

Work package number *	WP6	Lead beneficiary **	16 - RIVM
Work package title	Preparedness and Response planning		
Start month	1	End month	36

Objectives

The specific objective of WP6 is to support EU MS and JA partner countries in developing operational multi-sectoral Preparedness and Response plans for serious cross-border health threats with an integrated all hazards approach

Description of work and role of partners

WP6 - Preparedness and Response planning [Months: 1-36]

RIVM, THL, RKI, INMI, BMASGK, MCA, CIPH, SUJCHBO, MOH-FR, NNN, SEMS, MOHLT, MFH, NIZP-PZH, MS, IPHS, NIJZ, ISCIII, DH

Lead: RIVM (NL)/EMC (NL); Co-lead: ISCIII (ES)

Expected Results:

1. A list of core elements of multi-sectoral collaboration which Member States can incorporate into their national Preparedness and Response plans
2. A "Situation X" scenario which will be simulated and evaluated
3. E-learning and tabletop exercise protocols on multi-sectoral collaboration to encourage continuous learning and improvement
4. Best practices guidelines on multi-sectoral collaboration, both general and tailor-made standards for all hazard integrated Preparedness and Response planning are provided to all participating countries. These are based on analysis of performances from "Situation X" scenario simulation and all hazards e-learning and tabletop exercises, performed in WP6.

The specific objective of the WP6 will be achieved through the following tasks:

Task 6.1: Identifying core elements of an integrated multi-sectoral Preparedness and Response plan

Lead: RIVM; Participants: FI (THL and FFA), DE (RKI), IT (INMI and MoH), AU (AGES), UK (DH/PHE), ES (ISCIII) BA (MCA), HR (CIPH and UHID), CZ (SUJCHBO), HU (NNK), LV (SEMS), LT (MOHLT), MT (MFH), PL (NIZP-PZH and NVRI), PT (MS), RS (IPHS), SI (NIJZ).

The aim is to identify the core elements of multisectoral collaboration as described in literature and (inter)national Preparedness and Response tools and instruments. The specific needs and minimum requirements for the sectors involved in the IHR Preparedness and Response cycle (as defined in the ECDC Health Emergency Preparedness Self-Assessment (HEPSA) Tool) will be identified.

6.1.1: Review of literature as well as the international and/or national tools and instruments for Preparedness and Response which focus on multi-sectoral collaboration.

Lead: RIVM/EMC; input from WP5, WP7, WP9, WP10

6.1.1.1 Literature review

The aim of this integrative review is to identify common understanding of specific terms, as well as core elements of multisectoral collaboration within academic literature and grey literature. We will include international organizations' websites to collect (unpublished) international tools and instruments. The outcome of the literature review will serve as basis for the subsequent workshop 6.1.1.2.

6.1.1.2 Workshop

Lead: MS, Portugal

Multisectoral collaboration: A digital workshop will be organized with the aim to collect relevant tools, instruments or core elements that were not identified in the literature review or have different meaning or weight for different sectors or countries. The starting point for this workshop will be the outcome of the Literature review 6.1.1.1 as well as identified existing documents, such as ECDC Health Emergency Preparedness Self-Assessment (HEPSA) Tool, the Joint External Evaluation (JEE) reports, the EU Laboratory Capability Monitoring System (EULabCap, 2016), WHO Laboratory assessment tool (2012), and the WHO Strategic framework for emergency preparedness (2017) (https://ecdc.europa.eu/sites/portal/files/documents/2016_EULabCap_EUreport_web_300418_final.pdf; https://www.who.int/ihr/publications/laboratory_tool/en/; <https://www.who.int/ihr/publications/9789241511827/en/>) and other documents as suggested by the experts from WP7, WP9 and WP10.

Outcome should be mutual understanding and agreement of terms, tools, instruments and core elements to be included in the integrated multi-sectoral Preparedness and Response plans. Including other relevant sectors, for example the veterinary sector more tightly into the multi-sectoral plan will be discussed.

6.1.2: Achieving consensus among countries on the core elements of a multisectoral Preparedness and Response plan
Lead: RIVM/EMC; input from WP4 – W10

We will compile a list of the core elements of multisectoral collaboration during Public Health Emergencies based on the outcome of 6.1.1, which Member States can incorporate in their existing national Preparedness and Response plans.

6.1.2.1 Expert meeting

Lead: MFM/DEH, Malta
(or digitally
depending on the
circumstance)

Consensus meeting on core elements of multi-sectoral collaboration during Public Health Emergencies.

Following the outcome of Workshop 6.1.1.2, consensus of the core elements will be reached during this expert meeting. These core elements are translated into practical tools and instruments to be used during simulation of the “Disease X” scenario with emphasis on applicability in different countries, including low GNI countries.

6.1.2.2 Online consultation and agreement

All JA SHARP partners will be consulted regarding agreed upon core elements from the expert meeting. We will ask their opinions on the applicability in their countries. Based on the results the checklist may be adapted

Task 6.2: Supporting partners and Member States in development of a draft for an integrated multisectoral Preparedness and Response plan

Task 6.2: Understanding multisectoral decision-making during the COVID-19 crisis

Lead: RIVM/EMC; All SHARP partners

The aim of this task to gather information concerning multi-sectoral collaboration during the COVID-19 crisis as it takes place. The focus will be on the decision-making process during the COVID-19 crisis, as well as the interaction between policy-makers and experts who advise them.

6.2.1. Understanding the multisectoral decision-making process regarding non-pharmaceutical interventions and test strategies in the COVID-19 preparedness and response phases in the European Union

Interviews will be conducted with individuals who are part of multisectoral crisis teams which provide policy advice based on scientific information (analogous to the Outbreak Management Team in the Netherlands).

6.2.2. Understanding which factors explain the similarities and differences between EU Member States’ use of scientific evidence to inform policies regarding non-pharmaceutical intervention in national COVID-19 exit strategies.

We will develop and disseminate surveys to a large group of policy-makers with the EU, to understand why there are differences in the timing and nature of the non-pharmaceutical interventions and test strategies during the exit strategies.

Task 6.3 Testing the multisectoral Preparedness and Response plan in “Disease X” scenario

Lead: RIVM/EMC; Participants: FI (THL and FFA), DE (RKI), IT (INMI and MoH), AU (AGES), UK (DH/PHE), ES (ISCIII) B&H (MCA), HR (CIPH) CZ (SUJCHBO), HU (NNK), LV (SEMS), LT (MOHLT), MT (MFH), PL

“Disease X” scenario, i.e. a scenario for a health situation that is unknown and requires multisectoral collaboration, will be developed and simulated to test the country specific multisectoral IHR Preparedness and Response plans.

6.3.1. Development of the scenario

“Disease X” scenario will be developed in consultation with Member States, JA partner countries and in particular low GNI countries. The basis of the scenario will be a novel Public Health Emergency when the origin is unknown or unclear for experts. We will focus on the phase of the crisis when experts from differing sectors must convene to identify the origin of the Public Health Emergency.

We will develop a protocol for the simulation and the list developed in 6.1 will be adapted to serve as the evaluation form.

6.3.1.1 Consultation on protocol development

An online consultation allows for engagement of all partners in the protocol development, national internal consultation on needs, feasibilities and barriers, flexible drafting, revision and mutual agreement upon a final version of the protocol.

The protocol will also include a checklist and it will be adapted/ adaptable to all included sectors and for all participating countries, including low GNI countries.

6.3.1.2 Checklist for the “Disease X” scenario simulation

Part of the protocol development of “Disease X” scenario is development of a complete checklist to be used in the optimal preparation of the simulation, as aid in the performance of the simulation and helping tool in evaluation. . This means for example that regarding national laboratory preparedness the participants should check availability of specific requirements for highly specialized laboratories (e.g. compliance with dual use regulation, restricted shipping conditions etc.) or networks to use or consult (input from WP7, WP9 and WP10).

6.3.2 Applying the “Disease X” scenario Lead: MFM/DEH, Malta

To test country specific multisectoral Preparedness and Response plans, “Disease X” simulation scenarios will be rolled out in the participating countries separately. Country specific Preparedness and Response plans are tested in “Disease X” simulation exercises and evaluated according to the agreed protocol selected by and tailor-made for the participating partner countries.

6.3.3 Survey among lower GNI countries after the “Disease X” scenario simulation exercise to improve the multisectoral Preparedness and Response plans

A survey among lower GNI countries will be carried out three months after the “Disease X” scenario simulation. This will be carried out to inventory outcomes and country specific recommendations from the simulation for further implementation of the country specific multisectoral Preparedness and Response plans, or to improve the plans. This will support to translate the national plans tested in a high-risk event into an all hazard multisectoral preparedness and response plan.

6.3.3.1 Online consultation

Online survey to inventory outcomes and recommendations from exercise “Disease X” simulation. Attention will be paid to country specific identified success and fails factors, gaps and needs, which are relevant for implementation of the integrated multisectoral preparedness and response plan. Preparatory to expert meeting 6.3.7.

6.3.3.2 Expert meeting

Lead: ISCI, Spain

The expert meeting will evaluate lessons learned from the simulations, and the outcomes and recommendations from the survey and online consultation. Also, the critical steps needed to translate the plans into all hazard multisectoral Preparedness and Response plans will be evaluated, with emphasis on applicability in low GNI countries. The outcome of this meeting will also serve as framework for protocol development of e-learning and tabletop exercises (Task 6.4) and best practices catalogues and guidelines (Task 6.5).

Task 6.4: Learning from “Disease X” scenario: testing the multisectoral Preparedness and Response plan in e-learning and tabletop exercises

Lead: EMC/ RIVM; Participants: FI (THL and FFA), DE (RKI), IT (INMI and MoH), AU (AGES), UK (DH/PHE), ES (ISCI) BA (MCA), HR (CIPH and UHID), CZ (SUJCHBO), HU (NNK), LV (SEMS), LT (MOHLT), MT (MFH), PL (NIZP-PZH and NVRI), PT (MS), RS (IPHS), SI (NIJZ)

The simulation of “Disease X” scenario provides the most robust assessment of the strengths and weaknesses of the multisectoral collaboration within a country in relation to the Preparedness and Response cycle. These strengths and limitations will be addressed in flexible e-learning and tabletop exercises.

6.4.1. Inventory of best practices of multisectoral collaboration during Public Health Emergencies

Lead: ISCI (ES). Participants: FI (THL and FFA), DE (RKI), IT (INMI and MoH), AU (AGES), UK (DH/ PHE), ES (ISCI) BA (MCA), HR (CIPH and UHID), CZ (SUJCHBO), HU (NNK), LV (SEMS), LT (MOHLT), MT (MFH), PL (NIZP-PZH and NVRI), PT (MS), RS (IPHS), SI (NIJZ)

Inventory of best practices by using a selected amount of recent threats, to serve as input into the all-hazards -e-learning and tabletop protocols – in collaboration with WP4 and WP5.

6.4.1.1 Literature review

In preparation of all hazard e-learning and tabletop exercises a literature review will be carried out. This review will include a selected amount of recent threats, with emphasis on preparedness and response methods used, and success and fail factors.

Task 6.5. Supporting partners and Member States in development of an integrated all hazards multisectoral Preparedness and Response plan

Based on the selected core elements in Workshop / Expert meeting 6.1.1.3, the integrated multisectoral plan(s) will be adapted for all hazards application. Again, the backbone of the plan will be the IHR preparedness and response cycle. The WP6 leaders will support the participants in development of the country specific multisectoral Preparedness and Response plans.

6.5.1 Workshop on lessons learned

Lead: NIZP-PZH, Poland

Lessons learned from the high-risk Preparedness and Response plans tested will form the base for this workshop. The workshop will focus on the translation of these plans into all hazards applicability. Gaps, feasibility and barriers for participating countries need to be identified in order to achieve successful development of such all hazard multisectoral preparedness and response plan for all participating countries, with focus on low GNI countries. The outcome of this workshop will serve as the framework for protocols for accessible e-learning and tabletop exercises for different sectors (e.g. public health, clinical, chemical, zoonotic, and others) accounting for minimum level of expertise necessary, and an agreed set of core capacities.

6.5.2 Development of integrated all hazards e-learning and tabletop exercise protocols and testing for operability

E-learning and tabletop exercises are accessible simulations to test different all hazard threats for different sectors at any frequency and/or depth needed. The simulations will test the day-to day preparedness and response capacities and capabilities of all parties involved in the national plan. An important role of these simulations is testing the communications, and knowledge of each party's role in the simulated event. The tested scenarios may include any health event, including infectious diseases requiring multisectoral collaboration. .

6.5.2.1 Consultation on protocol development

An online consultation allows for engagement of all possible partners in the protocol development, national internal consultation on needs, feasibilities and barriers and flexible drafting, revision and mutual agreement upon a final version of the protocol and checklist and to assure that it adapted/ adaptable to all included sectors and for all participating countries (including low GNI countries).

6.5.2.2 Checklist to support e-learning and tabletop exercise protocols

A checklist will be created to facilitate all hazard e-learning or tabletop exercise implementation and optimization, as part of protocol development for e-learning and tabletop exercises. The checklist will be used for preparation of the simulations, as aid in the performance of the simulations, and as helping tool in evaluation.

This checklist will be detailed for all sectors involved and focus on the characteristics of the different e- learning and table top scenarios (e.g. foodborne infections, powder letters, airborne health threats (e.g. legionella, chemical), and veterinary /zoonotic threats (e.g. Q-fever).

6.5.2.3 E-learning and tabletop exercises

SHARP partners will test their country specific integrated all hazards multisectoral Preparedness and Response plans with at least one agreed, selected protocol, tailor-made for these participating countries.

6.5.3 Survey among low GNI countries to inventory outcomes and country specific recommendations from the e-learning and tabletop exercises.

Lead: ISCIII, Spain

This survey is part of the evaluation of e-learning and tabletop exercises with focus on lower GNI countries. This subtask is important to translate the national plans tested in all hazard event in order to optimize their all hazard multisectoral Preparedness and Response plans.

6.5.3.1 Online consultation

Three months after e-learning or tabletop exercises online surveys are conducted to evaluate the simulations, identify success and fail factors, gaps and lessons learned. An inventory of critical elements for improving implementation of the integrated all hazards multisectoral Preparedness and Response plans in participating countries will be carried out. Task 6.6 Translation into best practices and sustainability (with WP4 and WP5).

Lead: ISCIII (ES). Participants: FI (THL and FFA), DE (RKI), IT (INMI and MoH), AU (AGES), UK (DH/ PHE), ES (ISCIII) BA (MCA), HR (CIPH and UHID), CZ (SUJCHBO), HU (NNK), LV (SEMS), LT (MOHLT), MT (MFH), PL (NIZP-PZH and NVRI), PT (MS), RS (IPHS), SI (NIJZ), NL (RIVM)

In order to achieve sustainable, integrated Preparedness and Response plans in the Member States and JA participating countries and to facilitate further improvements, the lessons learned from the activities within this WP are documented in best practices catalogues and guidelines. The framework for this will be discussed in the final workshop.

6.6.1 Workshop on multisectoral collaboration

Lead: SEMS, Latvia

The aim of this workshop is to collect relevant best practices, fail and success factors that were not identified in the simulations, workshops and reviews, or factors that have different meaning or weight for different sectors or countries. Outcome should be mutual understanding and agreement of best practices to be translated into best practices catalogues and guidelines applicable to all MS and JA participating countries and relevant for the different sectors.

Participation per Partner

Partner number and short name	WP6 effort
1 – THL	2.00
FFA	1.00
2 – RKI	0.10
3 – INMI	1.00
MoH	0.75
4 – BMASGK	0.00
AGES	0.50
5 – MCA	3.80
6 – CIPH	1.60
UHID	3.50
7 – SUJCHBO	5.50
10 - MOH-FR	4.75
12 – NNK	0.80
13 – SEMS	6.00
14 - MOHLT	3.00
15 – MFH	1.50
16 – RIVM	58.00
Erasmus MC	13.77
18 - NIZP-PZH	18.00
NVRI	4.00
19 – MS	7.00
20 – IPHS	12.10
21 – NIJZ	19.00
22 – ISCIII	22.25
24 – DH	1.20
Total	191.12

List of deliverables

Deliverable Number ^a	Deliverable Title	Lead beneficiary	Type ^b	Dissemination level ^c	Due Date (in months) ^d
D6.1	Review of planning and evaluation tools	16 - RIVM	Report	Public	18
D6.2	Report on Disease X scenario	16 - RIVM	Report	Confidential, only for members of the consortium (including the Commission Services)	33

Description of deliverables

D6.1 : Review of planning and evaluation tools [18]
Review of integrated evidence-based planning and evaluation tools and for Preparedness and Response cycle

D6.2 : Report on Disease X scenario [33]
Report on "Disease X" scenario, including inventory progress and barriers for implementation in low GNI countries

Schedule of relevant Milestones

Milestone number ^a	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS20	"Disease X" scenario simulated	16 - RIVM	24	Disease X scenario, with integrated IHR-laboratory preparedness and response, developed by and implemented as exercise in low GNI countries
MS21	All hazards e-learning tool launched	16 - RIVM	33	All hazards scenario-based e-learning tool developed, tested and implemented, with
MS22	WP6 workshops conducted	16 - RIVM	27	Four workshops conducted: 1. to collect tools; 2. to clarify gaps and feasibility to develop a multisectoral preparedness and response plan for participating countries; 3. to translate plans into all-hazards approach; and 4. to collect best practices.
MS23	Table-top exercises conducted	16 - RIVM	33	Country-specific all hazards multisectoral Preparedness and Response plans tested.

