

SHARP

**Strengthened International Health Regulations & Preparedness in the EU
SHARP-Joint Action**

WP8 - Training and local exercises, exchange of working practices

D.8.3 Report on Basic and advanced training curricula

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Table of content

Summary	5
Introduction	6
Methodology.....	7
Results	8
SHARP JA WP8 Training Curriculum IHR (2005) Basic Online Training	8
Context.....	8
Aims and objectives	8
Methodology and learning activities	8
Target audience	9
Planning team	9
Learning objectives of the 5 modules.....	9
SHARP JA WP8 Training Curriculum In(tr)-Action Review in an Online Setting.....	11
Needs assessment.....	11
Target audience	11
Aim, learning outcome and learning objectives	12
Learning activities	12
Time required.....	13
Materials and resources needed	13
Evaluation.....	14
Agenda for facilitators.....	14
SHARP JA WP8 Training Curriculum In(tr)/After-Action Review Workshop - 08 June 2022	17
Context.....	17
Aims and objectives	17
Target audience	17
Time.....	18
Methods.....	18
Learning activities	18
Materials and resources needed	19
Evaluation.....	19
Organisational background.....	19
SHARP JA WP8 Training Curriculum Risk Communication: Vaccine Exercise - 23rd June 2022	20
Context.....	20
Aim of the exercise	20

Objectives of the exercise	20
Methodology.....	20
Time and location.....	21
Participants/Target Groups.....	21
Planning team	21
JA SHARP WP8 Training on Simulation Exercises 23 September 2022.....	22
Context.....	22
Aims and learning objectives	22
Target audience	23
Time.....	23
Training content.....	23
JA SHARP WP8 International Tabletop Exercise Points of Entry – Control Measures, Contact Tracing, 8-9 December 2022, Athens, Greece	25
Context.....	25
Strengthening IHR capacity at borders	25
Aims and learning objectives	25
Methodology.....	26
Target audience	27
Time.....	27
Planning team	27
JA SHARP WP8 Public Health Disaster Recovery Training, 23-24 May 2023, Belgrade, Serbia.....	28
Context.....	28
Workshop aims	28
Learning objectives	28
Target audience	29
Methods.....	29
Learning activities	29
Time.....	30
Planning team	30
JA SHARP WP8 Workshop on Public Health Surveillance – lessons learned from COVID-19/Public Health Emergencies Detection and Surveillance, 6-7 July 2023, Lisbon, Portugal.....	31
Context.....	31
Aims and objectives	31
Target audience	32
Time.....	32

Methods	32
Learning activities	33
Evaluation.....	33
Planning team	33
JA SHARP WP9 Workshop on Training on the EU common ship sanitation database	34
Introduction	34
Date & Place.....	34
Goals and objectives	34
Method.....	35
Exercise content.....	35
Evaluation and follow-up	35
The assessment will be carried out through questionnaire given to participant at the end of training.	35
Planning team	35
JA SHARP WP8 Chemical Safety and Chemical Threats, 6 – 7 June 2022 and 12 – 13 October 2022, online	36
Context.....	36
Aims and learning objectives	36
Target audience	37
Time.....	37
Evaluation.....	37
Planning team	37
SHARP WP7 Lab Training courses	38
Title: Laboratory methods for diagnostics on Dobrava-Belgrade hantavirus	41
Title: Molecular and serological detection of pathogens of risk group 4 in settings without access to BSL-4 laboratory	42
Title: Antimicrobial susceptibility testing of highly pathogenic bacteria	43
Title: Protein microarray training.....	44
Title: Serological tools to detect ARBO-viruses	45
Title: MERS-coronavirus serological testing	46
Title: PCR workflow and virus typing	47
Title: MinION sequencing and data analysis.....	48
Title: Antibiotic resistance testing, using broth microdilution and broth test, for the highly pathogenic bacteria.	49
Title: Detection and identification of highly pathogenic bacteria	50



Title: Train the trainer course for biosafety officers.....	51
Title: Next generation sequencing – Microbiological NGS workflow and data processing.....	52
Title: Identification of Brucella spp.....	53
Title: Training on the isolation of Bacillus anthracis spores from soil in contaminated sites ...	54
Title: Diagnostics of viral hemorrhagic fevers – Online course	55
Title: Introduction to BSL-3 work: Biosafety and biosecurity, diagnostic algorithms and best practice (4 day module)	56
Title: Virus isolation on BSL4 from different clinical specimens and RG4 virus titration using different methods	57
Title: Bacterial isolation on BSL3 conditions, including B. anthracis, Y. pestis, Brucella spp., F. tularensis, B. mallei and B. pseudomallei from different clinical specimens and RG3 bacterial identification using different methods	58
Title: Laboratory Training - Nanopore Sequencing workshop (focus on viral metagenomics) .	59
Title: Practical training on Coxiella burnetii - isolation, cultivation and molecular typing.....	60
Title: Practical training on Brucella spp. - isolation, cultivation, molecular typing and serological diagnosis	61
Title: Workshops on ITD-PCR and waste water analysis.....	62
Title: Laboratory methods / Biorisk management.....	63
Conclusion	64

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Summary

WP8 - Training and local exercises, exchange of working practices had the specific objective to strengthen IHR implementation for serious cross-border health threats in the JA partner countries through cross-sectoral basic and advanced trainings.

We have conducted training needs assessment (deliverable D.8.1) and the results shown that the IHR capacities with the highest need for improving were Points of entry, Risk Communication, Chemical events, Biosafety and biosecurity, National health emergency framework, Surveillance, Human resources, Preparedness and response, Risk assessment, Antimicrobial resistance, and Case management capacity for IHR relevant hazards.

After the selection of the topics of the trainings to be developed, the institutions to organise the trainings were identified and contacted. The preparation of on-site trainings (Basic IHR training) started but due to COVID19 pandemic had to be transformed to the on-line training. It required additional time and resources for implementation. Other trainings curricula were developed and implemented in line with the epidemiological situation.

In total, the curricula were developed for IHR Basic Training, 7 advanced trainings, 2 tabletop exercises, chemical and laboratory trainings. Among them, the IHR Basic Trainings, 4 advanced trainings, 1 Tabletop exercise, Chemical trainings, and 3 Laboratory trainings were organised on-line, while 3 advanced trainings, 1 Tabletop exercise and 3 Laboratory trainings were conducted face-to-face.

More information on implemented trainings is available in the deliverable D.8.2.

Introduction

WP8 - Training and local exercises, exchange of working practices had the specific objective to strengthen IHR implementation for serious cross-border health threats in the JA partner countries through cross-sectoral basic and advanced trainings.

It was planned that WP8 would develop basic and advanced trainings consisting of both face-to-face and on-line trainings. In addition, a learning platform as well as tabletop and simulation exercises were to be delivered.

Specific advanced trainings were to be developed according to the results of the training needs assessment (TNA) and could include: identification and reporting of public health emergencies, joint emergency preparedness, early detection (epidemic intelligence, surveillance, monitoring and evaluation, laboratory preparedness and surveillance), risk assessment, risk management, risk communication, inter-sectoral collaboration and communication, chemical hazards, Simulation Exercises (SimEx), After Action Reviews (event assessment) and cross-border surveillance and response.

The results of TNA showed that the areas of the highest needs for trainings were

- Points of entry
- Risk Communication
- Chemical events
- Biosafety and biosecurity
- National health emergency framework
- Surveillance
- Human Resources
- Preparedness and response
- Risk assessment
- Antimicrobial resistance
- Case management capacity for IHR relevant hazards

Methodology

According to results of the TNA and the identified topics within the WP8 curricula were developed for following trainings:

1. IHR (2005) Basic Online Training
2. In(tra)-Action Review (IAR) in an Online Setting
3. In(tra)/After-Action Review Workshop
4. Risk Communication – “Vaccination Exercise”, Online
5. Training on Simulation Exercises, Online Training
6. International Tabletop Exercise Points of Entry – Control Measures, Contact Tracing
7. Public Health Disaster Recovery Training
8. Workshop on Public Health Surveillance – lessons learned from COVID-19/Public Health Emergencies Detection and Surveillance
9. JA SHARP WP8 Workshop on Training on the EU common ship sanitation database
10. Chemical Safety and Chemical Threats, online
11. Laboratory trainings

After the selection of the topics of the trainings to be developed, the institutions to organise the trainings were identified (defined in Grant agreement) and contacted. We started with the preparation of on-site trainings (Basic IHR training) but due to COVID19 pandemic had to transform it to the on-line training. It required additional time and resources for implementation. When developed other trainings curricula we were aware of the traveling restrictions and developed training curricula in an on-line setting, till the end of the restrictions. After that the trainings curricula were developed as face-to-face trainings (see the list of the trainings above). The Report on Basic and advanced training curricula (two volumes) presents the individual reports from all training curricula developed within the WP8 SHARP JA. The laboratory and chemical trainings curricula provided by WP7 and WP9 jointly with WP8, are also part of this Report. The training curricula have been developed using the Curriculum Template created by WP8 coordinators.

Results

SHARP JA WP8 Training Curriculum IHR (2005) Basic Online Training

Context

The Joint Action SHARP aims to strengthen preparedness in the European Union against serious cross-border health threats and to support the implementation of the International Health Regulations (IHR) (2005).

Implementing IHR (2005) core capacities requires trained personnel in various sectors and at different levels. This need should be addressed through various training activities within JA SHARP, including the IHR (2005) Basic Online Training.

Aims and objectives

The IHR (2005) Basic Online Training aims to provide basic IHR (2005) knowledge for personnel working in different sectors in positions relevant to IHR (2005) core capacities. It intends to strengthen the IHR (2005) core capacities according to country needs with a special emphasis on capacity building of low GNI countries. The training also aims to initiate a network of participants-inside and between countries and institutions.

The overall objectives of this training are that after the training participants should

- understand the scope and purpose of IHR (2005) including core capacities and functions
- know how to collect, assess and communicate critical public health information under the IHR (2005)
- know the importance of collaboration and communication with other sectors engaged in strengthening IHR (2005) core capacities
- understand relevant aspects of risk communication
- explain the key components of planning, coordinating, monitoring and assessing IHR (2005) implementation

Methodology and learning activities

Due to the COVID-19 situation the IHR (2005) Basic Online Training is conducted in an online format, separated in five different 2-3-hour modules. A pre-learning is included in advance to the first module to level different degrees of prior knowledge and engage people beforehand. Each module will be held twice in order to allow broader participation.

Lectures, case studies and interactive elements will be used to allow learning, exploring and refining the acquired knowledge. There will be room for discussions for concrete examples, experiences and good practices from participating countries. An evaluation is performed after the training through WP3.

Target audience

The IHR (2005) Basic Online Training is aimed to public health professionals (junior or mid-career) from different sectors, actively involved in the implementation of IHR (2005) core capacities.

Maximum number of participants: 30 per module.

Planning team

Germany (WP co-lead; RKI), contact: JA-SHARP@rki.de

Serbia (WP lead; IPHS), contact: milena_vasic@batut.org.rs

Learning objectives of the 5 modules

1. Introduction to the IHR (2005), IHR core capacities and functions

- Understand the need for revision of the IHR (1969)
- Explain the differences between the IHR (1969) & the IHR (2005)
- Describe the purpose of the IHR (2005)
- Summarize the main elements of the IHR core capacities

2. Detection, assessment and communication under the IHR (2005)

- Define a Public Health Emergency of International Concern (PHEIC) according to the IHR (2005)
- Explain how a PHEIC is determined under the IHR (2005)
- Describe the notification process and other procedures such as consultation under the IHR (2005)
- Differentiate between the roles of the WHO, the Emergency Committee and the Member States
- Apply the decision instrument (Annex 2) to assess events that might pose an international public health threat
- Exchange experiences and good practices

3. Intersectoral collaboration and coordination

- Know key aspects of intersectoral collaboration and coordination and stakeholders involved in public health decision making and response under the IHR (2005)
- Understand the relevance of the One Health approach
- Apply knowledge and pre-existing skills in 2 case studies on intersectoral collaboration under the IHR (2005)
- Exchange experiences and good practices

4. Risk communication

- Be informed about how to define risk communication
- Know at least 2 international frameworks that oblige and/or support countries to build national risk communication capacities
- Be familiar with the 5 components of WHO's integrated model for emergency risk communication
- Be acquainted with guiding principles for risk communication practice
- Develop a SOCO (single overarching communication outcome)
- Exchange experiences and good practices

5. IHR Monitoring and Evaluation Framework

- Understand the objectives and guiding principles of the IHR M&E Framework
- Differentiate the four components of the IHR M&E Framework
- Practice the identification of challenges and good practices for one topic
- Recognize the linkages between the four components to improve IHR capacities
- Exchange experiences and good practices

SHARP JA WP8 Training Curriculum In(tra)-Action Review in an Online Setting

Needs assessment

- Training needs under WP8 / JA SHARP were assessed in a desk review of Progress report on preparedness and response planning under decision 1082/2013/EU (art. 4), ECDC capacity and training needs assessment, reports from WHO Joint External Evaluations (JEE), and State Party self-assessment Annual Reporting (SPAR).
 - The European Commission progress report on preparedness and response planning under decision 1082/2013/EU (art. 4) has identified points of entry, human resources, and actions to maintain and develop all IHR core capacities as areas with the greatest need for improvement.
 - According to the ECDC capacity and training needs assessment, the domains reported as priority 1 and priority 2 were public health emergency preparedness (78.6% respondents), surveillance (71.4%) and response (71.4%), followed by communication and advocacy (64.3%), risk assessment (57.1%), and laboratory systems and methods (42.9%).
 - Only 6 of the JA SHARP participating countries have conducted a JEE. The areas with lowest marks in these JEEs included: biosafety and biosecurity, human resources / workforce development, risk communication, chemical events, medical countermeasures and personnel development, points of entry, and antimicrobial resistance.
 - Based on the SPAR survey, the areas with lowest scores included points of entry and risk communication.
- Partner countries have stressed the limited staff availability for trainings during the COVID-19 response. To account for this limitation but nonetheless provide for in-depth training opportunities, WP8 will offer a training on In(tra)-Action Reviews (IAR) in an online setting. The IARs can be adapted to various response areas / pillars depending on need and resources and thereby contribute to improvements of the pandemic response.

Target audience

The workshop will target public health professionals at the operational level in 15 low GNI countries interested in conducting an IAR on the COVID-19 response or other public health events. The workshop will be conducted twice. The maximum number of participants per workshop is 30. Each country may designate 3 to 4 participants in total.

Aim, learning outcome and learning objectives

The workshop aims at increasing the awareness regarding the purpose, scope, and methods of an IAR and at facilitating the uptake of the IAR methodology during the COVID-19 response in low-income settings.

After attending the workshop, participants will be able to develop an IAR in a virtual setting adapting resources provided by WHO, ECDC and JA SHARP for their needs. To reach the overall learning outcome, several learning objectives have been identified:

1. To describe the purpose and scope of an In(tra)-Action Review
2. To explain the phases of an IAR, including design, preparation, implementation, and dissemination
3. To describe the components of an IAR
4. To identify principles and tools (e.g., Padlet, Mentimeter) for virtual implementation of IARs

Learning activities

- Learning activity prior to participation (eLearning ECDC/WHO, [WHO Video](#))
- Connections:
 - Engagement: Welcome each participant as soon as they enter the meeting software, ask everyone to post name/country/institution on chat [learning obj. n°4]
 - Welcome and icebreaker (e.g., ask for 3 things participants know about IARs)
 - Why conduct an IAR? Short motivational input.
- Content and concrete practice:
 - Introduce technology and housekeeping rules, set expectations: interactive! [learning obj. n°4]
 - **Part 1: Introduction to IAR** [learning obj. n° 1-3]
 - Introduce purpose, scope and principles of IARs
 - Describe phases of an IAR *Design, Prepare, Implement, Disseminate* after brainstorming in break-out rooms
 - Highlight resources for design phase, including concept note, composition of IAR team

- Share sample schedule for a 3-hour-format for one pillar/response area covering various sessions (what happened, what went well/less well, what can be done to improve the response)
- **Part 2: Implementation of an IAR in virtual settings, focus session 2** [l. obj. 3]
 - Identify challenges and good practices including impact, enabling and limiting factors for one response area / pillar (e.g., risk communication) in break-out groups
 - Report all challenges and good practices in plenary
 - Prioritize the most relevant challenges to be tackled and good practices to be kept (and possibly expanded)
 - Choose relevance / time for implementation of top prioritized challenges and good practices
- **Part 3: Training for virtual settings** [learning obj. n° 4 and 2]
 - Explain differences between virtual and onsite settings for IAR
 - Develop principles for implementing virtual IAR (plenary, break-out rooms)
 - images trump words (camera)
 - talking trumps listening (mouth)
 - writing trumps reading (pen)
 - shorter trumps longer (clock)
 - small (groups) trump(s) large (groups) (group of 5 people)
 - simple trumps complicated (on/off icon)
 - pairing trumps solo (couple)
 - preparation trumps improvisation (checklist)
 - Exchange on good practices in virtual settings (plenary)
- Conclusions: Available resources and participant take-away messages

Time required

3 hours for the workshop, an additional 30 minutes before start (technical check) and after (hot debrief for facilitators)

Materials and resources needed

- 2 lead facilitators and 4 co-facilitators

- Technical support
- Stable internet access to a meeting software (preferably no dial-in by phone)
- 2-3 sheets of DIN A4 paper and pen
- Templates
- Predesigned Padlet and Mentimeter questions/boards

Evaluation

- Post-workshop survey

Agenda for facilitators

Time	Duration	Content	Methods
10:00	10 minutes	Welcome and icebreaker (e.g., ask participants whether they have participated in an IAR / AAR before, 3 things they already know about/associate with IARs)	Presentation, Mentimeter, introductions in Chat
10:10	10 minutes	Why conduct IARs – Input by X?	Presentation
10:20	5 minutes	Introduce technology and housekeeping rules, set expectations	Presentation
PART 1: Introduction to IAR			
10:25	5 minutes	Introduce purpose, scope, principles of an IAR	Presentation
10:30	10 minutes	Describe phases of an IAR: Design, Prepare, Implement, Disseminate	Breakout-rooms: Brainstorm aspects to cover in each phase in 4 breakout groups, each group focusing on one phase (simultaneous use of Padlet n°1)
10:40	5 minutes	Review results	Plenary
10:45	7 minutes	Highlight resources for design phase, including concept note, composition of IAR team, stakeholder analysis Share sample schedule for a 3-hour-format for one pillar/response area covering various sessions (what happened, what went well/less well, what can be done to improve the response)	Presentation

		Remind participants that they will be assigned to new breakout-rooms which they should attend right after the break (one facilitator will stay in the plenary for support)	
10:52	5 minutes	<i>Break: Move your body</i>	
PART 2: Implementation of an IAR in virtual settings, focus session 2			
10:57	25 minutes	Identify challenges and good practices including impact, enabling and limiting factors for one response area / pillar (e.g., risk communication)	Break-out groups: Each group fills IAR reporting template for the same response area / pillar and selects rapporteur. Group facilitator will use trigger questions and employ root cause analysis. At the end of this exercise, group facilitator will send Word document via E-mail and share it on chat in plenary.
11:22	15 minutes	Report by rapporteur of each group to plenary, only highlighting additions or changes to those challenges and good practices already mentioned.	Note-taker in plenary collects all challenges and good practices (one sticky note each) on pre-designed Padlet n° 2
11:37	10 minutes	Prioritize the most relevant challenges to be tackled and good practices to be kept (and possibly expanded) Suggest that prioritization should keep in mind the potential impact of the issue for the population.	Using browser link to Padlet n°2, every participant can select the 3 most relevant challenges and the 3 most good practices from each column by clicking on heart below sticky note.
11:47	10 minutes	Choose relevance / time for implementation of top prioritized challenges and good practices	Plenary: Instruct participants to write "now" on front of, "later" on back of paper (using different colours). Have participants vote on immediate vs. mid-to long-term implementation by showing written response (now /later) into camera, count responses and categorize issues accordingly.
12:00	3 minutes	Moment of reflection	Reflect and write down 2-3 key take-aways.
12:05	5 minutes	<i>Break: Enter 3 other rooms (if physical distancing allows), open window</i>	
Part 3: Training for virtual settings			
12:11	6 minutes	Explain differences between virtual and onsite settings for IAR, e.g., travel and logistics planning, venue, symptom and fever screening for onsite IARs vs. choice of appropriate online platform, importance of technical checks and housekeeping	Presentation, possibly have participants assign relevant aspects to virtual vs. onsite IAR during COVID

		rules, number of facilitators, preparation of interactive tools)	
12:17	25 minutes	<p>Develop principles for implementing virtual IAR:</p> <ul style="list-style-type: none"> • images trump words (camera) • talking trumps listening (mouth) • writing trumps reading (pen) • shorter trumps longer (clock) • small (groups) trump(s) large (groups) (group of 5 people) • simple trumps complicated (on/off icon) • pairing trumps solo (couple) • preparation trumps improvisation (checklist) <p>Additional ones not covered:</p> <ul style="list-style-type: none"> • moving trumps sitting • adaptation trumps replication • multisensory trumps unisensory • different trumps same 	<p>Plenary: Have participants divide blank sheet of paper into 8 sections and draw the following objects (one per section), namely clock, pen, mouth, a couple, camera, group of 5 people, on/off icon, checklist; and post 2 lists of 8 words on chat to be copied down by participants (images, reading, talking, shorter, small, complicated, pairing, improvisation; words, longer, writing, listening, large, simple, solo, preparation.</p> <p>Break-out groups: 1) Conduct “X trumps Y” exercise – have participants combine pairs from 2 word lists and write them below the appropriate drawing. Discuss brain-friendly principles.</p> <p>2) How can you apply these principles in an IAR?</p> <p>e.g., consider a dry-run using relevant platform in advance, accommodate people with different learning styles, provide breaks, consider icebreakers, ask open-ended questions, etc.</p>
12:42	10 minutes	Good practices from participants in a virtual setting	Plenary: Padlet N° 3 Exchange of good practices from other virtual events
12:52	8 minutes	<p>Wrap-up: Mention toolkits, available resources, contact information</p> <p>Return to learning objectives and ask participants about main take-aways from training</p>	<p>Presentation</p> <p>Mentimeter: What was your biggest learning today? Alternatively, ask participants to post their feedback in the chat.</p>

SHARP JA WP8 Training Curriculum In(tra)/After-Action Review Workshop - 08 June 2022

Context

The Joint Action SHARP aims to strengthen preparedness in the EU against serious cross-border health threats and to support the implementation of the International Health Regulations (IHR) (2005) to prevent, detect and respond to biological outbreaks, chemical contamination, environmental and unknown threats to human health. In(tra) Action Reviews (IARs) and After-Action Reviews (AARs) provide an opportunity for collaborative learning to help improve responses to current crises and health threats such as the COVID-19 pandemic.

This workshop will give health professionals the opportunity to practice designing and planning an IAR/AAR using concrete examples and to exchange ideas with other practitioners, scientists and experts from ECDC and WHO. The formed network is intended to bring about future exchange beyond the workshop.

Aims and objectives

The workshop aims to strengthen participants' competence to design, plan and implement IARs and AARs and thus enhance country capacity in this regard. It also intends to contribute to the lessons-learned process of the current pandemic and thereby to better preparedness for future health threats. Furthermore, the workshop provides a platform for sharing knowledge and experience among experts and relevant stakeholders.

After completing at least one of the e-learnings recommended before this workshop (see below), participants should

- know purpose, scope and components of an IAR/AAR
- understand the different phases and formats of IARs and AARs
- be able to develop a concept for an IAR/AAR in their country/ field of work

After completing the online-workshop, participants should be able to

- critically analyse IAR/ AAR concepts
- identify key messages and challenges regarding IAR/ AAR implementation
- discuss (advantages/disadvantages of) different formats and methods for IAR/AAR implementation

Target audience

The workshop is aimed at public health professionals who are planning to conduct an IAR or AAR in their country in the near future. Prior knowledge about IARs/ AARs is helpful but not mandatory as the e-learnings introduce to the topic. The workshop may accommodate the discussion of 12 different IAR/AAR plans/concepts, each presented by 1 or 2 participants from the same country/institution (maximum number of participants thus 24). The training will be conducted in English.

Time

The training will be held online using WebEx Meetings on 08 June 2022 from 10:00 to 12:30 CEST. Participants can register for the training via JA-SHARP@rki.de using the registration form until 18 May 2022.

Methods

The workshop will be held online via the online meeting tool WebEx Meetings. The following methods will be part of the training portfolio

- E-learnings available from ECDC and WHO (see below)
- Presentations
- Inter-active exercises
- Group discussions to share concrete examples, experiences and good practices from participating countries
- Invited expert chairs and facilitators to guide group discussions

The training will be conducted in English.

Learning activities

• Prior to the training:

- Before the workshop, participants should have completed at least one of the e-learning courses available from WHO¹ or ECDC² on the subject.
- Based on the content of those trainings, participants develop a rough outline of a concept for an IAR or AAR in their country on a currently relevant topic (→ see template for guidance, estimated time approximately 2 hours).
- Participants send the topic of their IAR/AAR and, if possible, also the template PowerPoint and/or other documents they have already prepared to JA-SHARP@rki.de until 01 June 2022.

• Workshop on 08 June 2022:

1. Welcome and connection

- Welcoming remarks
- Introduction of facilitators and expert chairs

2. Introduction to the topic

- A short introduction to the topic and a summary of key aspects regarding phases, formats and best practices of an IAR/ AAR will be provided.

3. Breakout session: Presentation of participants IAR/AAR concepts

- Participants will give a short presentation (max. 10 minutes) of their rough conceptual outline in a small group (maximum of 3 concepts per group; 3-6 people plus facilitator). The group will then discuss the individual proposals in a peer-to-peer approach. Finally, the group collects the most important take-home messages, challenges and good practices.

4. Conclusion

¹ WHO courses: <https://openwho.org/courses/covid-19-intra-action-review-en> and <https://extranet.who.int/hslp/training/enrol/index.php?id=131>, approx. 2 hours respectively

² ECDC course: https://eva.ecdc.europa.eu/totara/catalog/index.php?catalog_fts=PRPNS&orderbykey=featured&itemstyle=narrow, approx. 2 hours

- Brief presentation of key messages, good practices and challenges
- Plenary discussion: The group discusses remaining questions and challenges with the experts
- Wrap-up and Goodbye

Materials and resources needed

- 2 lead facilitators and 4 additional facilitators (one of whom with additional responsibilities regarding chat, documentation etc.)
- Team member responsible for technical support
- Access to a meeting software
- Stable internet access (browser to be used in parallel to meeting software)
- Schedule, facilitation guide, presentations from participants available for every facilitator
- digital tools with whiteboard functions (e.g., Mentimeter, Padlet)
- Parallel communication channel between moderators and facilitators
- Participants: stable internet access to meeting software, access to browser

Evaluation

The training will be evaluated in cooperation with WP3 via an online evaluation form. In addition, a hot debrief for moderators and facilitators will be conducted at the end of the training.

Organisational background

The Robert Koch Institute (RKI) is the German national public health institute within the portfolio of the Federal Ministry of Health. Among other tasks, the RKI is responsible for nationwide health monitoring and the prevention and detection of infectious diseases. Its scientists conduct research in infectious disease epidemiology as well as sentinel surveillance projects and support the federal states in outbreak investigations. With regard to the IHR (2005) the RKI is the responsible authority for assessing biological threats whereas the German Joint Information and Situation Centre (GMLZ) is the National IHR Focal Point in Germany.

SHARP JA WP8 Training Curriculum Risk Communication: Vaccine Exercise - 23rd June 2022

Context

The Joint Action SHARP aims to strengthen preparedness in the EU against serious cross-border health threats and to support the implementation of the International Health Regulations (IHR) (2005). Exercise will be conducted within the framework of Work Package 8, which is responsible for training and local exercises, and exchange of working practices.

The exercise is prepared by National Institute of Public Health Slovenia with collaboration and support by ECDC and [Work Package 8](#) lead National Institute of Public Health Serbia and [Work Package 8](#) co-lead Robert Koch Institute. Exercise will focus on risk communication during the roll-out of a new vaccine in a pandemic.

Aim of the exercise

This exercise aims to empower public health experts within the JA SHARP in risk communication with the general population through the media during the roll-out of a new vaccine in a health crisis.

Objectives of the exercise

Increase knowledge on the criteria for good communication messaging;

- Improve communication skills;
- Exchange and learn from experience of other colleagues.
- Better understanding of criteria for appropriate health communication and skills for communicating these messages

Methodology

The exercise is built upon a short introductory presentation from a risk communication expert, a three-steps scenario and a plenary discussion. In this way both limited time-requirements and needs are considered.

The exercise will take place online. More details to follow.

All participants go through all three steps, break out rooms serve for an easier communication between participants (smaller groups).

- Break out groups: each group has an expert that helps formulate messages and gives practical and precise feedback (learning, improving of sentence structure, etc.)

Time and location

Online (ZOOM) / Wednesday, 23 June 2022, at 10am-12pm.

Break out rooms (moderators and facilitators)

- Two hours

Participants/Target Groups

- Public Health Experts
- SHARP JA partners, 15 countries/institutes, 2 per country/inst.
- Risk Communication Experts
- to lead presentations/plenary discussion.

Planning team

Slovenia (NIJZ)

Germany (WP co-lead; RKI)

Serbia (WP lead; IPHS)

ECDC (Paul Riley)

JA SHARP WP8 Training on Simulation Exercises 23 September 2022

Context

The Joint Action SHARP aims to strengthen preparedness in the EU and EEA against serious cross-border health threats and to support the implementation of the International Health Regulations (IHR) (2005). Implementing IHR (2005) core capacities requires trained personnel in various sectors and at different levels. To meet this need, several workshops and online trainings are conducted as part of the JA SHARP. The training on Simulation exercises (SimEx) is one of them.

The JA-SHARP aims to encourage all low GNI-countries to conduct multi-sectorial exercises with institutions responsible for IHR implementation.

Simulation exercises provide an opportunity for collaborative learning to identify strengths and weaknesses of the response system and plans as well as help improve the overall response to crises and health threats such as the COVID-19 pandemic.

This training will give health professionals the opportunity to practice designing and planning a simulation exercise (SimEx), using concrete examples and to exchange ideas with other practitioners, scientists and experts from ECDC and WHO. The formed network is intended to bring about future exchange beyond the workshop.

Working language: English

Aims and learning objectives

The overall goal of the training is to provide participants with the knowledge and tools to successfully participate in the development of a SimEx in their country. In addition, the training offers the opportunity to exchange ideas and share experiences with experts from WHO, ECDC and RKI as well as with participants from other countries.

After the training, participants should

- Be familiar with the relevant WHO and ECDC tools and resources
- Know the benefits of conducting a simulation exercise
- Be able to define the purpose, objectives and scope of a SimEx
- Be able to distinguish between the different types of SimEx
- Be aware of the relevant steps for developing a SimEx
- Have practiced designing a SimEx and be able to critically analyse SimEx concepts
- Have strengthened their professional network

Target audience

The workshop is aimed at public health professionals from JA-SHARP partner countries who are planning to be involved in developing, conducting and/or evaluating a simulation exercise in their country in the near future.

Time

The training will take place on **23 September 2022 from 10:00 to 13:00 (CEST)** via Webex Meetings.

Training content

Prior to the training:

- **E-learning**

Before the workshop, participants should have completed at least one of the e-learning courses available from WHO³ or ECDC⁴ on the subject. The courses are free of charge, but registration on the respective learning platform is necessary.

Workshop on September 23 2022:

- **Key aspects of SimEx**

After a short welcome, the facilitators will introduce the participants to basic aspects and principles of Simulation Exercises. Among others, the following topics will be covered:

- Purpose, objectives and scope of SimEx
- Different types of SimEx
- Steps in developing and implementing a SimEx
- Evaluation of SimEx

- **Developing and reflecting on SimEx-concepts**

³ **WHO course (approx. 1 hour):**

“WHO Simulation Exercise Management Training Course”:
<https://extranet.who.int/hslp/training/enrol/index.php?id=127>

⁴ **ECDC courses (approx. 1 hour each):**

“How to design a Functional Exercise e-learning course” and/ or “How to design a Table-top exercise e-learning” both available online via: <https://eva.ecdc.europa.eu/totara/catalog/index.php>

The moderators will share examples, experiences and lessons learned regarding development and conduction of Simulation exercises. In small group exercises, the participants are given the opportunity to:

- Exchange experiences regarding SimEx with other professionals
 - Practice how to select and design a concept for a SimEx
 - Practice reflecting on and critically analysing concepts for a SimEx.
- **Tools and resources from WHO and ECDC**

ECDC and WHO will present their materials on the topic and discuss possible applications and further questions with the participants.

JA SHARP WP8 International Tabletop Exercise Points of Entry – Control Measures, Contact Tracing, 8-9 December 2022, Athens, Greece

Context

The SHARP Joint Action aims to strengthen EU preparedness against serious cross-border threats to health and to support the implementation of the International Health Regulations (IHR) (2005). Each technical work package helps build capacities to prevent, detect and respond to biological outbreaks, chemical contamination, environmental and other unknown threats to human health. By strengthening member states existing capabilities and supporting improvement in identified IHR capacity gaps, the SHARP Joint Action contributes to a safer environment for all EU citizens.

Implementing the basic IHR (2005) capabilities in the EU countries requires trained personnel across different agencies and at different stages. Work package 8 (WP8) meets this need by supporting collaboration between partners and agencies related to the strengthening of the implementation of the IHR through its provision of training and exchange of work practices.

Strengthening IHR capacity at borders

Today's high level of traffic at points of entry can play a key role in the international spread of diseases through persons, conveyances and goods.

Points of entry provisions in the International Health Regulations (IHR) (2005) outline obligations and recommendations enabling countries to prevent, prepare for and respond to public health risks at the three categories of international airports, ports and ground crossings. Under the IHR, States Parties are requested to maintain effective public health measures and response capacity at designated points of entry.

When it comes to managing public health emergencies at Points of Entry (PoE) effective risk communication involving both national and international authorities is crucial in informing people about the threat and ensuring their compliance with recommended measures. Public health officials require the knowledge and skills to design and implement effective risk communication strategies, take measures in accordance with the legislative frameworks and implement effective contact tracing.

In this context, the Greek National Public Health Organization – EODY, is offering an international level, tabletop exercise focusing on planning and implementing the practices in cross border events to control the spread of transboundary diseases. The event also aims to capture the overall state of preparedness around points of entry in the participating countries.

Aims and learning objectives

The aim of the international exercise is to reinforce and guide the management of incidents at Points of Entry (PoE) – airports, ports and ground crossings – by implementing and exercising best practices and understanding the systems and correct procedures.

Building on the work of other Joint Actions, particularly EU HEALTHY GATEWAYS, the exercise provides a unique opportunity for representatives from national authorities to practice their skills in intra-sectoral collaboration: between health sectors (hospitals, community health centers, home care agencies); and between health and non-health care sectors (social services, transportation, housing, private sector, employment).

This discussion-based, cross-sectoral table-top exercise is delivered either in person or online, consisting of the following sessions:

- a welcome/introduction session (to introduce participants to the exercise purpose, design, objectives, rules and roles)
- the running of the scenarios (participants will receive information such as injects and are requested to respond within allocated timeframes)
- debriefing and evaluation session (for participants to report any key issues/actions taken in response to the scenario)

By completing the international exercise participants should be able to improve plans for

- Communication and coordination between Points of Entry authorities of different or the same country
- Cross sectorial coordination and at National and European level
- Understanding the criteria for reporting or not of an event at European/International level
- Implementing evidence-based measures at points of entry and contact tracing at National and European level

Methodology

The exercise will taking place Hybrid (in person and online).

The type of exercise will be discussion-based table-top-exercise.

The exercise content will be divided into two days of which will be covered in interactive session with time for discussions.

- Scenario-based learning sessions
- Discussions to share concrete examples, experiences and good practices from participating countries
- Invited expert Controller and facilitators to guide group discussions.

Working language: English

Six (6) sessions, 13 injects.

Target audience

Field epidemiologists from different sectors, public health professionals (junior or mid-career), risk communication experts and laboratory experts would gain knowledge and insight from participating.

Ideally, the participants should be representatives of local, intermediate and national level authorities and public health agencies and be actively involved in point of entry sector with:

- competencies to respond to public health events at PoE and to implement health measures at PoE and on-board conveyances or/and
- competencies in IHR and/or
- experience in contact tracing and/or
- basic knowledge of crisis management and the Early Warning and Response System (EWRS)

Working language: English

Time

The exercise will take place on 9-10 December 2022, in Athens, Greece and online

Planning team

E.Hadjipaschali, N.Bitsoles, A. Liona, L.Kostopoulos, S.Sapounas

Christos Hadjichristodoulou, Barbara Mouchtouri, Elina Kostara, Leonidas Kourentis, D.Kafetsouli

JA SHARP WP8 Public Health Disaster Recovery Training, 23-24 May 2023, Belgrade, Serbia

Context

Disaster recovery is a highly complex process involving environmental, physical, health, social, psychological and economic aspects. It may be very diverse in its concept, conduct and duration, depending on various factors such as: type and magnitude of disasters, the extent of damage, characteristics and intensity of hazard, type of and exposure to hazard, geographical location and landscape, population density and vulnerability, the preparedness of the national system, including alert system in place, and response capacities.

Adopting the SENDAI FRAMEWORK, this workshop improves understanding of complexity and diversity of recovery process after disasters of various types and contributes to widening public health professionals' perspectives and capabilities from different partner countries of the JA SHARP in identifying and planning the actions in short- and long-term recovery periods. Allowing us to Build Back Better

It also offers a platform for horizontal, collegial exchange of experience and knowledge.

Workshop aims

The workshop aims to:

strengthen/boost knowledge and skills for identifying and planning the actions in short- and long-term recovery timeframes

consider integration of risks, complexity and diversity of recovery process in various types of disasters through exchange of knowledge and experience between participants of various disciplines and from different countries.

Learning objectives

In order to reach the overall aim, several learning objectives have been identified. After completing the workshop, the participants should be able to:

- Recognise the **importance** of recovery process in disaster management cycle
- Identify the **effects on public health** and determine key areas for intervention after various types of disasters
- **Identify relevant stakeholders to** be involved in the recovery process
- Define priority **actions and activities** in developing their own recovery action planning
- Identify **challenges** for the implementation of recovery actions

Target audience

Participant limit of >35

The workshop is aimed at

- public health professionals from countries participating in the JA SHARP. Ideally, the participants should be actively involved in emergency planning and response within public sector services, national authorities, ...and be experienced in health (including psychological), communication and environmental agencies, voluntary and third sector.... have basic knowledge about emergency response and recovery.
- The competent authorities working with preparedness plans in SHARP partner countries.
- Professionals from local, intermediate and national level competent authorities and public health agencies in countries participating in the SHARP Joint Action
- National focal points (NFPs) for the International Health Regulations (2005)

Methods

This workshop will be held in person in Belgrade, Serbia.

The workshop content is divided in different thematic sessions, lasting 2 days with time for group discussions and exercises. The following methods will be part of the workshop portfolio:

- Presentations
- Inter-active exercises in groups
- Scenario-based learning sessions (e.g., case studies)
- Invited expert chairs and facilitators to guide group discussions

The workshop will be conducted in English.

Learning activities

1. Connection and Engagement:

- Welcome participants
- Introduction of participants
- Housekeeping rules

2. Content:

- Collaboration frameworks with different partner countries of the JA SHARP

- Exchange of experiences and good practices in group work

3. *Concrete activities*

- Presentations:
 - Recovery process in disaster management cycle
 - Public health effects after various type of disasters
 - Actions and activities in recovery action planning
 - Challenges for the implementation of recovery actions
- Break-out groups: exchange of knowledge and experience through pre-defined disaster scenarios

4. Conclusion

- Reflection
- Wrap-up and outlook

Time

The workshop will take place on 23 and 24 May in Belgrade, Serbia

Planning team

Giri Shankar, Karen Dancey, Public Health Wales

Dragana Jovanovic, Vesna Karadzic, Milena Vasic, Institute of Public Health of Serbia

JA SHARP WP8 Workshop on Public Health Surveillance – lessons learned from COVID-19/Public Health Emergencies Detection and Surveillance, 6-7 July 2023, Lisbon, Portugal

Context

The Joint Action SHARP aims to strengthen preparedness in the EU against serious cross-border health threats and to support the implementation of the International Health Regulations (IHR) (2005). The different work packages will help in sustainable capacity building to prevent, detect and respond to biological outbreaks, chemical contamination, environmental and unknown threats to human health. By consolidating the existing capacities of members and supporting improvement in those countries where IHR capability gaps exist, the JA SHARP contributes to ensuring a safer environment for all EU citizens. Implementing the IHR (2005) core capacities in the different countries requires trained personnel in different sectors and at different levels.

Lessons learned from COVID-19 brought new approach for public health emergencies detection and surveillance. In order to better detect, assess, and take the right decision and adjustments of public health measures, Member States were forced to collect data from different sources of information and integrate them to report at national and international level. Clinical, laboratorial and epidemiological data had to be complemented with information related to discharges from hospitals, services capacity, including equipment, devices, human resources, community risk perception, adaptation of PH measures and countermeasures, including vaccine coverage, media and social media misinformation, to name some. The right information management and data analysis obliged public health experts to redefine daily activities, using new digital tools to collect, integrate, display, and analyse data to serve decision making and guide the right actions. More than ever, globally, public health experts need to use the post-acute phase of the pandemic to consolidate the experience, build new knowledge and sediment new skills and competencies for Public Health Emergency Preparedness and Response.

Aims and objectives

This public health surveillance workshop will contribute to strengthening the IHR (2005) core capacities in the different partner countries of the JA SHARP and others in a sustainable way by reinforcing participant's knowledge and practice of Epidemic Intelligence within the frame of new integrated surveillance, learned from COVID-19 experience. It offers a platform for sharing of experiences and practices from different contexts.

The workshop aims to contribute to the implementation of lessons learned from COVID-19 within the area of public health emergencies, from detection to assessment, management and communication. More specifically it will reinforce knowledge and practice of Epidemic Intelligence within the frame of new integrated surveillance to support public health emergencies, learned from COVID-19 experience.

In order to reach the overall aim, several learning objectives have been identified. After completing the workshop/ training the participants should be able to

- Outline relevant international regulation, strategies and guidance for public health emergencies
- Describe the main steps in designing and implementing a new surveillance system
- List and understand strength and weaknesses of different types of data, information, indicators, and proxies that can be used in public health surveillance
- Describe the different types of surveillance systems and the data sources they are based on
- Describe the added value of an integrated surveillance systems and how this can be achieved in different contexts
- Interpret data from a surveillance system and understand the use for public health action
- Outline relevant criteria and method for evaluation of a surveillance system

Target audience

The training is aimed at junior/mid-career public health professionals or field epidemiologists from:

- countries involved with JA SHARP
- other EU/EEA countries
- neighbouring countries namely Albania, Serbia, others

Ideally, the participants should have basic knowledge about epidemiology and surveillance and public health emergencies.

Time

The workshop will be held in Lisbon on the 6th and 7th of July 2023.

Methods

The planned duration of the workshop is 2 days, and the format will preferably be face-to-face, with a possibility for online participation. It will be held as a combination of presentations, case-studies in groups and discussions.

The workshop content is divided into 4 sections, which is covered in a 7 hour/day hybrid workshop session.

The following methods will be part of the training portfolio:

- Pre-reading reference literature

- Introductory overview presentation for each section
- Examples of good practice or dilemma/challenge from participating countries
- Case studies in smaller groups working, and discussions/presentation in plenum
- Invited expert chairs and facilitators to guide group discussions
- Plenary summary on learning outcomes

The training will be conducted in English.

Learning activities

1. Connection and Engagement

- Welcome and ice breaker session

2. Content

- Legal, strategic and guidelines on public health emergencies detection and surveillance
- Main steps of surveillance; purpose, use of output and evaluation
- Data sources and integrated surveillance

3. Concrete activities

- Presentations: ECDC, WHO, participating countries
- Case studies: using new knowledge in practice

4. Conclusion

- Reflection
- Wrap-up and outlook

Evaluation

The training will be evaluated by an online post-workshop survey to all participants and facilitators.

Planning team

Directorate-General of Health (Portugal)
Public Health Emergency Centre (CESP) (Portugal)
Department of Information and Analysis (DSIA) (Portugal)
Institute of Public Health of Serbia (IPHS) (Serbia)
The Norwegian Public Health Institute (Norway)

JA SHARP WP9 Workshop on Training on the EU common ship sanitation database

Introduction

The SHARP joint action aims to strengthen preparedness in the EU against serious cross-border threats to health and to support the implementation of the International Health Regulations (IHR) (2005). The various work packages help to build capacities, to prevent, to detect and to respond towards biological outbreaks, chemical contamination, environmental and other unknown threats to human health. By strengthening members' existing capabilities and supporting the improvement of areas where IHR capacity gaps are identified, the Joint Action SHARP will contribute to ensure a safer environment for all EU citizens.

By implementing the basic capabilities provided by the IHR (IHR-2005) in the EU countries specially trained personnel are required, that come from different agencies and at different stages.

SHARP joint action through work package 8 (WP8) is called to ensure collaborations between partners and agencies related to the strengthening of the implementation of the IHR and involved in the training and exchange of work practices.

In this context, the National Public Health Organization - EODY, as the National Focal Point for the International Health Regulations will carry out trainings at national level with the aim of teaching and implementing practices, to help control the spread of transboundary diseases at national level as well as to capture the overall state of preparedness of the country and to cover the full range of threats for public health.

Date & Place

11TH September 2023, 09:30-17:00
The Golden Age Hotel, Athens

Goals and objectives

Through this training the participants were informed about JA SHARP and its objectives, about IHR and the new regulations and how SHARP helps to strengthen the capabilities of the implementation of the IHR. They also were informed about the tools used to succeed it.

In addition, participants practiced on specific topic and asked to apply Digital tools of Public Health concerning sea vessels and Gateways.

Led by senior experts from the University of Thessaly, participants will gain a good overview of the working and best practices of the EU Common Ship Sanitation Database, including

- IHR provisions of Ship Sanitary Certificate
- Navigation and basic functionalities of EU Common Ship Sanitation Database
- An introduction to other insights and tools for multi-sectoral collaboration and mitigating cross border threats to health developed by SHARP Joint Action.

Method

The training meeting was planned as a hybrid within person and online participation.

Exercise content

- Presentations
- Practice
- In each Part of the training, the participants will be invited to answer relevant questions
- The exercise coordinators will have an active supporting role
- Assessment of the exercise
- Discussion
- Evaluation
- Conclusions
- Certificate

Evaluation and follow-up

The assessment will be carried out through questionnaire given to participant at the end of training.

Planning team

Eleonora Hadjipaschali, Nikolaos Bitsolas-National Public Health Organization-EODY
C.Hadjichristodoulou, V.Mouchtouri, L.Kourentis- University of Thessaly
Laboratory of Hygiene and Epidemiology

JA SHARP WP8 Chemical Safety and Chemical Threats, 6 – 7 June 2022 and 12 – 13 October 2022, online

Context

The Joint Action SHARP aims to strengthen preparedness in the EU and EEA against serious cross-border health threats and to support the implementation of the International Health Regulations (IHR) (2005). Implementing IHR (2005) core capacities requires trained personnel in various sectors and at different levels. In order to meet this need, several workshops and online trainings are conducted as part of the JA SHARP. The **Advanced Workshop on Chemicals** is one of them.

As part of our gap analysis activities at the beginning of the JA SHARP project, a questionnaire was sent to many of the organizations involved in JA SHARP project. There was a section on training and participants defined some gaps in chemical capacity which require further training: multisectoral cooperation and coordination, recovery/remediation, communication, clarity of responsibilities, routine surveillance, decontamination.

Based on these findings, we developed the Advanced Workshop on Chemicals which covers the following topics: chemicals and chemical incidents, IHR overview and requirements for chemicals, chemical incidents and preparedness, chemical incident response, risk assessment of chemicals, example case studies, multi-sectoral cooperation in a chemical incident, recovery of a chemical incident, interactive exercise. The workshop will focus on interactive activities and examples of real incidents.

Materials for the workshop were developed to identify and assess best practices, gaps, bottlenecks and lessons learned from previous events. These include chemical incidents and exercise scenarios, to be held on areas such as: Preparedness of EU MSs to cross-border chemical health threats (according to IHR and Dec 1082/2013) including e.g. continuity planning, intersectoral collaboration; Surveillance, alerting and notifying of cross-border chemical health threats; The rapid risk assessment of chemical health threats; Public health response and safety when dealing with/responding to potential chemical health threats; Improving access to information on roles and responsibilities of the Commission and other EU organizations.

Working language: English.

Aims and learning objectives

In order to reach the overall aim, several learning objectives have been identified. After completing the **Advanced Workshop on Chemicals** participants should be able to

- Understand the different sources of chemicals.
- Understand the public health response to chemical incidents.
- Understand the role of Competent Authorities in the identification, risk assessment and management of chemical incidents.

- Be familiar with key stakeholders that may be involved in the investigation of a chemical incident.
- Understand and apply key procedures for the alerting and notification of chemical incidents.
- Understand how chemical incidents might differ from other emergencies.
- Understand the purposes of chemical incident preparedness.
- Understand the type of information that should be considered in a chemical incident preparedness plan.
- Develop an awareness of the legal provisions for the transport of chemicals.
- Identify the hazards of transporting chemicals by different modes and be aware of measures to reduce the risk to health and environment.
- Provide examples of good practice.

Target audience

The training is aimed at public health professionals (junior or mid-career) from different sectors from countries participating in the JA SHARP. It is aimed for the persons working at a competent authority at a country central level (Ministry of Health, National Public Health Institute or other) dealing with chemical safety. Ideally, the participants should have basic knowledge about chemical incidents.

Time

The training will take place online on 6 – 7 June 2022 and 12 – 13 October 2022 (CET).

Evaluation

The training will be evaluated by an online post-workshop survey to all participants and facilitators.

Planning team

Radiation, Chemical and Environmental Hazards Directorate (CRCE), UK Health Security Agency, UK

National Institute of Public Health (NIJZ), Slovenia

SHARP WP7 Lab Training courses

The list of developed laboratory trainings was an offer to answer to the specific interest/needs of SHARP JA participants and the date of some training was not defined. Six out of 25 trainings were implemented.

Organizer	Title	Contact Organizer	Suggested dates	Duration
AUTH	Laboratory methods for diagnostics on Dobrava-Belgrade hantavirus	annap@med.auth.gr		4-5 days
BNITM	Molecular and serological detection of pathogens of risk group 4 in settings without access to BSL-4 laboratory	guenther@bni.uni-hamburg.de; nathalie.vielle@bnitm.de	25-29 April 2022	5 days
BwIM	Antimicrobial susceptibility testing of highly pathogenic bacteria	sabinezange@bundeswehr.org		3-5 days
BwIM	Online: Consensus training on Reading of Broth Microdilution and Disc Diffusion Plates	sabinezange@bundeswehr.org	3rd February 2022	½ day Workshop; VC
EMC	Protein microarray training	r.sikkema@erasmusmc.nl	Contact upon interest	3 days
EMC	Serological tools to detect ARBO-viruses	c.geurtsvankessel@erasmusmc.nl	Contact upon interest	3 days
EMC	MERS-coronavirus serological testing	b.haagmans@erasmusmc.nl	Contact upon interest	2 days
EMC	PCR workflow and virus typing	r.molenkamp@erasmusmc.nl	Contact upon interest	3 days
EMC	MinION sequencing and data analysis (focused on SARS-CoV-2)	b.oudemunnink@erasmusmc.nl or r.molenkamp@erasmusmc.nl	27-30th June 2022	4 days (can be extended with own samples)
FoHM	Antibiotic resistance testing, using broth microdilution and broth test, for the highly pathogenic bacteria	Tara.wahab@folkhsomyndigheten.se	2022, this cannot be done online.	3 days (5 days, if combined with training in detection/identification)

FoHM	Detection and identification of highly pathogenic bacteria	Tara.wahab@folkhal somyndigheten.se	2022, this cannot be done online.	3 days (5 days, if combined with training in AST)
FoHM	Train the trainer course for biosafety officers	asa.bjorndal@folkha lsomyndigheten.se		5 days
FoHM	Next generation sequencing – Microbiological NGS workflow and data processing	maria.lind.karlberg@ folkhalsomyndighete n.se		2-3 days
INMI	Diagnostics of viral hemorrhagic fevers – Online Course	annarosa.garbuglia @inmi.it	October 2022	1-2 days
INSA	Identification of Brucella spp.	Ana.pelerito@insa.m in-saude.pt		3 days
IZSPB	Training on the isolation of Bacillus anthracis spores from soil in contaminated sites	domenico.galante@i zspb.it		4 days
IZSPB	Online: Training on the isolation of Bacillus anthracis spores from soil in contaminated sites	domenico.galante@i zspb.it		max. 2 hrs
NIPH	Online: Introduction to BSL-3 work: Biosafety and biosecurity, diagnostic algorithms and best practice - online module	Siri.laura.feruglio@f hi.no	26-28 May 2021 done	3 days
NPHC	Virology - Virus isolation on BSL4 from different clinical specimens and RG4 virus titration using different methods	palyi.bernadett@nn k.gov.hu		4-5 days
NPHC	Bacteriology - Bacterial isolation on BSL3 conditions, including B. anthracis, Y. pestis, Brucella spp., F.	palyi.bernadett@nn k.gov.hu		4-5 days

	tularensis, B. mallei/pseudomallei from different clinical specimens and RG3 bacterial identification using different methods			
PHE	Laboratory Training: Nanopore Sequencing workshop (focus on viral metagenomics)	neil.mcleod@phe.gov.uk		4 days
Sciensano	Practical training on Coxiella burnetii: isolation, cultivation and molecular typing	Marcella.Mori@sciensano.be		1 week
Sciensano	Practical training on Brucella spp.: isolation, cultivation, molecular typing and serological diagnosis	Marcella.Mori@sciensano.be		1 week
THL	Workshops on ITD-PCR and waste water analysis	susanna.sissonen@thl.fi		Not available at the moment
UHID	Laboratory methods / Biorisk management	ikurolt@bfm.hr		4-5 days

Title: Laboratory methods for diagnostics on Dobrava-Belgrade hantavirus

Contact information

Contact person: Anna Papa

Organization: Aristotle University of Thessaloniki

City/country: Thessaloniki/Greece

E-mail address: annap@med.auth.gr

Short description

The course will include serological (IFA and ELISA) and molecular methods for the detection of Dobrava-Belgrade hantavirus. The molecular methods will include all steps from the extraction of viral RNA up to the final result combined by phylogenetic analysis.

Learning outcomes:

Please see short description

Biosafety level for training activities: BSL3 and BSL2

Requirements for trainees: Basics on serology and PCR

Number of trainees (minimum and maximum): 1-3 per time

Duration (full or half-days): 4-5 days

Suggested date(s): January to April 2020/2021

Title: Molecular and serological detection of pathogens of risk group 4 in settings without access to BSL-4 laboratory

Contact information

Contact person: Stephan Günther, Nathalie Vielle

Organization: Bernhard-Nocht-Institute for Tropical Medicine

City/country: Hamburg, Germany

E-mail address: guenther@bni.uni-hamburg.de; nathalie.vielle@bnitm.de

Short description

Molecular and serological detection of pathogens of risk group 4, such as Lassa virus, Ebola/Marburg virus, and Crimean-Congo hemorrhagic fever virus in settings without access to BSL-4 laboratory. Diagnostic algorithm for imported cases with suspected hemorrhagic fever.

Topic(s) and key concepts (maximum 15)

Selected topic-specific references (if applicable, please provide hyperlink)

Learning outcomes:

Able to transfer and implement the methods in their home laboratory (train-the-trainer concept).

Biosafety level for training activities: BSL2

Requirements for trainees: Handling of specimens from patients with suspected hemorrhagic fever in diagnostic laboratories that do not have access to BSL-4 facilities. Experience in molecular and serological diagnostics. The course will not train basic laboratory methods. Participants should be proficient in performing diagnostic assays and have background knowledge on viral diseases and diagnostics. Responsible for imported viral diseases in their country. The course will be held in English.

Number of trainees (minimum and maximum): max 10

Duration (full or half-days): 1 week

Suggested date(s): 25-29 April 2022 (we invite the participants to travel to Hamburg on the 24th at the latest; the course will end on the 29th in the afternoon)

Title: Antimicrobial susceptibility testing of highly pathogenic bacteria

Contact information

Contact person: Sabine Zange

Organization: Bundeswehr Institute of Microbiology

City/country: Munich, Germany

E-mail address: sabinezange@bundeswehr.org

Short description

Methods of antimicrobial susceptibility testing, quality control, interpretation criteria and guidelines

for highly pathogenic bacteria (e.g. *Bacillus anthracis*, *Francisella tularensis*, *Burkholderia pseudomallei*, *Brucella melitensis*)

Broth microdilution and disc diffusion

Learning outcomes:

Please see short description

Biosafety level for training activities: BSL2

Requirements for trainees: Working with highly pathogenic bacteria under BSL2 and BSL3 conditions

Number of trainees (minimum and maximum): 2-3

Duration (full or half-days): 3-5 days

Suggested date(s): 3. February 2022

Title: Protein microarray training

Contact information

Contact person: Reina Sikkema

Organization: ErasmusMC, Viroscience

City/country: Rotterdam, The Netherlands

E-mail address: r.sikkema@erasmusmc.nl

Short description

Principles of microarray multiplex serological testing, antigen selection, practical wet lab training for testing protein microarray slides, analysis and interpretation of the results, issues with cross reactivity.

<https://www.european-virus-archive.com/service/protein-microarray-training>

In this 3-day course the basic principles of the protein microarray will be addressed by a combination of lectures, demonstration and hands-on training. The protein microarray technique can be used for HA antibody profiling for group level assessment of exposures to influenza viruses in small sample volumes from humans and animals (birds, horses, pigs, bats, carnivores a.o.). The training encompasses wet lab training but also the analysis and interpretation of assay results. Special attention will be given to specific issues of Influenza and flavivirus cross reactivity. Specific issues include: principles of a non-contact spotting machine (Piezotray, Perkin Elmer), principles of microarray multiplex serological testing, antigen selection, practical wet lab training for testing protein microarray slides, analysis and interpretation of the results, issues with cross reactivity.

Selected topic-specific references

<https://www.european-virus-archive.com/service/protein-microarray-training>

Biosafety level for training activities: BSL2

Requirements for trainees: Basic laboratory background

Number of trainees (minimum and maximum): 3-4

Duration (full or half-days): 3 day

Suggested date(s): Contact upon interest

Title: Serological tools to detect ARBO-viruses

Contact information

Contact person: Corine Geurts van Kessel

Organization: ErasmusMC, Viroscience

City/country: Rotterdam, The Netherlands

E-mail address: c.geurtsvankessel@erasmusmc.nl

Short description

Principles and practice of serology for arboviruses.

<https://www.european-virus-archive.com/service/serological-tools-detect-arbo-viruses>

In this 3-day course the basic principles of serological testing against ARBO viruses will be addressed by a combination of lectures, demonstration and hands-on training. Participants will visit the Viroscience clinical virology lab, where they will perform all laboratory techniques including ELISA, Immunofluorescence and virus neutralization. Attention will be given to serological testing in cerebrospinal fluid, including the calculation of an antibody index. Other topics may include: cell culture, biosafety procedures, ELISA formats, different virus neutralization tests, immunofluorescence and staining of cells, calculation of titers, assay validation and quality control.

Selected topic-specific references

<https://www.european-virus-archive.com/service/serological-tools-detect-arbo-viruses>

Biosafety level for training activities: BSL2

Requirements for trainees: Basic laboratory background

Number of trainees (minimum and maximum): 3-4

Duration (full or half-days): 3 days

Suggested date(s): Contact upon interest

Title: MERS-coronavirus serological testing

Contact information

Contact person: Bart Haagmans

Organization: ErasmusMC, Viroscience

City/country: Rotterdam, The Netherlands

E-mail address: b.haagmans@erasmusmc.nl

Short description

Principles and practice on MERS-CoV Elisa and virus neutralisation assays. <https://www.european-virus-archive.com/service/mers-coronavirus-serological-testing-0>

In this 2-day course the basic principles of routine virus neutralization and ELISA assays will be addressed by a combination of lectures, demonstration and hands-on training. Special attention will be given to quality control and assay validation. Topics include: cell culture, biosafety procedures, preparation of sera and virus stocks, ELISA and microarray formats, different virus neutralization tests using pseudotyped viruses and wildtype viruses, immunofluorescence staining of cells, calculation of titers, assay validation and quality control.

Selected topic-specific references

<https://www.european-virus-archive.com/service/mers-coronavirus-serological-testing-0>

Biosafety level for training activities: BSL3

Requirements for trainees: Basic laboratory background

Number of trainees (minimum and maximum): max 3

Duration (full or half-days): 2 day

Suggested date(s): Contact upon interest

Title: PCR workflow and virus typing

Contact information

Contact person: Richard Molenkamp

Organization: ErasmusMC, Viroscience

City/country: Rotterdam, The Netherlands

E-mail address: r.molenkamp@erasmusmc.nl

Short description

Principles of PCR workflow and laboratory infrastructure shown by example of detection and typing of enterovirus.

<https://www.european-virus-archive.com/service/training-course-pcr-workflow-and-virus-typing>

In this 3-day course the basic principles of routine virus typing will be addressed by a combination of lectures, demonstration and hands-on training. Participants will visit the Viroscience clinical virology lab, where they will perform all required laboratory and analysis procedures for routine typing of viruses. Typing of enteroviruses will be used as an example, but the general procedures are applicable to typing of other viruses also. After this course participants should have sufficient knowledge to introduce routine typing of viruses in their own laboratory. Special attention will be given to quality control and assay validation. Topics included: - PCR workflow - Nucleic Acid isolation - Reverse transcription and PCR - Sequencing and sequence analysis - Basic phylogeny for virus typing - Assay validation and Quality control in molecular diagnostics

Selected topic-specific references

<https://www.european-virus-archive.com/service/training-course-pcr-workflow-and-virus-typing>

Biosafety level for training activities: BSL2

Requirements for trainees: Basic laboratory background

Number of trainees (minimum and maximum): max 3

Duration (full or half-days): 3-day (one module from sequencing to sequence analysis)

Suggested date(s): Contact upon interest

Title: MinION sequencing and data analysis

Contact information

Contact person: Bas Oude Munnink or Richard Molenkamp

Organization: ErasmusMC, Viroscience

City/country: Rotterdam, The Netherlands

E-mail address: b.oudemunnink@erasmusmc.nl or r.molenkamp@erasmusmc.nl

Short description

Sequencing by MinION and workshop on data-analysis.

Topic(s) and key concepts (maximum 15)

Focused on SARS-CoV-2. Possibility to bring own samples

Biosafety level for training activities: BSL2

Requirements for trainees: Basic laboratory background

Number of trainees (minimum and maximum): max 4

Duration (full or half-days): 4 days (can be extended if participants bring their own samples)

Suggested date(s): 27-30th June 2022

Title: Antibiotic resistance testing, using broth microdilution and broth test, for the highly pathogenic bacteria.

Contact information

Contact person: Tara Wahab

Organization: Public Health Agency of Sweden

City/country: Solna/Sweden

E-mail address: Tara.wahab@folkhalsomyndigheten.se

Short description: Methods of antimicrobial susceptibility testing, quality control, interpretation criteria and guidelines for highly pathogenic bacteria (*Brucella melitensis*, *F. tularensis* and *Burkholderia pseudomallei* and gradient test method for *Brucella melitensis*)

Training in BSL 3 (including short laboratory biorisk management module).

Can be combined with the training in detection of highly pathogenic bacteria.

Biosafety level for training activities: BSL3

Requirements for trainees: basic laboratory working experience and working experience at BSL3 level

Number of trainees (minimum and maximum): Max 4

Duration (full or half-days): 3 days

(if combined with training in detection/ identification the duration will be 5 days)

Suggested date(s): 2022 or according to needs

Title: Detection and identification of highly pathogenic bacteria

Contact information

Contact person: Tara Wahab

Organization: Public Health Agency of Sweden

City/country: Solna/Sweden

E-mail address: Tara.wahab@folkhalsomyndigheten.se

Short description: Culture and molecular biological detection for highly pathogenic bacteria. Serological methods. MALDI-TOF (*Bacillus anthracis*, *Francisella tularensis*, *Burkholderia pseudomallei*, *Burkholderia mallei*, *Brucella abortus*, and *Brucella melitensis*).

Includes training in BSL3 (including a short laboratory biorisk management module)

Can be combined with the training in antibiotic resistance testing.

Topic(s) and key concepts (maximum 15)

- Culture and molecular biological detection.
- Serological methods
- MALDI-TOF

Biosafety level for training activities: BSL3 and BSL2

Requirements for trainees: basic laboratory working experience and working experience at BSL3 level

Number of trainees (minimum and maximum): Max 4

Duration (full or half-days): 3 days

(if combined with training in antibiotic resistance testing the duration will be 5 days)

Suggested date(s): 2022 or according to needs

Title: Train the trainer course for biosafety officers

Contact information

Contact person: Åsa Björndal

Organization: Public Health Agency of Sweden

City/country: Solna/Sweden

E-mail address: Asa.björndal@folkhalsomyndigheten.se

Short description: Biorisk management course for already experienced personnel with mandate to implement biorisk management systems in their respective organization.

The course does not include actual laboratory work.

Biosafety level for training activities: NA

Requirements for trainees: Experienced in biorisk management systems and laboratory biorisk management

Number of trainees (minimum and maximum): Max 15

Duration (full or half-days): 5 days

Suggested date(s): 2021

Title: Next generation sequencing – Microbiological NGS workflow and data processing

Contact information

Contact person: Maria Lind Karlberg

Organization: Public Health Agency of Sweden

City/country: Solna/Sweden

E-mail address: maria.lind.karlberg@folkhalsomyndigheten.se

Short description: Being able to understand the steps in the NGS lab workflow.

Library construction using AB Library builder system. Pooling, cleaning and quantification of libraries. Template preparation using the Ion Chef system. Initiation of Ion S5 XL sequencing instrument.

Biosafety level for training activities: NA

Requirements for trainees: Good understanding in molecular biology and microbiology is preferable. Computer literacy is an advantage. No command line or programming experience is expected

Number of trainees (minimum and maximum): 6-8

Duration (full or half-days): 2-3 days

(if combined with training in antibiotic resistance testing the duration will be 5 days)

Suggested date(s):

Title: Identification of *Brucella* spp.

Contact information

Contact person: Ana Pelerito

Organization: INSA – National Institute of Health Dr Ricardo Jorge

City/country: Lisbon/Portugal

E-mail address: Ana.pelerito@insa.min-saude.pt

Short description:

Cultivation / Differentiation of *B. melitensis* and *B. abortus* by Real time PCR and sequencing;
Antibiotic susceptibility testing (AST) and immunologic techniques

Topic(s) and key concepts (maximum 15)

Pathogen: *Brucella*

Methods: cultivation, real time PCR, AST, ELISA

Biosafety level for training activities: BSL2, BSL3

Requirements for trainees: Experience in laboratory work in BSL3

Experience in work with molecular techniques

Number of trainees (minimum and maximum): 2 minimum/5 maximum

Duration (full or half-days): 3 days

Suggested date(s): April or May 2021

Title: Training on the isolation of *Bacillus anthracis* spores from soil in contaminated sites

Contact information

Contact person: Domenico Galante

Organization: Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata

City/country: Foggia/Italy

E-mail address: domenico.galante@izspb.it

Short description: The course will be focused on taking of soils samples from natural contaminated sites and on the isolation of *Bacillus anthracis* spores from them.

Biosafety level for training activities: BSL3; BSL2

Requirements for trainees: Experience in laboratory focused on isolation methods

Number of trainees (minimum and maximum): 4 people

Duration (full or half-days): 4 days

Suggested date(s): April-May 2020

Title: Diagnostics of viral hemorrhagic fevers – Online course

Contact information

Contact person: Dr Anna Rosa Garbuglia

Organization: National Institute for Infectious Diseases L. Spallanzani IRCCS

City/country: Rome, Italy

E-mail address: annarosa.garbuglia@inmi.it

Short description:

Theoretical course on Molecular and serological detection of pathogens of risk group 4, such as Lassa virus, Ebola/Marburg virus, and Crimean-Congo hemorrhagic fever virus in settings without access to BSL-4 laboratory. Diagnostic algorithm for imported cases with suspected hemorrhagic fever. Use of Class III glove box. Surveillance activity for pathogens of risk group 4.

Learning outcomes:

Knowing, transferring and implementation of diagnostic methods in their home laboratory (train-the-trainer concept)

Biosafety level for training activities: BSL-4

Requirements for trainees: Experience in molecular and serological diagnostics. The course will not train basic laboratory methods. Participants should be proficient in performing diagnostic assays and have background knowledge on viral diseases and diagnostics. Knowledge of cell culture procedures is useful. Involved in diagnostic for imported viral diseases in their country.

Number of trainees (minimum and maximum): max 15

Duration (full or half-days): 1-2 days

Suggested date(s): October 2022

Title: Introduction to BSL-3 work: Biosafety and biosecurity, diagnostic algorithms and best practice (4 day module)

Contact information

Contact person: Siri L Feruglio

Organization: Norwegian Institute of Public Health

City/country: Oslo/Norway

E-mail address: Siri.laura.feruglio@fhi.no

Short description:

Overview Biosafety and Biosecurity: Facility design, laboratory equipment, laboratory accidents, biohazardous waste management, Working Environment Act

Donning and doffing: Presentation and practical demonstration of principles of donning and doffing. Use of PPE. Group discussion

General overview of selected agents, methodology. Interactive discussion: Background, clinical symptoms/disease, review of algorithms for diagnosis of pathogens of concern. Discussion on principles and diagnostic approaches (interactive session)

Theoretical and practical work in BSL3: Transport, Reception of a sample, registration, how to work in the cabinet, buddy-system, use of disinfectant, waste management

Hands on training in BSL3: Sample preparation and methods of incubation/culturing

Agar plates with different agents, Cultivation (different media and bouillon) (Class 2 cabinet)

Work in glove box Inactivation/DNA isolation

Gram staining; microscopy, preparation of samples and use of mass spectrometer (MALDI-TOF)

Practical work at molecular lab:

Use of clean room, pre-PCR room, post-PCR room, set up RT-PCR

PCR analysis; evaluation and interpretation of results

Incident and accident workshop

Risk assessment planning and management

Table top exercise (i.e. Waste, illness, fire, pressure ratio)

Biosafety level for training activities: BSL2, BSL3

Requirements for trainees: Familiarity with BSL-3 work

Number of trainees (minimum and maximum): 4-5

Duration (full or half-days): 4 days

Suggested date(s):

Title: Virus isolation on BSL4 from different clinical specimens and RG4 virus titration using different methods

Contact information

Contact person: Bernadett Pályi

Organization: National Public Health Center

City/country: Budapest/Hungary

E-mail address: palyi.bernadett@nnk.gov.hu

Short description: Virology:

During the course, the trainees will gain experience and perform virus isolation (Ebola virus, CCHF virus) from different relevant clinical specimens, such as whole blood, plasma, urine and semen under Biosafety level 4 conditions. Trainees will learn the whole protocol from in vitro virus inoculation to qRT-PCR monitoring of the viral load and data analyses. Trainees will also see and perform RG4 virus titration with different approaches under BSL4 circumstances.

Biosafety level for training activities: BSL4

Requirements for trainees: at least 1 year of BSL-3 experience

Number of trainees (minimum and maximum): 1-2 person/ course

Duration (full or half-days): 4-5 days

Suggested date(s): from 06/2020

Title: Bacterial isolation on BSL3 conditions, including *B. anthracis*, *Y. pestis*, *Brucella spp.*, *F. tularensis*, *B. mallei* and *B. pseudomallei* from different clinical specimens and RG3 bacterial identification using different methods

Contact information

Contact person: Bernadett Pályi

Organization: National Public Health Center

City/country: Budapest/Hungary

E-mail address: palyi.bernadett@nnk.gov.hu

Short description:

During the course, the National Biosafety Laboratory will provide training in classical and molecular identification of RG3 bacterial pathogens (*B. anthracis*, *Y. pestis*, *Brucella spp.*, *F. tularensis*, *B. mallei* and *B. pseudomallei*). Trainees will learn the whole process from the sample management to the result validation. The goal is to assist trainees in better recognizing potential biothreat agents

Biosafety level for training activities: BSL2, BSL3

Requirements for trainees: at least 1 year of BSL-3 practice

Number of trainees (minimum and maximum): 1-2 person/ course

Duration (full or half-days): 4-5 days

Suggested date(s): from 06/2021

Title: Laboratory Training - Nanopore Sequencing workshop (focus on viral metagenomics)

Contact information

Contact person: Neil McLeod

Organization: Public Health England

City/country: Porton Down/UK

E-mail address: neil.mcleod@phe.gov.uk

Short description: The course will be a 4 day practical session, the first two days will be based on setting up-metagenomic amplification reactions, nanopore sequencing library preparation, sample barcoding and sequencing on the Nanopore. The remaining two days will be then dedicated for the analysis of the sequencing data generated during the workshop. This included base calling of the nanopore data, sequencing read quality control and refinement, performing read mapping experiments, consensus calling and downstream analysis.

Biosafety level for training activities: BSL2

Requirements for trainees: Trainee's must have a general background in molecular biology and laboratory experience. Applicants must have an appreciation on sequencing and any experience would be beneficial. It would be most useful for applicants who have immediate plans to purchase hardware and use the technology in their own laboratories.

Number of trainees (minimum and maximum): 4

Duration (full or half-days): 4 days

Suggested date(s): between June 2020 and May 2021

Title: Practical training on *Coxiella burnetii* - isolation, cultivation and molecular typing

Contact information

Contact person: Marcella Mori

Organization: Sciensano

City/country: Brussels/Belgium

E-mail address: Marcella.Mori@sciensano.be

Short description:

The course will aim to provide practical overview and protocol for direct diagnosis of Q fever.
Laboratory methods: PCR, molecular typing, microbial culture, cell culture, serological diagnosis

Biosafety level for training activities: BSL2, BSL3

Requirements for trainees: Experience in laboratory

Number of trainees (minimum and maximum): 3-4

Duration (full or half-days): 1 week

Suggested date(s): End of 2020-Begin 2021

Title: Practical training on *Brucella* spp. - isolation, cultivation, molecular typing and serological diagnosis

Contact information

Contact person: Marcella Mori

Organization: Sciensano

City/country: Brussels/Belgium

E-mail address: Marcella.Mori@sciensano.be

Short description:

The course will aim to provide practical overview and protocols for direct diagnosis of Brucellosis in humans. Laboratory methods: PCR, molecular typing, microbial culture, cell culture, serological diagnosis

Biosafety level for training activities: BSL2, BSL3

Requirements for trainees: Experience in laboratory

Number of trainees (minimum and maximum): 3-4

Duration (full or half-days): 1 week

Suggested date(s): End of 2020-Begin 2021

Title: Workshops on ITD-PCR and waste water analysis

Contact information

Contact person: Susanna Sissonen

Organization: Finnish Institute for Health and Welfare (THL)

City/country: Helsinki/Finland

E-mail address: susanna.sissonen@thl.fi

Short description: THL has organized workshops on ITD-PCR and waste water analysis for the members of WHO polio laboratory network, by request of the WHO. In addition to the agreed WHO trainees, there is not much additional capacity to receive more trainees to THL's workshops, but option for including some SHARP partners can be discussed if there are specific needs.

Biosafety level for training activities: BSL2, BSL3

Requirements for trainees: Experience in virology, environmental water analytics

Number of trainees (minimum and maximum): 1-2

Duration (full or half-days):

Suggested date(s):

Title: Laboratory methods / Biorisk management

Contact information

Contact person: Ivan-Christian Kurolt

Organization: University Hospital for Infectious Diseases "Dr. Fran Mihaljević"

City/country: Zagreb / Croatia

E-mail address: ikurolt@bfm.hr

Short description: We can provide a basic training course of BSL3 laboratory principles and practices, including dry training sessions in 4 separate BSC. Additionally, we can cover basic topics like PPE, waste management, sample inactivation procedures, Risk assessment as well as packaging and shipping according to UN 3373 & UN 2814. We had organized such a similar course in cooperation with APHL and CDC in the past.

Biosafety level for training activities: BSL2, BSL3

Requirements for trainees: Previous BSL2 laboratory experience, basic understanding of biosafety and biosecurity. English language

Number of trainees (minimum and maximum): 8 – 12 (4 BSC for dry training sessions available, 2-3 persons per BSC)

Duration (full or half-days): 4-5 days

Suggested date(s): autumn 2020, but open to changes.

Conclusion

WP8 - Training and local exercises, exchange of working practices has a specific objective to strengthen IHR implementation for serious cross-border health threats in the JA partner countries through cross-sectoral basic and advanced trainings.

D8.3: Basic and advanced training curricula

Bearing in mind the results of TNA institutions participating in WP8, supported by WP7 and WP9 have been developed curricula for

1. IHR (2005) Basic Online Training
2. In(tru)-Action Review (IAR) in an Online Setting
3. Risk Communication – “Vaccination Exercise”, Online
4. Training on Simulation Exercises, Online Training
5. International Tabletop Exercise Points of Entry
6. Public Health Disaster Recovery Training
7. Workshop on Public Health Surveillance – lessons learned from COVID-19/Public Health Emergencies Detection and Surveillance
8. Chemical Safety and Chemical Threats, online
9. Laboratory trainings (on-site and on-line in total 25 trainings)

The Report on Basic and advanced training curricula presents the individual reports from all training curricula developed within the WP8 SHARP JA. The laboratory and chemical trainings curricula provided by WP7 and WP9 jointly with WP8, are also part of this Report.

The training curricula have been developed using the Curriculum Template created by WP8 coordinators.