Co-funded by the
Health Programme of
the European Union

SHARP

Strengthened International HeAlth
Regulations & Preparedness in the EU

Chemical laboratory response network – scoping report

Version 3.4, April 2022

Tom Gaulton[1] and Lisbeth Hall[2]

[1]UKHSA, UK and [2]RIVM, Netherlands

This document is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Contents

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Background/Introduction

This report was created for the Strengthened International HeAlth Regulations and Preparedness in the EU (SHARP) Joint Action[1], which aims to strengthen preparedness in the EU against serious cross-border threats to health, and support the implementation of International Health Regulations (2005). As part of the SHARP Work Package on Chemical safety and Chemical Threats, the desirability and feasibility of setting up a European chemical laboratory network to respond to serious chemical health threats was investigated.

The desirability of a chemical laboratory network was assessed through a questionnaire developed for gap analysis of chemical capacities in European countries. Questions included: the interest of joining a network, the kind of input organisations would be prepared to provide and how likely it is that the organisation would commit to a network. The questions and responses reported herein were a part of a larger survey, of which the remainder of the results will be published in the WP9 fact-finding report. The feasibility of establishing a chemical analysis network was assessed by searching for examples of existing networks (either chemical or biological) and summarising the requirements of these networks and whether there are any lessons to be learned or examples to follow, from how these networks are set up and maintained, which could be applied to a chemical analytical network.

This report provides information on whether there is sufficient appetite for establishing a chemical laboratory analysis network, if possible, based on a model which existing networks have followed. The question of whether a chemical laboratory analysis network could be established is complex and requires a dedicated project itself due to the diverse makeup of potential laboratory partners and their analytical capability, the range of available institutions, the variety of quality assurances each institution would possess and the uncertainty of what such a network could offer. As such, there are not sufficient time or resources to perform a thorough review into the landscape of chemical laboratory analysis in Europe. Therefore, this report attempts to only answer whether potential partners would be interested (desirability) and whether such a network would be possible to establish, based on existing examples (feasibility).

Desirability for a chemical laboratory analysis network

The desirability for a chemical laboratory analysis network was assessed by questionnaire (see Annex 1 for a copy of the questions). The questionnaire was prepared for the SHARP JA in the SelectSurvey online platform, hosted by UKHSA and consisted of 49 questions. The questionnaire was distributed to a list of contacts with chemical expertise, formed through the contact lists of the SHARP and Healthy

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Gateways Joint Actions and covering all Member States. It aimed to assess adherence to IHR capacities and the current preparedness measures in place in EU countries. Contacts were asked to recommend an alternative, suitable contact from their organisation if they thought they could not participate or did not have the expertise. In total, the questionnaire was viewed 96 times and 19 participants (from 14 Member States) completed the survey (but did not necessarily answer all the questions). It was these completed responses which were used in the results. It should be noted that responses reflect only the views of the individual and not their whole organisation, or the country they come from.

As part of the questionnaire, participants were asked their opinions on joining a European laboratory analysis network for responding to chemical incidents and how desirable they found such a network. The relevant questions are presented below, while the full questionnaire can be found in Annex 1.

Questionnaire responses: Chemical laboratory analysis network

Is your organisation currently part of a chemical laboratory analysis network to respond to chemical health threats? *(question 41 from the questionnaire)*

The results are visualised in Figure 1. Currently only 29% (4/14 responses) of respondents' organizations are part of a chemical laboratory analysis network. One respondent provided an example of a chemical laboratory analysis network which analyses samples pertaining to chemical and biological health threats: https://www.legifrance.gouv.fr/circulaire/id/38195.

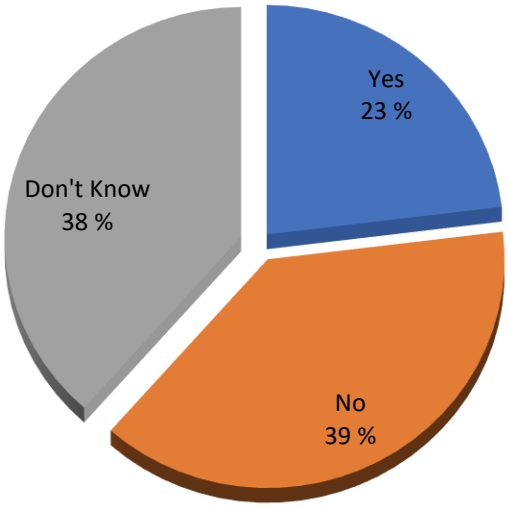

Figure 1. Is your organisation currently part of a chemical laboratory analysis network?

There were additional follow-up questions which probed this answer further, see below in Figure 2. In summary, more than half of the responses indicated that respondents

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

would be interested in joining a chemical analysis network (for either submitting or analysing samples) and would be able to assist neighbouring countries in the response to a chemical incident.

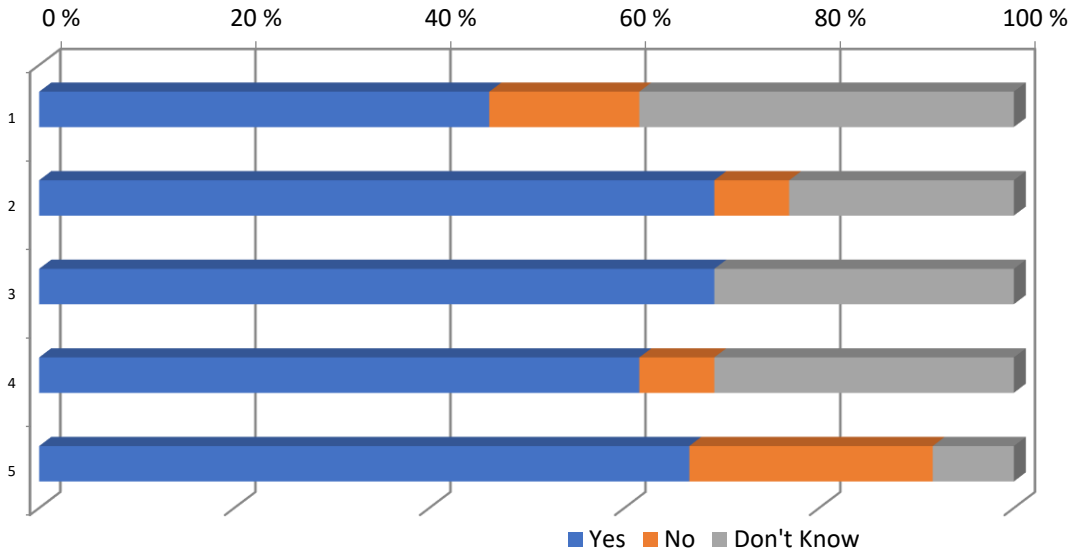

Figure 21: Answer to the following questions: (1) Would you be able to assist neighbouring countries in analysing chemical samples? (2) Would you be interested in joining a chemical laboratory analysis network, made up of institutes/organisations with the capability to analyse and identify a variety of chemical agents? (3) Would you be interested in joining this network to submit samples for testing? (this does not require that you have analytical capacity yourself) (4) Would you be interested in joining this network as a contributor? (this requires analytical capacity) (5) Do you think laboratories would need some form of accreditation to be involved in this network?

Feasibility of establishing a chemical laboratory analysis network

Questionnaire responses

The gap analysis questionnaire also asked participants about the feasibility of their organisation joining a chemical analysis network in Europe. The results are displayed in Figure 3, while free-text answers were captured to help explain the answers given.

How feasible would it be for your organisation to join a chemical analysis network? (question 43 from the questionnaire)

Around half of respondents (46% or 6/13 responses) are unsure whether it is feasible for their organisation to join a European chemical laboratory analysis network, only 8% (1/13) find it highly feasible. Respondents explained their decision about joining a network below:

- "I don't have enough information about the initiative, also our focus might be slightly different than Public Health Authorities"

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

- "The laboratories exist but a ministerial decision is required for them to participate in this network."
- "No formal analysis system exists and no access to additional resources"
- "NIPH does not have a laboratory. We have National Laboratory of Health, Environment and Food."
- "Not the lead agency or competent authority for chemical laboratory analysis"

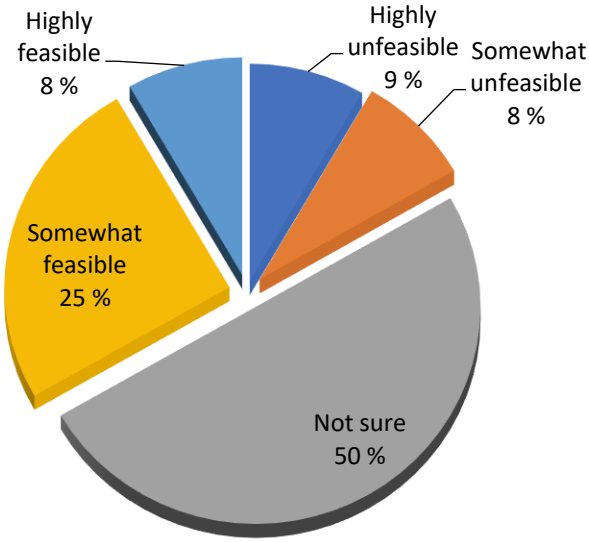

Figure 2: How feasible would it be to join a European chemical laboratory analysis network?

While 50% were unsure, 38% said joining a network would be somewhat (4/13) or highly feasible (1/13), a higher score than somewhat or highly unfeasible (17%). This shows that while the respondents are unable to answer with certainty, more believe that their organisation would support joining a network than would not.

Overall the results of the questionnaire show that most of the respondents were not currently members of a chemical analysis network, but were interested in joining such a network. Most respondents would: assist neighbouring countries with their analysis; be keen to contribute and submit samples to an analysis network for testing; and contribute to the analysis capability of the network. Most also said that some form of accreditation would be required for laboratories performing the analysis, although what kind of accreditation was not discussed. This shows that the desire for a chemical analysis network exists within the organisations and countries who responded to our questionnaire.

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Existing networks

Below we provide some examples of existing international and national chemical laboratory networks, including the Organisation for the Prohibition of Chemical Weapons (OPCW), the French national network of laboratories (Biotox-Piratox network), the Network of reference laboratories, research centres and related organisations for monitoring of emerging environmental substances (NORMAN) and the Dutch National Laboratory Network for Terrorist Attacks (LLN-ta), with members of the latter two networks providing their perspective in an interview. Through these interviews, some lessons learnt from establishing the NORMAN network and the LLN-ta were explored.

A. International chemical laboratory networks

Organisation for the Prohibition of Chemical Weapons (OPCW)

The Organisation for the Prohibition of Chemical Weapons (OPCW) was established to implement the provisions of the Chemical Weapons Convention (CWC) which entered into force in April 1997. So far, 193 State Parties have committed to the CWC. The OPCW proposes policies for the implementation of the CWC to the Member States and develops and delivers programmes for them and together with them. For example, the OPCW runs a Laboratory Assistance Programme, which is aimed at improving the technical competence of laboratories in developing countries and in countries with economies in transition. This is based on the need to strengthen national capacities for chemical analysis and monitoring, to enable Member States to implement Article XI of the CWC regarding the sound management of chemicals.

The OPCW has a network of approximately 20 Designated Laboratories across the world[2]. These laboratories have been accredited by the Organisation to perform off-site analysis of chemical samples collected by OPCW inspectors from chemical production facilities, storage depots and other installations, or from the site of an alleged use of chemical weapons. This network offers assurance to the Member States that the necessary chemical analyses are carried out competently, impartially, and with unambiguous results. The criteria for designating laboratories are as follows[3]
- The laboratory should:

a) have established an internationally recognised quality assurance system;
b) have obtained accreditation by an internationally recognised accreditation body for tasks for which they are seeking designation; and

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

c) regularly participate and perform successfully in inter-laboratory proficiency tests. Analytical laboratories should obtain satisfactory results analysing control samples distributed by the OPCW.

To gain the status of Designated Laboratory, institutions have to pass a Proficiency Test administered by the OPCW Laboratory. This purpose-built training facility in the Netherlands was set up in 2015 to train experts from laboratories around the world seeking to gain the status of OPCW-Designated Laboratory. Unlike the NORMAN network described below, the OPCW network has a highly formalised structure with clearly defined criteria for membership.

Network of reference laboratories, research centres and related organisations for monitoring of emerging environmental substances (NORMAN)

The NORMAN network was set up in 2005 with financial support from the EC within the Sixth Framework Programme (FP6)[4]. In 2009, the NORMAN network became a permanent self-sustaining network of reference laboratories, research centres and related organisations for the monitoring and biomonitoring of emerging environmental substances. It seeks both to promote and to benefit from the synergies between research teams from different countries in the field of emerging substances.

The mission of the NORMAN network is to:

- Enhance the exchange of information and collection of data on emerging environmental substances.
- Encourage the validation and harmonisation of common measurement methods and monitoring tools so that the demands of risk assessors can be better met.
- Ensure that knowledge of emerging pollutants is maintained and developed by stimulating coordinated, interdisciplinary projects on problem-oriented research and knowledge transfer to address identified needs.

Currently the network has more than 90 members comprising of leading reference laboratories and authorities based predominantly in Europe. The network has a number of working groups dealing with various issues related to emerging substances, such as prioritisation, and nano and micro-scale contaminants. The network has an annual Joint Programme of Activities for which members can propose activities. If approved, these activities are financed by the contributions of the members

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

(membership fees and members' in-kind contributions). The collaboration within the network allows for activities to be done that perhaps otherwise would not have taken place, which is beneficial for both the participating institutes and the network. Among its success stories are the development of the largest database (NORMAN EMPODAT) on emerging substances worldwide with more than nine million data records, and the development of a validation protocol to support the harmonised optimisation and validation of measurement methods for monitoring of emerging contaminants.

The initial scope of the network was the (chronic) risk to the environment of emerging substance. Although the environment is still the core domain, the network now also works in support of health. Although the NORMAN network does work in support of policymakers and is represented in expert and working groups of e.g. DG Environment and ECHA, it has chosen to remain an independent network.

Lessons learnt from NORMAN

The NORMAN network has successfully managed the transition from an EU-funded project to a competent, independent network. They promote consistent practices through harmonized standards and guidelines in order to support risk assessors. We would also expect some overlap between its members and a future laboratory network for chemical health threats (e.g. UK Environment Agency and RIVM). Based on an interview with a member of NORMAN, there are lessons that can be taken from this process that could prove useful for establishing a laboratory network for chemical health threats:

1. Start with a project. The foundations for NORMAN were established through an EU-funded project. A number of deliverables of the project, such as a joint plan of activities and a business plan, formed building blocks for future collaboration.
2. Ensure that there is a core group of committed members to take the cooperation forward after the completion of the project.
3. When transitioning from a project to a permanent network, follow-up quickly to maintain momentum and ensure an organisational framework with e.g. a steering committee and a statute.

B. National chemical laboratory networks

Dutch National Laboratory Network Terrorist Attacks

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

In the Netherlands, the National Laboratory Network Terrorist Attacks (LLN-ta) was set up to ensure an effective laboratory response to attacks with CBRN agents[5]. The LLN-ta comprises a number of laboratories with the facilities and analytical capacity necessary for dealing with potentially contaminated objects arising from a terrorist threat or attack in which CBRN agents are involved. The Ministry of Infrastructure and Water Management is responsible for the network and provides financial support. RIVM is responsible for the coordination of the network. In the case of CBRN incidents, the LLN-ta provides the relevant technical and scientific expertise.

The affiliated organisations/laboratories are:

- RIVM National Institute for Public Health and the Environment (which operates the front office)
- NFI Netherlands Forensic Institute
- WBVR Wageningen Bioveterinary Research
- WFSR Wageningen Food Safety Research
- KWR Water cycle Research Institute
- Customs Laboratory

Suspicious items are brought by first responders to the LLN-ta front office at RIVM in accordance with the Suspicious Items Protocol. Here an initial screening is carried out for the presence of C, B or RN agents. If necessary, the screening can be done on the site of the incident by deploying the RIVM Mobile Chemical and Biological Laboratory (MCBL), which includes a BSL3 laboratory. Depending on the results of the screening, the sample is sent on to one of the affiliated expert laboratories for further, more detailed analysis, identification and verification.

Together the laboratories have the expertise to analyse a broad range of samples and associated contaminants, such as pesticides, POPs, narcotics, mycotoxins, marine toxins, heavy metals, chemical weapons, zoonoses. They also have the capability to do very complex and sensitive analyses. Unlike NORMAN the collaboration in this laboratory network is not formalized with contracts or statutes. However, the responsibilities, tasks and organisation of the network are documented in a handbook and a steering group of higher management is now being considered. As attacks with CBRN agents fortunately rarely occur, the work involved in the case of an incident does not substantially interfere with regular work and can be prioritized. The advantage of it not being formalized means that it is very flexible, for example, there is also some collaboration in the case of serious chemical incidents not related to terrorism. However, the lack of a formal commitment to the network means members

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

can withdraw at any time, which would be high-risk and undesirable for a European-wide network.

Unlike NORMAN, the LLN-ta is only occasionally activated. This means that other activities are needed to bind the network together. These activities include alerting new threats, exercises, and knowledge sharing on new substances, new developments and techniques in analysis etc.

Lessons learnt from LLN-Ta

The relevant lessons for a European laboratory network for chemical health threats are:

1. Consider whether a formalized network is necessary. This may not be the case as the frequency of serious chemical health threats needing the laboratory capabilities of such a network is probably low. If a higher frequency is anticipated, a formalized collaboration is recommended in which adequate funding is organized to ensure prioritization of network tasks above ongoing work.
2. Consider other activities to enhance collaboration within the network and to provide added value to joining the network, such as knowledge sharing and exercising.

French national network of Biotox-Piratox laboratories

Similar to the Netherlands, France has a national network of laboratories (*Biotox-Piratox)* as part of the national response system to CBRN-e terrorist attacks[6]. With a wide scope of intervention, this network provides the authorities with analytical capacity that can be requested as part of the mechanism for dealing with suspicious items or in the event of activation of the national crisis management system. The national network of laboratories consists of laboratories that are able to detect the main agents of a biological and chemical threat[7]. It conducts biological, chemical or toxicological analyses from samples of human origin, environmental and/or veterinary origin, necessary for the management of the event (delivery of samples, detection and identification) or for the purposes of investigation (confirmation and authentication).

This network is divided into three levels, see Figure 4[8]. Level 1 consists of so-called sentinel laboratories dedicated to the evaluation of risks (biological, chemical,

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

radiological), to sampling and packing. Level 2 consists of university and military hospitals dealing with biological specimens and of environmental and veterinary laboratories dealing with environmental and animal samples. Level 3 comprises national reference laboratories and a biosafety level (BSL)-4 laboratory[8].

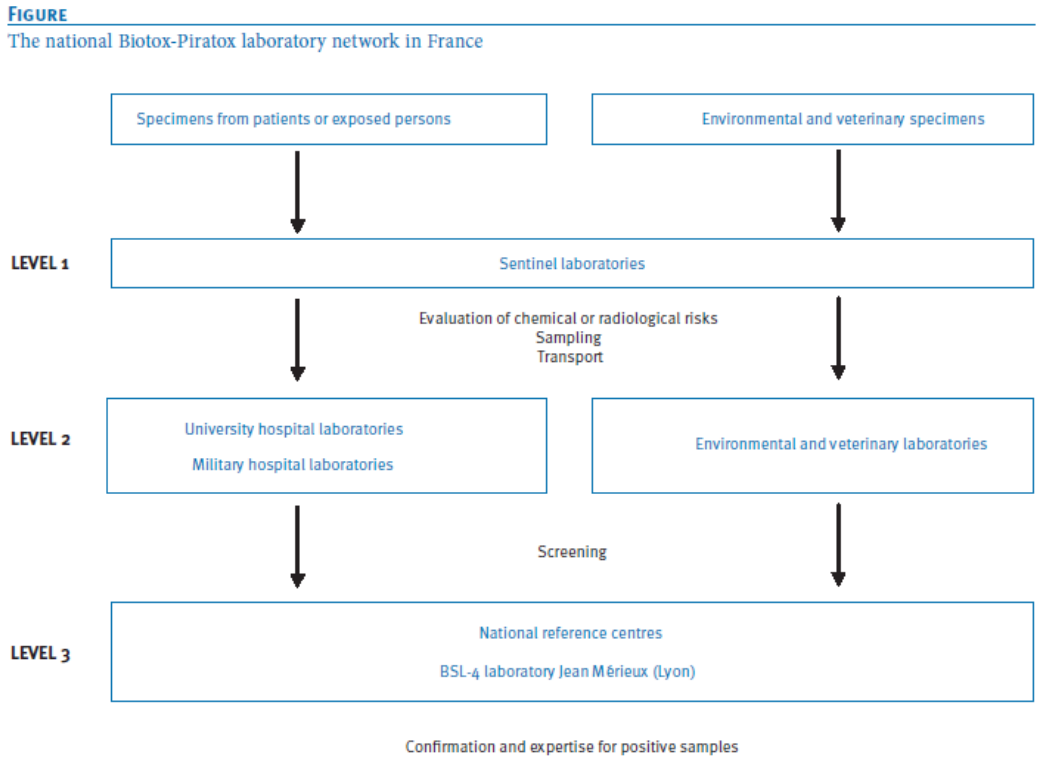

Figure 4: Structure of the national Biotox-Piratox laboratory network in France

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Conclusions

This report has presented some basis for a desire of a chemical laboratory network. From the responses to the gap analysis questionnaire, there is a clear desire for SHARP partners to join a chemical laboratory network. Individuals who responded to the questionnaire were from organisations that are not often part of a network of laboratory analysis but would be interested in joining one. Those that are interested in joining would be willing to analyse samples (providing they had the analytical capability) as well as submitting them. The majority of respondents also gave positive responses when asked about assisting neighbouring countries. These results show that the desire for a chemical analysis network exists within the organisations and countries who responded to our questionnaire. Although it appeared that respondents were interested in joining a chemical network, there was a lower number of respondents than was hoped (19, from 14 countries). These numbers would need to be much higher to generate an accurate picture of the desirability across Europe. There is also the possibility that the COVID-19 pandemic had a significant impact on questionnaire responses, it was distributed during the first few months of the pandemic, at a time when COVID-19 was a priority for many public health organisations. As such this may have limited the number of responses we received.

Is establishing such a network at all feasible? From looking at other examples of networks in Europe, there is precedent for such a network to be initiated. While the findings suggest that establishing such a network for laboratory analysis of chemicals is indeed possible, it is however not necessarily easy. We have provided a number of suggested considerations and next steps to take, based on reviewing the networks mentioned above and from speaking with a lead individual from NORMAN and a member of LLN-Ta.

1. Start with a project. The deliverables of the project can form the building blocks for future collaboration. To maintain momentum for the network after the project has ended, it is crucial that an organisational framework and a core group of dedicated members are in place to swiftly establish a permanent network.
2. Ensure that there is a core group of committed members to take the cooperation forward after the completion of the project. Regardless of the chosen form (formalized or otherwise), additional resources will be required after the funding has ended. If an independent network is considered, it could be funded through membership fees, as NORMAN is.
3. When transitioning from a project to a permanent network, follow-up quickly to maintain momentum and ensure an organisational framework.
4. Consider whether a formalized network is necessary. This will depend *inter alia* on the anticipated frequency of serious chemical health threats needing

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

the laboratory capabilities of such a network. If the anticipated frequency is high, a formalized collaboration is needed in which adequate funding is organized to ensure prioritization of network tasks above ongoing work.

5. In terms of responding to incidents/outbreaks which require testing, it is likely that the network would only be utilised occasionally. Therefore, the analytical aspects should be one part of a bigger picture with the network undertaking a broader range of activities. Specifically, meeting day-to-day needs such as training/exercising/knowledge sharing. The network could also have projects going on within, co-funded by external sources, or through collaborations with other networks/projects/initiatives e.g. TERROR JA. These activities and projects will help ensure that cohesion and collaboration within the network are maintained.
6. Requirements for quality assurance (QA) standards need to be considered carefully. Stringent requirements for meeting QA standards could rule out certain laboratories which nonetheless have expertise and analytical capacity e.g. university/research laboratories. Like NORMAN, which has members who hold different QA standards, the network could be self-regulating, with the standards required depending on the activities undertaken and in this case, not all partners would have to meet the same level of QA.
7. Consider activities to enhance collaboration within the network and to provide added value to joining the network, such as knowledge sharing and exercising.
8. Once established, a laboratory network for chemical health threats could join forces with the NORMAN network to explore desirable areas of collaboration.

To conclude, it seems that there is desire for a chemical laboratory analysis network for health threats in Europe. There are also a number of lessons learned from other networks which can aid the successful initiation of such a network. However, further details on the requirements of the network are needed in order to receive greater buy-in from European organisations and their countries at this stage. Aspects of the network to be considered are, for instance: size, scope/remit, technical aspects (such as requirements for instrumentation/expertise and accreditation), costs involved and funding etc. Moreover, we suggest that the EC Scientific Committee for Health, Environment and Emerging Risks (SCHEER) is involved in the establishment stages, due to their expertise and experience in dealing with cross-border chemical health threats.

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

References

1. SHARP Joint Action website - https://sharpja.eu/
2. OPCW-Designated Laboratories - https://www.opcw.org/designated-laboratories
3. Criteria for the designation of laboratories by the OPCW - https://www.opcw.org/sites/default/files/documents/CSP/C-I/en/C-I_DEC.61-EN.pdf
4. NORMAN Network homepage - http://www.norman-network.net/
5. RIVM, Netherlands - National Laboratory Network Terror Attacks – https://www.rivm.nl/ongevallen-en-rampen/terrorisme
6. French bio-terrorism network of labs - https://healthcare-in-europe.com/en/news/french-bio-terrorism-network-of-labs.html
7. Interministerial instruction relating to the organization and governance of the national network of "Biotox-Piratox" laboratories - https://www.legifrance.gouv.fr/circulaire/id/38195
8. Mérens A, Cavallo JD, Thibault F, Salicis F, Munoz JF, Courcol R, Binder P. Assessment of the bio-preparedness and of the training of the French hospital laboratories in the event of biological threat. *Euro Surveill.* 2012;17(45):pii=20312. Available online: https://www.eurosurveillance.org/content/10.2807/ese.17.45.20312-en

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Annexes

Annex 1 - Questionnaire

Below is a copy of the questions used in the gap analysis questionnaire:

SHARP - Chemical gap analysis questionnaire

The questionnaire can be accessed via the link below:
https://surveys.phe.org.uk/TakeSurvey.aspx?SurveyID=l2KL7mlMH

Introduction

Welcome to the SHARP WP9 (chemicals) Gap Analysis Questionnaire

The SHARP Joint Action aims to strengthen preparedness in the EU against serious cross-border threats to health, and support the implementation of International Health Regulations (2005). "SHARP" stands for Strengthened International HeAlth Regulations and Preparedness in the EU (SHARP JA).

WP9 is co-led by Public Health England (PHE, UK) and the Slovenian National Institute for Public Health (NIJZ). We aim to determine the current state of play with regard to cross-border chemical health threat preparedness at the EU and MS level and provide training and guidance to improve implementation of IHR chemical core capacities within MSs and across the EU.

This questionnaire is intended for chemical experts/specialists, preferably within the national public health agency of your country. Your responses to these questions will be used to guide our WP9 tasks and activities and will contribute towards our fact-finding report, rather than to create an in-depth country profile of chemical IHR capacities. As such we do not always need a high level of detail, just an indication of what you currently have in place.

For more information on the SHARP JA, please visit www.sharpja.eu or contact the coordinators at sharp@tfl.fi.

This questionnaire will collect some personal information about you such as your name and email address to be able to contact you for follow up, if required. The data you provide us will be confidential and only be used to advise the activities of SHARP JA WP9, the data will not be used outside of the SHARP JA. In addition, the responses will be anonymised (name, country and organisation will be removed) when published in our report.

We will securely store this data until April 2022 when the SHARP Joint Action comes to an end. We will never sell or share this data with any third parties. By filling out this questionnaire you agree that we will use and process your data only within the purposes for SHARP, specified above.

If you have any questions, difficulties or other issues, please contact tom.gaulton@phe.gov.uk

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

About you:

1. Name*
2. Country*
3. Organisation*
4. Occupation/job title*
5. Email address*
6. Phone Number (optional)

7. Who is the IHR National Focal Point (NFP) in your country?

(If you are not sure, please answer: don't know)*

8. If there is a separate lead organisation/Focal Point for Chemicals, please specify.

(if not, please put 'not applicable')*

9. Are there any national chemical preparedness plans available in your country/region? *

Please answer: Yes/No/Don't Know

10. In your country, has the preparedness/response to chemical incidents been tested through:*

- Occurrence of real event(s)?
- Or through a simulation exercise?
- If yes, were the plans updated as required?

Please answer: Yes/No/Don't Know

11. Does the preparedness plan provide a mechanism for communication and multi-sectoral cooperation between the different agencies who might be involved in a chemical incident?*

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Please answer: Yes/No/Don't Know

12. Is there a list of priority chemicals of concern in your country?

*A list of priority chemicals are those which are produced, transported, used or stored in high volumes in your country and carry a risk to public health. An example of a global list from WHO can be found here: https://www.who.int/ipcs/assessment/public_health/chemicals_phc/en/**

Please answer: Yes/No/Don't Know

13. Is there an inventory of major hazards/facilities that could be a source of chemical emergencies available (e.g. chemical/fuel production or storage sites)?*

Please answer: Yes/No/Don't Know

14. Are there designated organisations with experts who can provide advice in the event of a chemical incident?

If so, please provide examples of the types of expertise you can access. Otherwise please enter 'no' if not, or 'don't know' in the box below.
Enter at least 1 response and no more than 10 responses.

15. Could you share with us examples of any chemical incidents in your country, including a brief description of your response?

We are particularly interested in incidents of public health concern. Please provide a web link if available.

16. Does your organisation share good practice and lessons learned following chemical events;*

- With other organisations in your country?
- With organisations in other countries?
- If not, do you think it would be useful to share information on chemical events?

Please answer: Yes/No/Don't Know

17. Does your country ever undertake training or exercising with your neighbouring country/countries?*

Please answer: Yes/No/Don't Know

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

18. Is there a record available of chemical incidents/exposures which occur in your country?

*A chemical incident is defined as an uncontrolled release of a chemical which results in harm to two or more members of the public **

Please answer: Yes/No/Don't Know

19. If Yes, how is this record held?

- on a spreadsheet
- in a database
- in a formal surveillance system
- other

20. Is there a Poison Centre in your country? *

What is a poisons centre? WHO: A poisons centre is a specialized unit that advises on, and assists with, the prevention, diagnosis and management of poisoning. The structure and function of poisons centres varies around the world, however, at a minimum a poisons centre is an information service. Some poisons centres may also include a toxicology laboratory and/or a clinical treatment unit.

Please answer: Yes/No/Don't Know

21. If you have a poison centre in your country:

- Are they involved in chemical incident/exposure surveillance?
- Do they provide this information to the national/regional public health agency?
- Do they take calls from the public?
- Do they take calls from other health professionals?

Please answer: Yes/No/Don't Know

22. Does your organisation conduct surveillance for chemical incidents?*

Please answer: Yes/No/Don't Know

23. Does your organisation conduct surveillance for chemical exposures?*

Please answer: Yes/No/Don't Know

24. Does your organisation conduct surveillance on the resulting health outcomes due to chemical exposures?*

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

Please answer: Yes/No/Don't Know

25. Does your country operate an Environmental Public Health Tracking system related to chemicals, or have equivalent components of such a system?

*Environmental Public Health Tracking (EPHT) involves the ongoing collection, integration, analysis and interpretation of data about environmental hazards, exposure to those hazards and the related human health effects. This includes chemical hazards, chemical exposures and chemical health effects.**

Please answer: Yes/No/Don't Know

26. Are any of the following types of chemical surveillance carried out in your country?*

- *Event-based surveillance (EBS, defined as the organised collection, monitoring, assessment and interpretation of mainly unstructured ad-hoc information regarding health events or risks, which may represent an acute risk to human health.)*
- *Indicator-based surveillance (IBS, the systematic (regular) collection, monitoring, analysis and interpretation of structured data, i.e. of indicators produced by a number of well-identified, mostly health-based, formal sources)*
- *Syndromic surveillance (a method of surveillance that uses health–related data based on clinical observations rather than laboratory confirmation of diagnoses. Syndromic surveillance is used in order to detect outbreaks earlier than would otherwise be possible with laboratory diagnosis-based methods. Case definitions used for syndromic surveillance are based on clinical signs and symptoms, rather than on specific laboratory criteria for confirmation of the causative agent)*
- *Toxicosurveillance/Toxicovigilance (Toxicovigilance can reveal whether there is an emerging toxicological problem resulting from, for example, the reformulation of a product or a change to its packaging or labelling, the availability of a new drug of abuse, or an environmental contamination)*
- *Other*

Please answer: Yes/No/Don't Know to the above

27. Are there plans for implementing any of the above surveillance types in your country?*

Please answer: Yes/No/Don't Know

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

28. Do those who perform chemical surveillance exchange information with those who are responsible for managing the alerting and response to chemical incidents?*

Please answer: Yes/No/Don't Know

29. Does your organisation (or another organisation on your country) have the capacity to undertake biomonitoring following a chemical incident/exposure?
*(biomonitoring is the direct measurement of people's exposure to toxic substances in the environment by measuring the substances or their metabolites in human specimens, such as blood or urine)**

Please answer: Yes/No/Don't Know

Existing mechanisms/material

This page asks some questions on the RASCHEM system. The Rapid Alert System for Chemicals (RASCHEM) is owned by the EC and was developed to allow EU Posions Centres and National Public Health Authorities to communicate and exchange details of unusual poisoning cases, mass intoxications and chemical incidents.
The use of standard terms (e.g. clinical effects) facilitates identification of similar cases reported to the system and data analysis of the platform content. The exchange of information between different organisations and countries can improve early detection of trends and cross-border incidents. Should an event develop into a potential Public Health Emergency of International Concern (PHEIC), then this would be notified via the designated National Focal Point.

30. Are you aware of RASCHEM?*

Please answer: Yes/No

31. Does your organisation have access to RASCHEM country?*

Please answer: Yes/No/Don't Know

32. Do you think there is a need for RASCHEM or a similar alerting and reporting system for chemicals?*

Please answer: Yes/No/Don’t know

33. Are you aware of any other alerting systems which can be used to share chemical incident/poisoning information? (if reporting to EWRS is not yet required)*
Please answer: Yes/No/Don’t know

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union’s Health Programme (2014-2020).

34. Are you aware of any other existing mechanisms or materials which may help other countries prepare and respond to chemical incidents?

If yes, please provide details below or otherwise, please answer 'no' or 'don't know'.*

Chemical Laboratory Analysis Network

35. Are there facilities available in your organisation for the identification of chemicals, during an incident?*

Please answer: Yes/No/Don't know

36. Are there facilities available in your organisation for environmental sampling of chemicals, following an incident?*

Please answer: Yes/No/Don't know

37. Are there facilities available in your organisation for clinical sampling of chemicals, following an incident?*

Please answer: Yes/No/Don't know

38. What is the mechanism in your country for identifying a chemical, following an incident?

Please describe briefly, or if you are not sure, put 'don't know':*

39. Can your organisation access laboratory facilities through agreements with other organisations?*

Please answer: Yes/No/Don't know

40. Can your country access laboratory facilities through agreements with other countries?*

Please answer: Yes/No/Don't know

41. Is your organisation currently part of a chemical laboratory analysis network?*

Please answer: Yes/No/Don't know

42. European chemical laboratory analysis network:*

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

- Would you be able to assist neighbouring countries in analysing chemical samples?
- Would you be interested in joining a chemical laboratory analysis network, made up of institutes/organisations with the capability to analyse and identify a variety of chemical agents?
- Would you be interested in joining this network to submit samples for testing? (this does not require that you have analytical capacity yourself)
- Would you be interested in joining this network as a contributor? (this requires analytical capacity)
- Do you think laboratories would need some form of accreditation to be involved in this network?

Please answer: Yes/No/Don't know to the above

43. Joining a European chemical laboratory analysis network: How feasible would it be for your organisation to join a chemical analysis network?

- Highly unfeasible
- Somewhat unfeasible
- Not sure
- Somewhat feasible
- Highly feasible

Training requirements

44. Have any gaps been identified in your country's chemical incident preparedness which would benefit from further training?*

Please answer: Yes/No/Don't know

45. Regarding training materials for chemicals, what training material topics would be most beneficial?*

Please select how important each training topic (A – G) is using the following options:

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

A. Surveillance of chemical incidents

B. Existing mechanisms/materials for chemical incident preparedness

C. Plans for preparedness/response to chemical incidents

D. Public Health Management of chemical incidents

E. Hazard characterisation

F. Risk assessments

G. Recovery from chemical incidents

46. Please list any other chemical topics which you would like to receive training materials for:

Enter at least 1 response and no more than 10 responses. If you do not wish to add any more, please enter 'don't know'

47. Please indicate which forms of training material are most useful to you: *

Please select how important each training material type (A – I) is using the following options

- Very Useful
- Useful
- Neutral
- Not very useful
- Not useful at all

A. Case studies of chemical incidents

B. Chemical incident scenarios (e.g. for exercises)

C. Table-top exercises

D. Live exercises

E. Presentations (e.g. PowerPoint)

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).

F. Interactive activities (for individuals)

G. Interactive activities (for groups)
H. Guidance/Standard Operating Procedures (SOPs)

I. E-learning materials

48. We may want to follow up with you about some further details in this questionnaire.

Please select from the options below if you are happy to be contacted for further questions:*

Yes/No

49. If you do not want to be contacted, is there someone else who we may be able to speak to about these questions further?

Please provide an email address for an alternative contact.

This report is part of the Joint Action 848096 / SHARP JA which has received funding from the European Union's Health Programme (2014-2020).