with the PROACTIVE Ethics Observation and Evaluation Plan. The Template serves as a heuristic tool. In other words, it provides the user with a framework to identify potential ethical issues associated with CBRN response tools and procedures. This is important because CBRN responses have traditionally been treated as primarily a technical and/or organisational challenge where technological advances were either generally understood as something positive or seen through a purely consequentialist ethical lens (that is: means and right secondary as long as outcome positive). However, CBRN response raise a wide range of issues touching upon the fields of disaster management ethics (e.g. individual liberty versus collective protection from cross-contamination), technology-related ethics (e.g. track & trace and privacy/data protection), research ethics (e.g. how to organise realistic exercises without violating rights of physical integrity), and others. The Template consists of a matrix: In the rows of the matrix, a catalogue of rights/norms is identified and categorised into five generic sections: fundamental rights, procedural rights, distributive rights, intergenerational issues, and informational rights. In the columns, questions of potentially arising/observed/undertaken ethical issues and their management in relation to the development of the exercise are listed.

### 5. REFERENCES

O'Mathúna, D. P. (2019). Ethics and law for chemical, biological, radiological, nuclear & explosive crises. D. P. O'Mathúna, & I. de Miguel Beriain (Eds.). Springer International Publishing.

O'Mathúna, Dónal P., Bert Gordijn, and Mike Clarke, eds. 2014. Disaster bioethics: Normative issues when nothing is normal. Dordrecht: Springer.

Rebera, A. P. (2019). Building Ethics into CBRNE Security. In Ethics and Law for Chemical, Biological, Radiological, Nuclear & Explosive Crises (pp. 37-51). Springer, Cham.

Barilan, Y. Michael, Margherita Brusa, and Pinchas Halperin. 2014. Triage in disaster medicine: Ethical strategies in various scenarios. In Disaster bioethics: Normative issues when nothing is normal, ed. Dónal P. O'Mathúna et al., 49–64. Dordrecht: Springer.

Ethics Briefing Pack 16 November 2022

<sup>&</sup>lt;sup>2</sup> See PROACTIVE D8.1 section 3 and Krieger and Stanciugelu, 2014





Ten Have, Henk. 2014. Macro-triage in disaster planning. In Disaster bioethics: Normative issues when nothing is normal, ed. Dónal P. O'Mathúna et al., 13–32. Dordrecht: Springer.

Wagner, Jacqueline M., and Michael D. Dahnke. 2015. Nursing ethics and disaster triage: applying utilitarian ethical theory. Journal of Emergency Nursing 41 (4): 300–306.

Eckenwiler, Lisa A. 2004. Ethical issues in emergency preparedness and response for health professionals. AMA Journal of Ethics, Virtual Mentor 6 (5). http://journalofethics.ama-assn.org/2004/05/msoc2-0405.html.

Grimaldi, Mary Elizabeth. 2007. Ethical decisions in times of disaster: Choices healthcare workers must make. Journal of Trauma Nursing 14 (3): 163–164.

Carter, Holly, John Drury, G. James Rubin, Richard Williams, and Richard Amlôt. 2013. The effect of communication during mass decontamination. Disaster Prevention and Management: An International Journal 22 (2): 132–147.

Ramesh, Aruna C., and S. Kumar. 2010. Triage, monitoring, and treatment of mass casualty events involving chemical, biological, radiological, or nuclear agents. Journal of Pharmacy and Bioallied Sciences 2 (3): 239–247.

Davis, Stephen C., and Kathryn E. McHenry. 2005. A retrospective analysis of mass casualty presentation resulting from the release of toxic chemicals. International Journal of Emergency Management 2 (3): 231–238.

Karadag, Ozge C., and A. Kerim Hakan. 2012. Ethical dilemmas in disaster medicine. Iranian Red Crescent Medical Journal 14 (10): 602–612.

Rebera, Andrew P., and Chaim Rafalowski. 2014. On-the-spot ethical decision-making in CBRN (chemical, biological, radiological or nuclear event) response. Science and Engineering Ethics 20 (3): 735–752.

Sokol, D.K. 2006. Virulent epidemics and scope of healthcare workers' duty of care. Emerging Infectious Diseases 12 (8): 1238–1241.

Nozick, R. 1974. Anarchy, state and utopia. New York: Basic Books.

Mendonca, D., and F. Fiedrich. 2006. Training for improvisation in emergency management: Opportunities and limits for information technology. International Journal of Emergency Management 3 (4): 348–363.

Webb, G.R. 2004. Role improvisation during crisis situations. International Journal of Emergency Management 2 (1–2): 47–61.

Greene, J.D., S.A. Morelli, K. Lowenberg, L.E. Nystrom, and J.D. Cohen. 2008. Cognitive load selectively interferes with utilitarian moral judgment. Cognition 107 (3): 1144–1154.

Starcke, K., A.C. Ludwig, and M. Brand. 2012. Anticipatory stress interferes with utilitarian moral judgment. Judgment and Decision making 7 (1): 61–68.

Ethics Briefing Pack 16 November 2022

Page 10 of 23



### **APPENDIX 20: PROACTIVE ETHICS OBSERVATION AND EVALUATION SHEET**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 832981



CBRNE (Chemical, Biological, Radiological, Nuclear and explosive) events raise important ethical issues in which fundamental principles have to be followed and competing values must be weighed. These tactical objectives are part of the ethical observation and evaluation plan and should be seen as a practical guide for the evaluation of the work of response teams and emergency medical staff when confronted with disaster situations.

#### **EXERCISE TACTICAL OBJECTIVES**

#### GENERAL

- 1. Ensure that the exercise is carried out with respect for human dignity at all times.
- 2. Guarantee that all proper authorisations (i.e. by corresponding local data protection agencies, LEAs, etc.) are obtained.
- 3. Ensure that exercise briefings are carried out in accordance with PROACTIVE ethics briefing pack materials and recommendations.
- 4. Make sure volunteers have completed a consent form(s) as recommended.
- 5. Ensure that relevant legislation concerning your duties in the exercise has been complied with.
- 6. Identify and take into account cultural differences during fieldwork activities.
- 7. Recognize the role of different spiritual beliefs during fieldwork activities.
- 8. Make sure environmental rights have been respected during fieldwork activities.



- 9. Respect privacy and autonomy of volunteers unless it becomes necessary to override these rights to protect the public from serious harm.
- 10. Make sure restrictions to individual liberty are proportional, necessary and relevant, employ the least restrictive means and are applied equitably.
- 11. Make sure, when resources are limited, that the needs of the exercise volunteers and surrounding community are considered rather than one's own self interest.
- 12. Make sure health care resources are allocated fairly with a special concern that those most vulnerable are treated fairly.
- 13. Ensure that communication with participants and among managers and researchers is clear, precise, and reassuring.
- 14. Ensure that decisions about evacuation and quarantine are carefully scrutinised to protect people's interest.

#### TRIAGE

- 1. Facilitate that all actors involved in the exercise get situational awareness which should provide a global view shared in real time with first responders and the general population via reliable communication means and secured information networks.
- 2. Provide safety and security tools to the population.
- 3. Equip First Responders with suitable personal protective equipment (PPE).
- 4. Evaluate if wearing PPE is an impediment to carry out exercise activities such as conducting field triage or gathering participant consent.
- 5. Prioritise vulnerable groups safety and wellbeing at all times.



#### **OBSERVATION SHEET**

#### GENERAL ETHICAL PRINCIPLES AND DILEMMAS DURING THE EXERCISE

no	Question	Notes
1	Which were the contextual factors limiting respect to main ethical principles (beneficence, justice, autonomy)?	
2	Where there any moments where it was needed to choose between competing plausible courses of action?	



3	Was it necessary to take care of the cultural differences when dealing with 'patients'?	
4	How have cultural differences been taken care of during the exercise?	



5	Were there any situations where cultural values and principles which guide the responders' decision clashed?	
6	Were there any moments where it was necessary to choose between duty of care to patients and personal wellbeing or responsibility owed to loved ones?	



#### CONSIDERATION OF SOCIETAL DIMENSIONS

no	Question	Notes
1	Have the role of diverse spiritual beliefs been recognised during the exercise?	
2	Have environmental rights been respected?	
3	Have participants been properly treated?	



4		
	Have vulnerable groups been prioritised?	
5	Have privacy and autonomy of patients been practically respected (i.e. tents used for undressing procedure; waterproof curtains used for decontamination etc)?	





#### OPERATIONAL AND ASSESSMENT ETHICS

no	Question	Notes
1	Have safety been guaranteed at all times? Have potential safety risks been given sufficient attention?	
2	Have contact between responders and participants been minimized before the exercise in order to prevent biases in the exercise process and evaluation?	



pr**@active** 

3		
	Have vou been able to	
	interact with participants at	
	all times?	
	all times?	
4		
-		
	Have you had access to all	
	relevant information?	
_		
5		
	Have you been provided	
	with the field exercise	
	general scenario prior to the	
	deployment?	



6		
	Have you been able to give	
	feedback on the approach to	
	ethical and legal aspects of	
	the exercise?	
7		
	II	
	debriefing sessions with the	
	narticipants in the field	
	exercise?	
8		
	Has consent been properly	
	collected?	


prêactive

9		
	Has the information sheet	
	and the consent form been	
	able to properly informed	
	the participants?	
10		
	Was wearing PPE an	
	impediment to conducting	
	field triage or gathering	
	participants consent?	
1		



## APPENDIX 21: SUMMARY FROM THE ETHICS RISK ASSESSMENT: CAMPUS VESTA EXERCISE

No.	Human rights/ Ethical values and principles	Explanations/ details	Ex- posed Per-sons	Commentary / Possible issue	Risk (with the existing mitigation)	Existing Mitigation / Commentary			
Basic protect	Basic human rights: These rights are individual rights that describe the human core (physical/mental integrity/life, freedom of action/choice, equal treatment, and property) that requires protection.								
1	Physical health	<ul> <li>Avoid physical harm or, abuse,</li> <li>promote physical well- being,</li> <li>minimise health risk to individuals</li> </ul>	All	<ul> <li>Side-effects of showers with cold water</li> <li>H&amp;S Risks on site.</li> </ul>	Low	No significant adverse health impacts are expected, but these have been addressed in the H&S Risk Assessment (see Separate PROACTIVE document). All volunteers will be briefed about the intention to decontaminate them and have agreed to this process.			
2	Mental health	<ul> <li>No mental harm or abuse</li> <li>enable learning</li> </ul>	All	<ul> <li>Psychological stress from exercise and from dealing with responders wearing PPE suits (especially face masks).</li> </ul>	Low	All volunteers will be briefed about the fact that first responders will be wearing masks.			
3	Choice/ liberty of action	<ul> <li>No constraints on choice of course of action</li> <li>Empowerment through knowledge of available courses of action</li> </ul>	All	Containment on site	Low	All volunteers will be briefed that they are able to exit from the exercise at any time without any reasons or consequences for them. Volunteers will be escorted and supervised at all times. Transport off-site to public transport will be provided if needed.			
4	Respect for person	<ul> <li>Non-discrimination</li> <li>Empowerment of the most vulnerable</li> </ul>	All	Undressing in a public setting	Medium	For those who may not wish to undress in public, disrobe kits will be supplied. Volunteer groups have already been consulted about the exercise and their views have been addressed.			
5	Right to property	<ul> <li>Minimise damage to property, reparatory payments</li> </ul>	All	If personal property is damaged during response	Low	<ul> <li>Volunteers advised to not bring any valuable equipment with them.</li> <li>Arrangements for the storage of items have been made.</li> <li>Insurance cover has been arranged.</li> </ul>			



No.	Human rights/	Explanations/ details	Ex-	Commentary / Possible issue	Risk (with the	Existing Mitigation / Commentary			
	Ethical values		posed		existing				
	and principles		Per-sons		mitigation)				
						<ul> <li>Process for recording loss or damage has been established</li> </ul>			
Procee	Procedural rights: These rights concern the relation of technical/bureaucratic procedures and actions and the involved/affected individual.								
6	Proportionality	<ul> <li>No excessive restraints on rights, or restrictions on personal freedom</li> </ul>	All	Restrained access to the mobile phones	Low	Removal of access to mobile phones is necessary for the decontamination process, but this period has been minimised to the period of decontamination only.			
7	Inclusiveness & fair and meaningful participation	<ul> <li>Ensuring all relevant stakeholders are given voice, provision of resources such as information to ensure voice of even marginalised groups</li> </ul>	All	Failure to take into account the opinions/ interests of some stakeholders	Low	Volunteer groups have already been consulted via Campus Vesta about the exercise and their views have been addressed.			
8	Transparency	<ul> <li>Ensuring that interested/affected parties have access to tool information</li> </ul>	All	Lack of knowledge on benefits and risks of participation.	Low	Informed consent is provided including comprehensive information about the exercise.			
9	Accountability	<ul> <li>Ensuring that there is a clear line of accountability</li> </ul>	All	Who is in charge of organising of the exercise (agency, persons)? How can we reach them?	Low	Volunteers have already received some briefing on these issues and they will be re-informed during the briefing process.			
10	Safety	<ul> <li>Safety standards &amp; regulations</li> </ul>	All	Compliant with safety and health regulations?	Low	H&S Risk Assessments have been completed (See separate document) and have been acted upon. All residual risks assessed as low.			
11	Legality of process, product, deployment	<ul> <li>Respect of legal restriction on development, use and export</li> </ul>	All	Property or data protection rights of participants could be violated.	Medium	Above security documents and protocols, including insurance, consent and data management plan in place.			
12	Responsive-ness	<ul> <li>If concerns are being voiced, are there mechanisms in place to answer to these concerns?</li> </ul>	All	Lack of identified route for communication / language difficulties.	Low	Already addressed in project arrangements. See item 9. Translators available.			
13	Informed consent	<ul> <li>Have all the stakeholders been informed about the</li> </ul>	All	Lack of consent and risk awareness	Low	Consent forms will be obtained. During on-site briefings before the exercise, volunteers will be re- advised of their right to cease to participate at any time.			



Ethical values and principlesposed Per-sonsexisting mitigation)14Freedom of assembly and association• No restraint of rights for participants to the exerciseAllVolunteer's and observers' right to reject their participation could be affected.LowConsent forms will be obtained. During on- before the exercise, volunteers and observ14Right of withdrawal• If parties affected by the development/ deployment of a tool/AllIf I decide to not continue taking part in a simulation exercise, is there an easy way out for me? DoLowConsent forms will be obtained. During on- before the exercise, volunteers and observ advised of their right to cease to participate advised of their right to cease to participate	esite briefings vers will be re- es at any time. site briefings ers will be re-
Integration       Integration         exercises details and asked for consent?       exercises details and asked for consent?         14       Freedom of assembly and association       • No restraint of rights for participants to the exercise         14       Right of withdrawal       • If parties affected by the development/ deployment of a tool/	site briefings rers will be re- ≩ at any time. site briefings ers will be re-
Image: asked for consent?Image: asked for consent?Image: asked for consent?14Freedom of assembly and association• No restraint of rights for participants to the exerciseAllVolunteer's and observers' right to reject their participation could be affected.LowConsent forms will be obtained. During on- before the exercise, volunteers and observ advised of their right to cease to participate14Right of withdrawal• If parties affected by the development/ deployment of a tool/AllIf I decide to not continue taking part in a simulation exercise, is there an easy way out for me? DoLowConsent forms will be obtained. During on- before the exercise, volunteers and observ advised of their right to cease to participate	esite briefings vers will be re- at any time. site briefings ers will be re-
14Freedom of assembly and associationNo restraint of rights for participants to the exerciseAllVolunteer's and observers' right to reject their participation could be affected.LowConsent forms will be obtained. During on- before the exercise, volunteers and observ advised of their right to cease to participate advised of their right to cease to participate before the exercise, volunteers and observ advised of their right to cease to participate before the exercise, volunteers and observ 	-site briefings /ers will be re- ers at any time.
assembly and associationparticipants to the exercisereject their participation could be affected.before the exercise, volunteers and observ advised of their right to cease to participate14Right of withdrawal• If parties affected by the development/ 	ers will be re- e at any time. site briefings ers will be re-
14       Right of withdrawal       •       If parties affected by the development/ deployment of a tool/       All       If I decide to not continue taking part in a simulation exercise, is there an easy way out for me? Do       Low       Consent forms will be obtained. During on-before the exercise, volunteers and observation advised of their right to cease to participate	site briefings ers will be re-
14       Right of withdrawal       If parties affected by the development/ deployment of a tool/       All       If I decide to not continue taking part in a simulation exercise, is there an easy way out for me? Do       Low       Consent forms will be obtained. During on- before the exercise, volunteers and observ advised of their right to cease to participate	-site briefings ers will be re-
withdrawal       the development/       part in a simulation exercise, is       before the exercise, volunteers and observent of a tool/         deployment of a tool/       there an easy way out for me? Do       advised of their right to cease to participate	ers will be re-
deployment of a tool/ there an easy way out for me? Do advised of their right to cease to participate	
	e at any time.
Implementation of a the exercise protocols include	
procedure, nave they sareguards?	
given the opportunity to	
withdraw from the	
process?	
Distributive rights: These rights concern the distribution of risks and benefits between affected/involved groups, as well as principles of exchanges risks/benefits between different	ent groups.
15 Reciprocity • Are those burdened by Are the volunteers participating to Low Volunteers will not receive any benefit or ce	ompensation
the use or exposure to the exercise compensated by for participating in the exercise.	
a tool/ procedure being those that benefit from the	
compensated by those exercise?	
that benefit from the	
16 Solidarity Does a tool/procedure Does the exercise help to care for Low The exercise will allow participants to acce	ess knowledge
belo care for others in the exercise rely to care for vulnerable and tools to protect vulnerable groups in care	ases of CBRNe
need? people? events.	
Addressing these issues are the main obje	ctives of
PROACTIVE.	
17     Non-     If a tool/procedure     The research sample could be     Low     Fairness and equal access have been constructions	sidered in the
discrimination implies benefits or built over unfair criteria. methodological approach.	
and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to those Addressing these issues are the main objective and equity burdens to the addressing these issues are the main objective and equity burdens to the addressing these issues are the main objective and equity burdens to the addressing these issues are the main objective addressing the addressing these issues are the main objective addressing the addr	ctives of
there certain groups	
that do not get the	
benefits or get a	
disproportionate share	
of the burden?	,



No.	Human rights/	Explanations/ details	Ex-	Commentary / Possible issue	Risk (with the	Existing Mitigation / Commentary		
	Ethical values		posed		existing			
	and principles		Per-sons		mitigation)			
Inform	iformational rights: CBRN response is likely to be information-intensive. Information can help improve responses but informational self-determination is also a fundamental right.							
18	Universal access	Are certain users		No risks identified since	Low	Addressing these issues are the main objectives of		
		excluded from access		PROACTIVE guidelines are aimed		PROACTIVE.		
		to the tool/ procedure?		at enhancing the situation of				
				vulnerable groups.				
19	Accessibility	<ul> <li>Is the tool/ procedure</li> </ul>		No risks identified since	Low	Addressing these issues are the main objectives of		
		too complex to be used		PROACTIVE guidelines are aimed		PROACTIVE.		
		for some?		at enhancing the situation of				
				vulnerable groups.				
20	Privacy&	<ul> <li>Does the tool gather</li> </ul>		PROACTIVE App, research and	Medium	All personal data is protected through restricted data		
	Data protection	personal data? Is the		dissemination data		processing, detailed and pre-established data flows, data		
		personal data				security protocols and specific briefing before the		
		protected?				exercise.		
						This is also addressed in the Ethics Campus Vesta		
						Exercise Protocol in D8.3. There is a redress process via		
						the Project Ethics Officer.		
21	Honest	Avoidance of		Volunteers mislead about the	Low	All risks and benefits of taking part in the exercise have		
	communica-tion	ambiguous and/or		efficacy oy water decontamination		been communicated during the recruitment process and		
	and transparency	exaggerated		for CBRNE incidents		also as part of the consent protocol.		
	about the	information about the						
	performance	protective performance						
	limits of CBRN	of CBRN tools						
	tools and the	Avoidance of						
	CBRN threat	misleading and/or						
		exaggerated						
		information about the						
		CBRN threat level in						
		Europe						
Interge	Intergenerational rights: This concerns rights of tuture generations.							
22	iviinimai	Use of materials/		Decontamination process could	LOW	Only plain water is used. The site is with appropriate		
	environmental	substances/ processes		release polluting substances		drainage.		
	Impact	that are not high						
	0	polluting						
23	Sustainability	Does the tool adversely		No issues identified	Low			
		attect tuture						
		generation's social,						



No.	Human rights/ Ethical values and principles	Explanations/ details	Ex- posed Per-sons	Commentary / Possible issue	Risk (with the existing mitigation)	Existing Mitigation / Commentary
		economic and environmental rights?				