ECDC capacity and training needs assessment 2018

Report on 2018 survey

4 September 2020

Executive summary

This report summarises the results and data collected through the 2018 ECDC capacity and training needs assessment survey. The assessments, which are carried out every three years, focus on the European Union (EU) Member States and the European Economic Area (EEA) countries. The 2018 survey consisted of two questionnaires which asked countries to report on the capacity of the workforce, perceived training needs and the relevance of ECDC training in the field of communicable disease prevention and control.

Of the 31 countries invited to participate, nine responded to the workforce capacity assessment survey and fourteen responded to the training needs assessment survey.

Only a few countries have a mechanism or legal instrument in place for workforce planning and development in the area of public health. Hardly any of the countries are able to recruit sufficient number of staff to work in the area of communicable disease due to a lack of qualified applicants. Another issue affecting recruitment and retention of staff in most countries is the ageing of the workforce and subsequent retirement. Almost all countries provided an outline of the organisation/structure/staffing of their communicable disease (CD) prevention and control service, however data on the size of the workforce and estimates of the percentage of working time spent on communicable diseases for each job profile are difficult to collect. Many countries offer training programmes leading to specialisation and training activities for professional development. They also have a set of competencies used for professional development in communicable disease prevention and control, but not always used to measure acquisition of individual competency.

The countries reported the following domains as their highest training needs priorities: public health emergency preparedness, surveillance and response and communication and advocacy. They also indicated that training organised by ECDC is considered to be of added value for all the domains, in particular for communication and advocacy and public health emergency preparedness. The field of vaccination and vaccine hesitancy was flagged up as an area where training is needed. Finally, the countries indicated that for all the domains a blended format (combination of e-learning and face-to-face) would be the most suitable for ECDC-organised continuous professional learning opportunities.

ECDC used the qualitative and quantitative data collected on training needs to inform its annual planning. Preliminary results of the 2018 survey were used to plan ECDC training activities (e.g. face-to-face courses, e-learning courses and simulation exercises in 2019 and 2020) and to inform the planning of future initiatives (e.g. multi-annual projects involving training on vaccination and how to tackle vaccine hesitancy and training on how to conduct after-action reviews).

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Background

Article 9.6 of the European Centre for Disease Prevention and Control (ECDC) Founding Regulation (85/2004) states: 'The Centre shall, as appropriate, support and coordinate training programmes in order to assist Member States and the Commission to have sufficient numbers of trained specialists, in particular in epidemiological surveillance and field investigations, and to have a capability to define health measures to control disease outbreaks'.

In addition, Article 4 of the Decision 1082/2013/EU on serious cross-border threats to health calls for consultations 'supporting the implementation of core capacity requirements for surveillance and response as referred to in Articles 5 and 13 or the IHR'.

In accordance with the European Commission Internal Audit Service (IAS) recommendations from 2014 addressing training gaps across Europe based on needs assessments, ECDC has worked continuously with the EU Member States and the EEA countries to design and carry out assessments of training needs and capacity gaps. The first periodic assessments were arranged in 2015[1] in the form of a survey.

The assessments are repeated every three years in order to reflect the changing reality in workforce demographics and the training needs in the EU/EEA countries. The second survey was launched in 2018 and this report summarises its findings.

Objectives

The objectives of the 2018 survey were:

- to serve as a tool for EU/EEA countries to map the size and composition of their existing workforce capacity in the area of communicable disease prevention and control;
- to quantify, qualify and prioritise training needs in communicable disease prevention and control in the EU/EEA countries with the main recipients[2] of ECDC training activities in order to determine the most suitable training to be offered by ECDC during the period 2020-2022, mainly within the scope of the Centre's Continuous Professional Development activities (short courses, senior exchange, twinning, e-learning courses, etc.)

Findings from the survey also aim to increase awareness of strengths and vulnerabilities in the area of communicable disease prevention and control at national and EU-level, potentially serving as a tool for advocacy and policy awareness.

Methodology

The 2018 survey was developed by means of an iterative consultation process, with input from colleagues at ECDC, a technical advisory group and the ECDC National Focal Points for Training (NFPTs).

In 2017, a technical advisory group on capacity and training needs assessment in the area of cross-border communicable disease prevention and control was appointed. The group consists of 11 experts from the following entities: ECDC Coordinating Competent Bodies (at National Coordinator and National Focal Point (NFP) level), public health institutes, World Health Organization (WHO), the US Council of State and Territorial Epidemiologists (CSTE) and the Association of Schools of Public Health in the European Region (ASPHER). The group was consulted to provide a critical appraisal of the 2015 survey and to provide expert advice and input for the development of the 2018 survey.

During the 2017 Member State consultation meeting, the NFPTs offered a critical appraisal of the questionnaire used for the 2015 survey. The structure, format and length of the 2018 survey was then further defined during the annual consultation on 3-4 May 2018.

Before finalising the 2018 survey, ECDC also sought expert input from the ECDC Public Health Working Group (representing ECDC public health functions and disease programmes).

The survey was piloted in five EU Member States that volunteered to take part in the pilot process: Finland, Germany, the Netherlands, Poland, and Portugal. One unique link per country was shared with the National Coordinator (NC) and an email was then sent to both the NC and the NFPTs to facilitate close collaboration. The pilot, which was sent out on 10 October 2018 with the deadline of 20 November 2018, was administered using the EU Survey Tool. Before the deadline, the pilot countries were also consulted on their experience and asked for feedback during a teleconference held on 9 November 2018. Three countries provided feedback: Finland, the

[1] ECDC. Training needs assessment for EU/EEA countries: assessment methodology and 2015 survey. Stockholm: 2017. https://ecdc.europa.eu/sites/portal/files/documents/Training-needs-assessment-for%20EUEEA-countries_0.pdf

[2] As per ECDC Public Health Training Strategy: 'ECDC aims to coordinate training programs for a primary target audience of experts at Member State and Community level, who are designated to deal with cross-border health threats due to communicable diseases. This target audience will effectively cover all professionals who are formal members of ECDC-related networks.'

Netherlands and Poland. In addition, ECDC received written feedback from some of the pilot countries. Four pilot countries submitted their answers via the EU Survey Tool. The recommendations received were reflected in the final version of the survey.

The final survey consisted of two questionnaires - Part 1 for the workforce capacity and Part 2 for training needs[3] and these were launched in parallel. The survey was administered online using the EU-Survey tool. On 18 December 2018, each Member State National Coordinator received a unique link to the questionnaire Part 1 and each Member State National Focal Point for Training received a unique link to the questionnaire Part 2. NCs and NFPTs were also invited to distribute the respective parts of the questionnaire to the relevant national authorities (e.g. Ministry of Health for policy and planning) and experts within their Member State for input. The deadline for submission was 25 March 2019, which was extended to 30 April 2019. One submission was also accepted after the deadline. Two separate analyses of the results are reported below.

Workforce capacity assessment

The workforce capacity assessment questionnaire was administered via the NCs. It was used to gather information on the capacity of the workforce in communicable disease prevention and control and consisted of three parts:

- Strategic level: strategic documents (i.e. national action plans), recruitment and retention of public health workforce and workforce demographics;
- Capacity indicators: existence of advanced-level training programmes and capacity of workforce to publish in scientific journals and epidemiological or public health bulletins;
- Standardisation: enquiry relating to national data and efforts towards standardisation (national censuses/assessments of public health workforce, use of full-time equivalents, monitoring of essential public health operations and core competencies).

Training needs assessment

The training needs assessment questionnaire was administered via the NFPTs. It included nine questions on perceived training needs and the relevance of ECDC training in the field of communicable disease prevention and control; the number of professionals to be trained; training format and other domains relevant for training. The domains and sub-domains used for the questions were based on a selection of core competencies identified for public health epidemiologists and microbiologists in communicable disease prevention and control:

- communication and advocacy
- laboratory system and methods
- Surveillance
- risk assessment
- public health emergency preparedness
- response
- additional domains.

[3] Available as downloadble PDFs on ECDC's website

Table 1. Domains and sub-domains used for questions concerning training needs assessment

DOMAINS	SUBDOMAINS
Communication and advocacy	Risk communication Communication during a public health emergency Advocacy Use of new communication technologies Ethics
Laboratory system and methods	Setting up a digital laboratory –based surveillance system Laboratory-based real-time cluster detection and early warning system design and operation Pathogen genomics/WGS use for outbreak investigations Pathogen genomics/WGS use for enhanced disease surveillance Pathogen genomics/WGS use for antimicrobial resistance detection and surveillance Laboratory quality assurance Laboratory biosafety Public health microbiology system organisation and evaluation
Surveillance	Indicator-based surveillance Event-based surveillance/Epidemic intelligence Reporting surveillance data Field studies (Population-based research) Surveillance system evaluation Setting up a surveillance system Biostatistics Public health informatics
Risk assessment	Assessment of emerging risks Rapid risk assessment
Public health emergency preparedness	Coordination and communication Planning Design of simulation exercises
Response	Outbreak investigation Outbreak management Public health intervention
Additional domains (question 4.1)	

Data management, reporting and publication

ECDC processed the data (including personal data) collected through the survey in accordance with Regulation (EC) 45/20015. The legal basis for the processing operation is ECDC's Founding Regulation 851/2004, specifically Article 9.6. Data were extracted in an Excel file and stored in the ECDC repository where they are retained for up to three years.

ECDC shared this report with all those EU/EEA countries that contributed for review, validation and support in the interpretation of results.

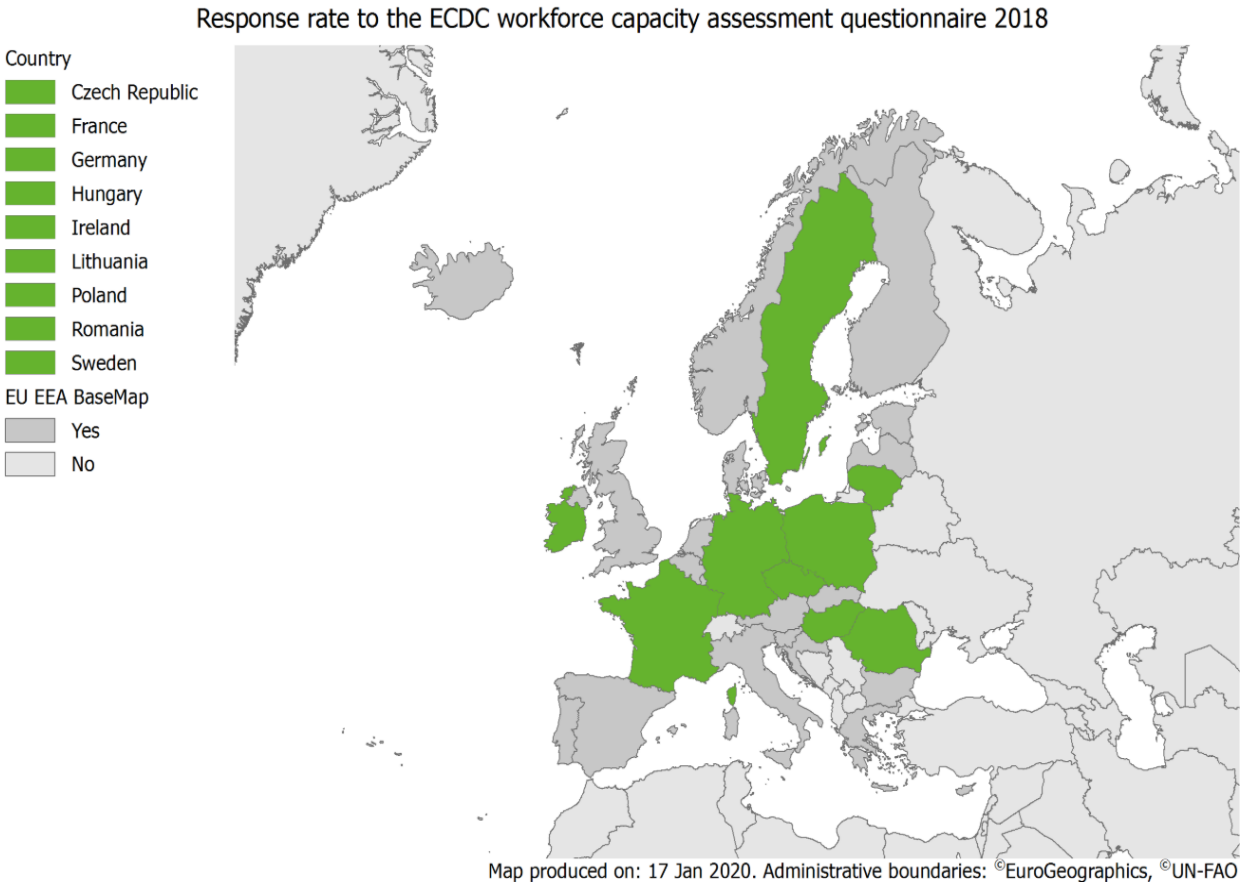
It is possible that a manuscript presenting the results of the assessment may also be submitted for publication in a peer-reviewed scientific journal.

Results

Part 1. Workforce capacity assessment

Of the 30 EU/EEA countries and the UK invited to participate, nine responded to the workforce capacity assessment survey via the EU Survey Tool (Figure 1) and one country also provided a WHO International Health Regulation (IHR) report. The total population of the nine respondent countries was 245 770 531 in 2019, compared to 513 471 676 - the total population of EU/EEA and UK in the same year.

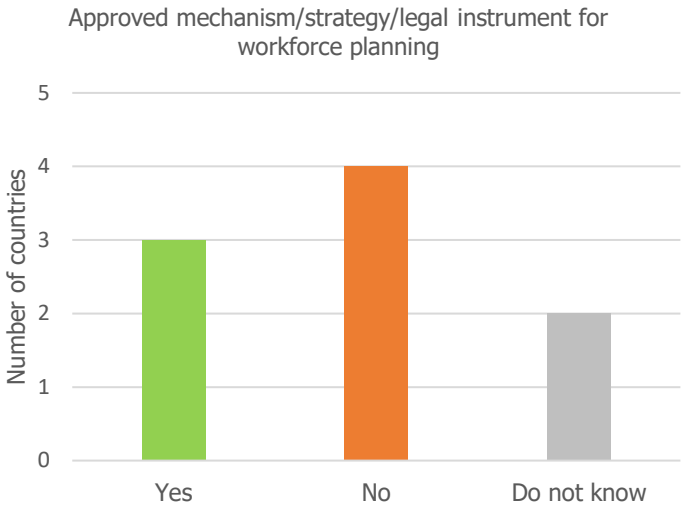
Figure 1. Geographical representation of responses from the surveyed countries



Strategic level

Three countries (3/9) reported having a mechanism or legal instrument in place for workforce planning and development in the area of public health (Figure 2) and provided additional details.

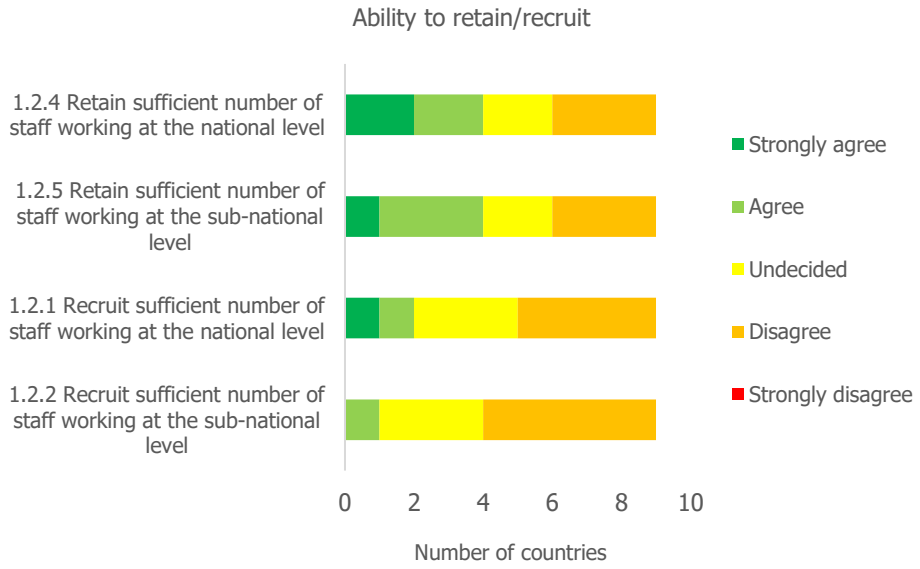
Figure 2. Does your country have a documented and approved national, sub-national or public health authority mechanism/strategy/legal instrument for workforce planning and development in the area of public health or communicable disease prevention and control?



In response to the question regarding a plan to develop a strategic document paving the way for a mechanism or legal instrument relating to workforce planning and development in communicable disease prevention and control by 2020, five countries responded and none of them had such a plan. One country mentioned a recent initiative through which a forum for professionals had been created to discuss the development of a national public health strategy.

Less than half of the countries (4/9) strongly agreed or agreed that in the last three years they had generally been able to retain sufficient numbers of staff working in communicable disease prevention and control with the right competencies at national and sub-national level. Only two countries (2/9) strongly agreed or agreed that in the last three years they had generally been able to recruit sufficient numbers of staff working in communicable disease prevention and control with the right competencies at the national level and only one (1/9) agreed that this had happened at the sub-national level. See Figure 3.

Figure 3. In the last three years, my country has generally been able to recruit/retain sufficient numbers of staff working at national/sub-national level in communicable disease prevention and control with the right competencies



The main problems identified for recruitment were insufficient numbers of qualified applicants (8/9), an ageing workforce leading to retirements (8/9), and hiring freezes (8/9). See Figure 4. The main problems identified for the retention of staff were non-existent career paths (8/9) and an ageing workforce leading to retirements (8/9). See Figure 5.

Figure 4. To what extent is each of these factors a problem for the recruitment of staff in communicable disease prevention and control?

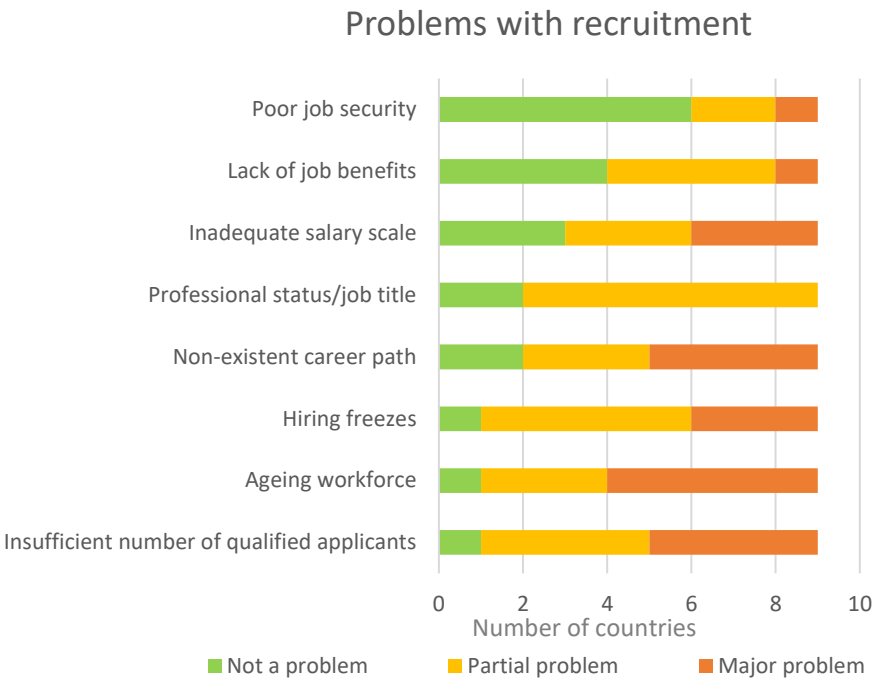
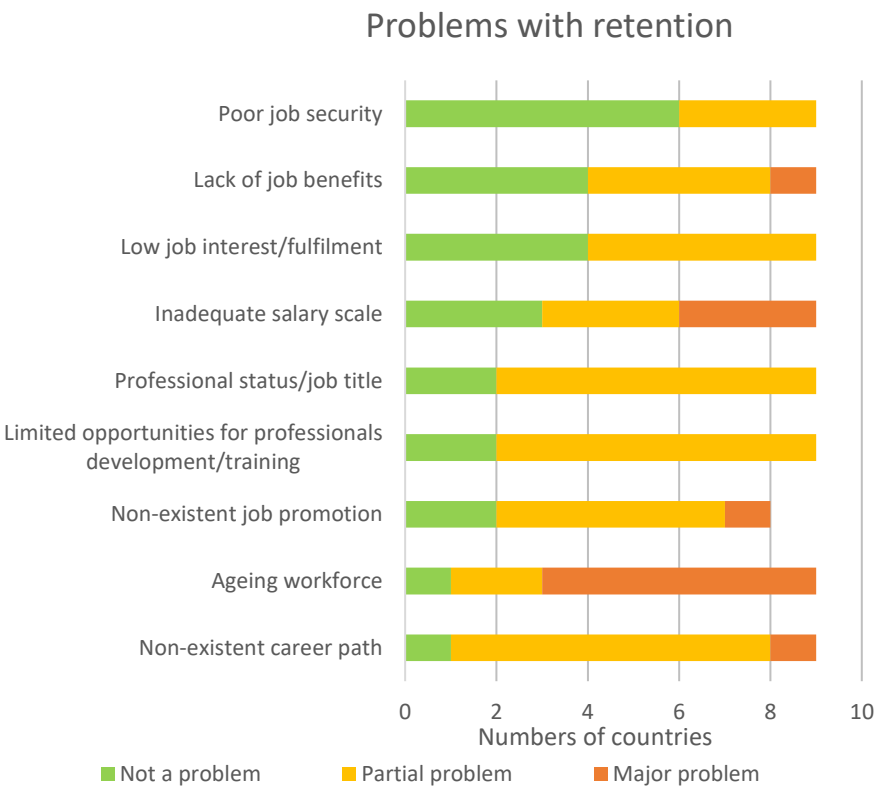


Figure 5. To what extent is each of these factors a problem for the retention of the workforce in communicable disease prevention and control?



In addition, budgetary restrictions and funding constraints were also identified as problems for recruitment (2/9), alongside protracted recruitment processes (2/9).

The countries also signalled other issues:

- lack of available specialists;
- need for operational training in field epidemiology;
- difficulties in recruitment of personnel with IT and legal competencies for digitalisation of health data and data protection;
- difficulties in recruitment of personnel with statistical and communicable disease modelling competencies;
- difficulties in recruitment of personnel with microbiology competencies.

Workforce capacity

Eight countries (8/9) provided an outline of the organisation/structure/staffing of their communicable disease prevention and control service or the link to their organigram.

The number of staff in the workforce and the full-time equivalent estimate for each job function of staff currently working in communicable disease prevention and control in public health institutions was provided by three countries (3/9), but only for some of the job functions indicated.

Four countries did not provide time estimates because of the difficulty in collecting data, with staff working in multiple institutions or on multidisciplinary tasks and not having a specific job profile.

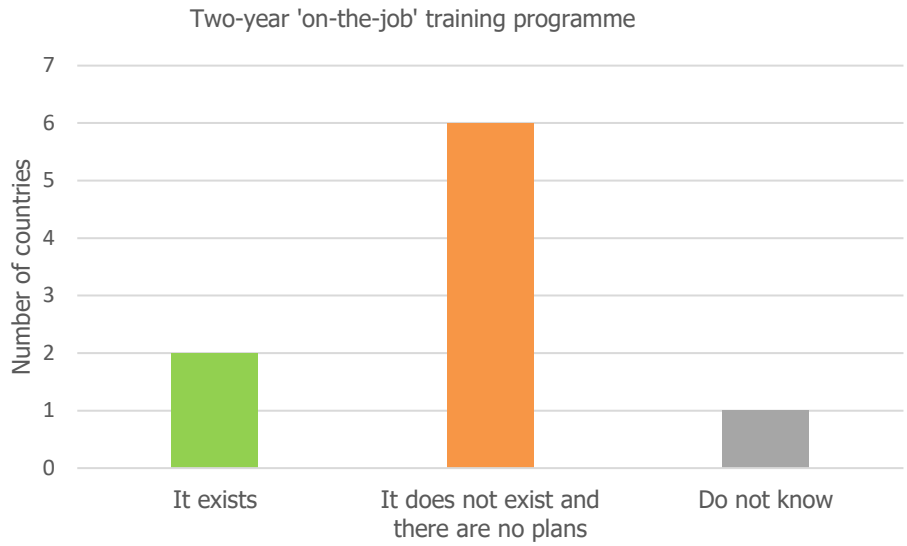
One country suggested that a specific definition of junior, mid-career and senior profiles would be useful, with a specification of the number of years' experience.

Eight countries offer training programmes leading to specialisation in infection prevention and control/hospital hygiene; seven in communicable disease epidemiology, six in public health microbiology and three in other fields (Figure 6).

Figure 6. Does your country offer training programmes leading to specialisation in the following fields?

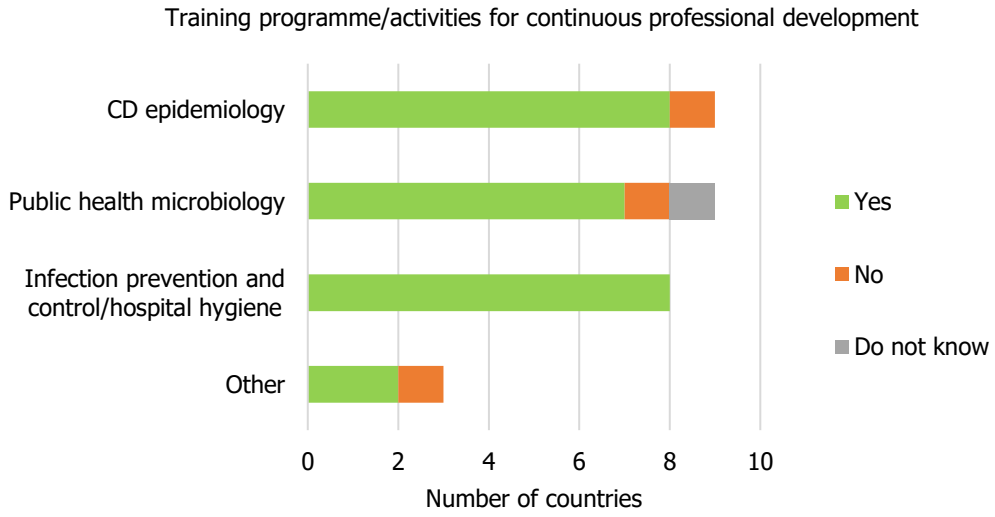
Only two countries (2/9) fund and run a two-year 'on-the-job' training programme in field epidemiology or public health microbiology (Figure 7).

Figure 7. Does your country fund and run a two-year 'on-the-job' training programme in field epidemiology or public health microbiology?



Eight countries have training programmes or activities for continuous professional development in communicable disease epidemiology and in infection prevention and control/hospital hygiene, seven in public health microbiology and two in other fields (Figure 8).

Figure 8. Is there a training programme/activity for continuous professional development?



All nine countries confirmed that their national public health institute/authority is active in publishing articles on communicable disease prevention and control, mainly in national bulletins (9/9), national peer-reviewed journals (9/9) and international peer-reviewed journals (8/9).

Standardisation

While four countries (4/9) reported having a regular census/registration of their public health workforce and provided additional details, only two mentioned that they had a regular census/registration of the workforce in communicable disease prevention and control.

Seven countries (7/9) reported having a set of competencies used for professional development in communicable disease prevention and control (see Figure 9), however only in four cases were these used to measure acquisition of individual competence (see Figure 10).

Figure 9. Do you have any sets of formally-agreed competencies used as standards/reference for professional development or training purposes in communicable disease prevention and control?

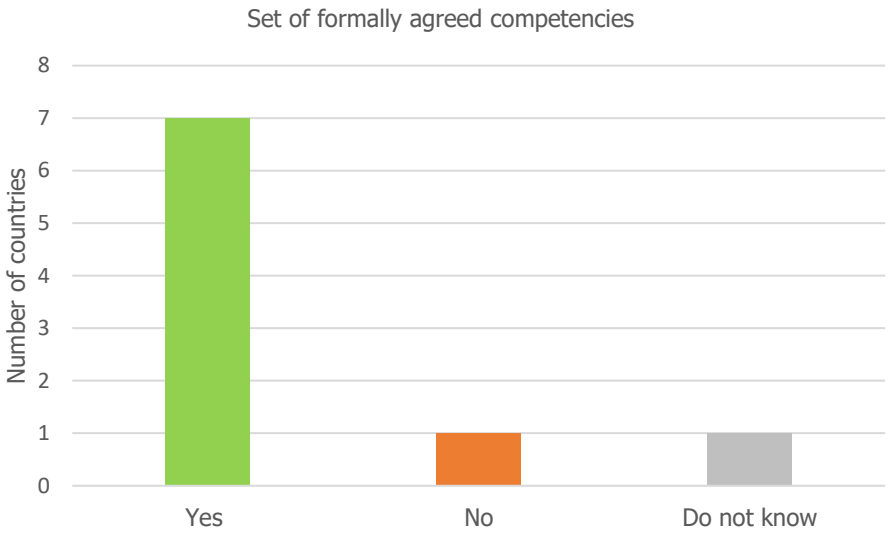
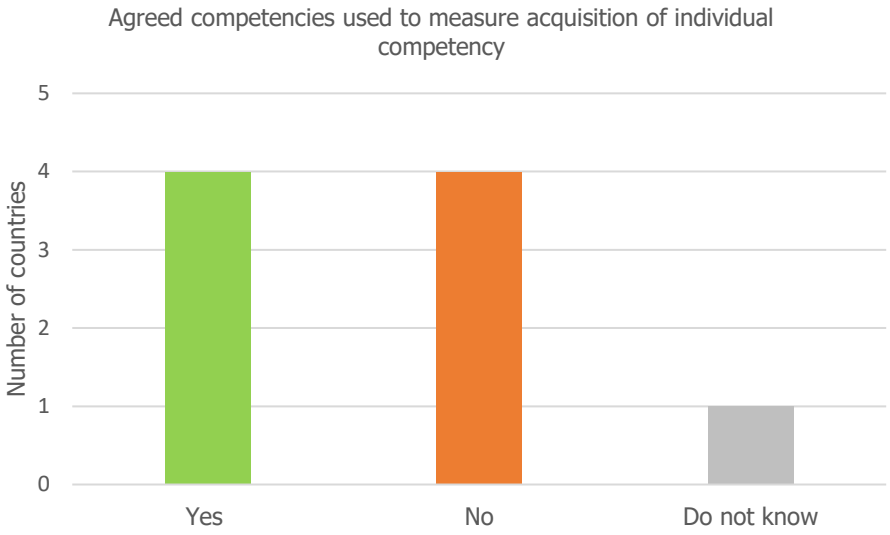


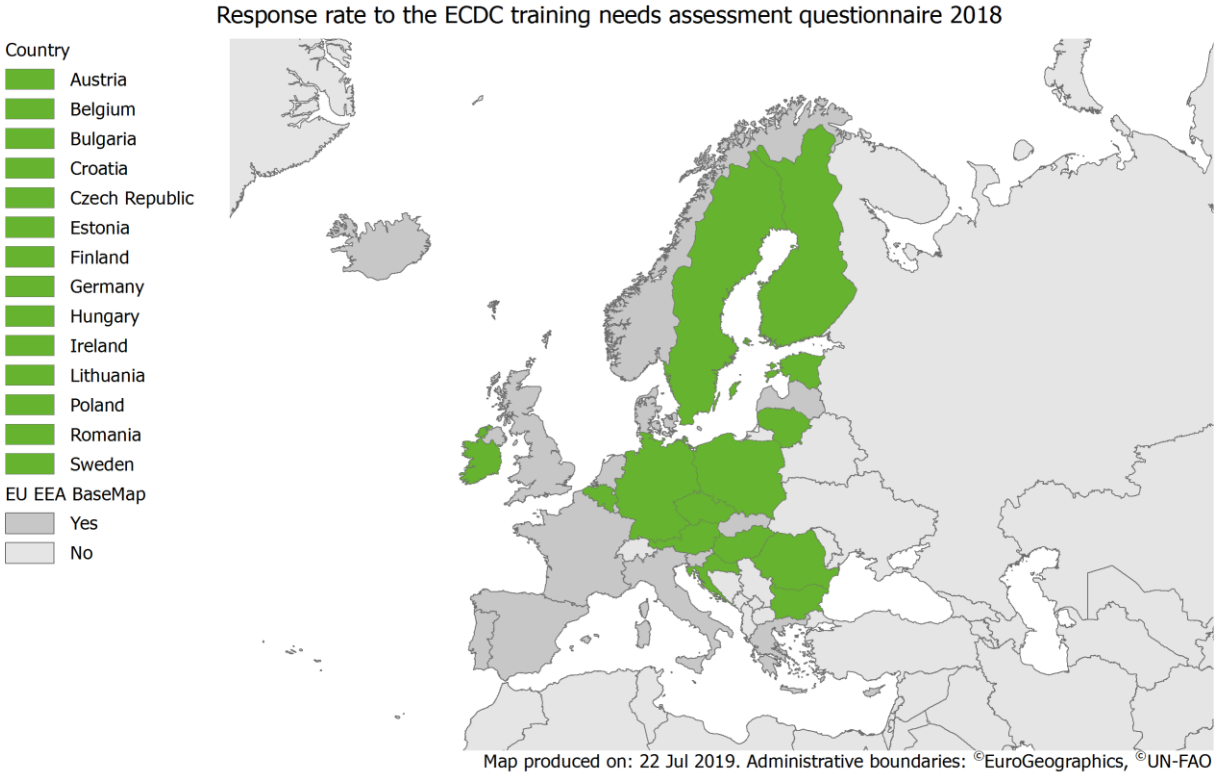
Figure 10. In your country, do you use these competency frameworks to measure acquisition of individual competence in communicable disease prevention and control training programmes?



Part 2. Training needs assessment

Of the 30 EU/EEA countries and the UK that were invited to participate, 14 responded to the training needs assessment survey using the EU Survey Tool (Figure 11). The total population of the 14 respondent countries was 216 990 966 in 2019, compared to 513 471 676 – the total population of EU/EEA and UK in the same year.

Figure 11. Geographical representation of responses from the surveyed countries



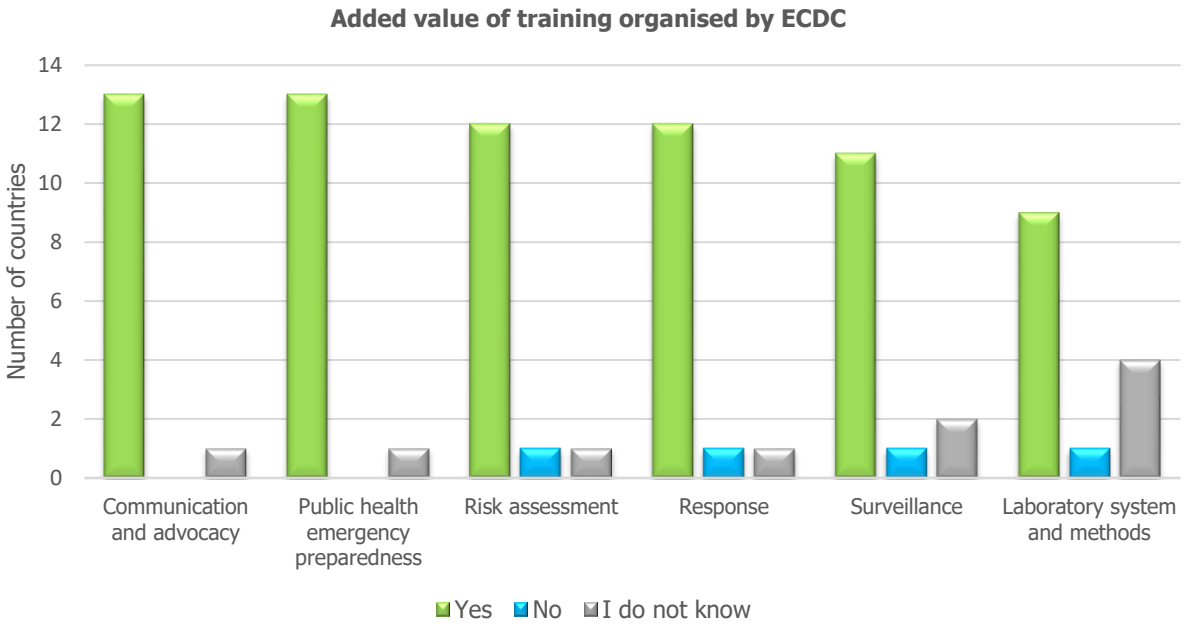
Perceived training needs and relevance of ECDC training in communicable disease prevention and control

The domains reported as priority 1 and priority 2 were public health emergency preparedness (11/14 respondents), surveillance (10/14) and response (10/14), followed by communication and advocacy (9/14), risk assessment (8/14), and laboratory systems and methods (6/14). See Figure 12.

Figure 12. Is this domain a training need priority in your Member State?

In all the domains, a training course organised by ECDC was considered to offer added value, particularly in the areas of communication and advocacy (13/14) and public health emergency preparedness (13/14) (see Figure 13).

Figure 13. Would a training course organised by ECDC be of added value for your Member State (complementing existing training and educational services at national/sub-national level)?



The countries had the possibility of specifying in an open-ended question the sub-domains in which an ECDC-organised training course was considered to offer added value. Ten countries replied and, in general, all the domains with a specific, related sub-domain were indicated at least once as a perceived training need.
The sub-domains indicated most often (4/10) were:

- planning (public health emergency preparedness domain);
- pathogen genomics/whole genome sequencing for outbreak investigations (laboratory and system methods domain);

followed by (3/10):

- event-based surveillance/epidemic intelligence (laboratory and system methods domain);
- biostatistics (laboratory and system methods domain);
- risk communication (communication and advocacy domain);
- communication during a public health emergency (communication and advocacy domain);
- outbreak investigation (response domain).

The countries were also able to specify further details in an additional open-ended question: 'Please feel free to provide further details, including combination of public health functions and disease-specific needs (e.g. training on surveillance for vaccine-preventable diseases)'.

The vaccination and vaccine hesitancy field was mentioned by several countries (five out of 14). The need to tackle vaccine hesitancy through training in communication and advocacy, addressing behaviour change and using new communication technologies, was mentioned twice. Surveillance and management of vaccine-preventable diseases, assessment of emerging risks from vaccine-preventable diseases and response to outbreaks caused by vaccine-preventable diseases were also mentioned.

Some countries had comments on additional areas where they perceived a need for training:

- contact tracing and root cause analysis;
- control activities, surveillance validation and outbreak management in the areas of antimicrobial resistance (AMR) and healthcare-associated infections (HAI);
- risk assessment of tuberculosis;
- public health preparedness related to migrant health;
- assessment of emerging and vector-borne disease risks;
- response to public health events such as Ebola.

Some countries expressed specific priorities: risk assessment, emergency preparedness and response in order to develop one cohesive system of crisis management, and laboratory systems and methods. Other countries offer the possibility of contributing to training courses in pathogen genomics/Whole Genome Sequencing (WGS) for outbreak investigations and WGS in general.

Number of professionals to be trained

When asked to provide an estimate of the number of professionals who would need to receive basic, intermediate and advanced training organised by the country or by ECDC, three countries did not reply, explaining that this number is difficult to calculate. In some cases, the countries that provided an estimate also specified that the numbers were approximate and that the questions were difficult to answer.

The detailed results are shown in Table 2 and Figure 14 for Member-State-organised training and in Table 3 and Figure 15 for ECDC-organised training.

Table 2. Summary of the estimates. How many professionals would need to receive Member-State-organised training at each of the levels listed?

	Basic	Intermediate	Advanced	Total
Communication and advocacy	322	86	42	450
Laboratory systems and methods	247	117	60	424
Surveillance	152	155	74	381
Risk assessment	345	89	44	478
Public health emergency preparedness	303	112	43	458
Response	134	138	35	307

Figure 14. Summary of the estimates –number of professionals who would need to receive Member-State-organised training at each of the levels listed

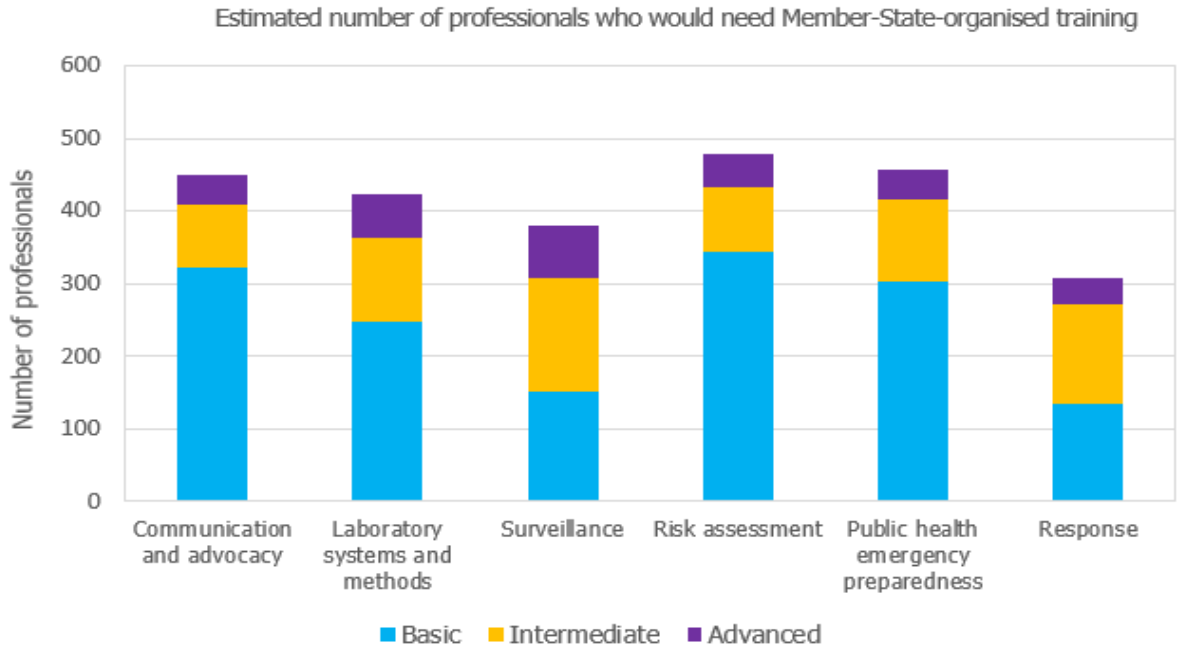
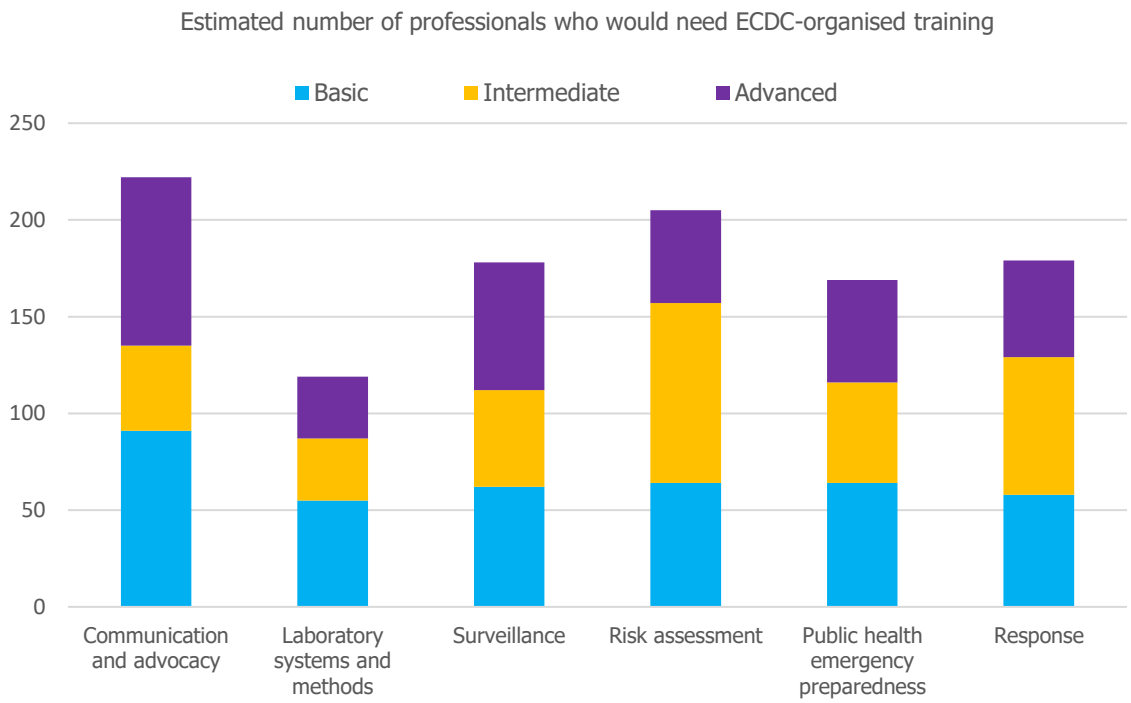


Table 3. Summary of the estimates – number of professionals (rough estimate) who would need to receive ECDC-organised training at each of the levels listed

	Basic	Intermediate	Advanced	Total
Communication and advocacy	91	44	87	222
Laboratory systems and methods	55	32	32	119
Surveillance	62	50	66	178
Risk assessment	64	93	48	205
Public health emergency preparedness	64	52	53	169
Response	58	71	50	179

Figure 15. Summary of the estimates – number of professionals who would need to receive ECDC-organised training at each of the levels listed



In addition to the table, respondents were able to answer an open-ended question to provide further details. One suggestion given in the open question was that ECDC and WHO training materials could be adapted to country needs and further developed.

Additionally, some countries expressed interest in advanced-level training since basic training is already provided within the country.

Training format

For all the domains, the countries indicated that the blended format (combination of e-learning and face-to-face) would be most suitable for ECDC-organised continuous professional learning (see Figure 16), as follows:

- For communication and advocacy, a blended format was indicated as the most suitable, followed by face-to-face. Two other formats suggested were tutorial and conference/workshop.
- For laboratory systems and methods, the preferred format was blended but exchange of professionals and face-to-face also received high scores.
- For surveillance, risk assessment, public health emergency preparedness, and response the preferred format was blended. For public health emergency preparedness and response a conference/workshop format was also suggested.

It was noted that the material provided by ECDC should be complemented by national material and adapted to legal and other country requirements. The material provided should also be made available for re-use. For example, the webinars should be recorded in order to be available anytime.

Another suggestion was to use the blended format more often for short courses, with the theoretical knowledge part developed as e-learning and the face-to-face training part developed with a focus on skills, practical exercises and exchange of experience.

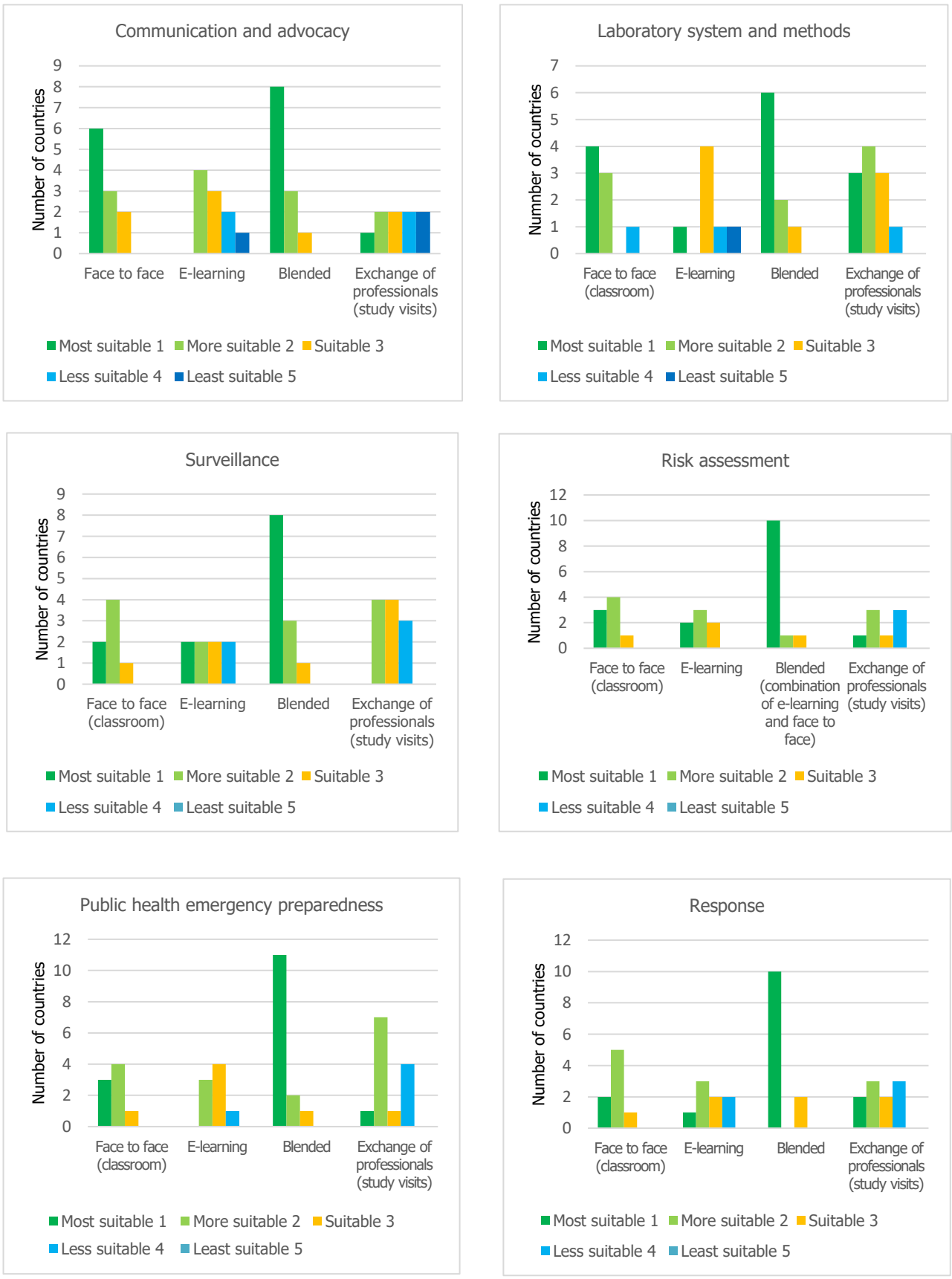
Finally, it was pointed out that the main barrier to participating in training activities for many professionals was the English language.

Additional areas in communicable disease prevention and control where training needs are perceived

The last question on the survey, was an open-ended question, asked respondents to indicate any other areas within communicable disease prevention and control which would require an EU-level training course.

Nine of fourteen countries replied. They indicated vulnerable population and communicable diseases (4 of 9), biostatistics (4 of 9) and international affairs and global health (4 of 9) as the main areas for consideration. In addition, ethics (3 of 9), public health policy (2 of 9) and workforce policy development (2 of 9) were also mentioned.

Figure 16. Which format of ECDC continuous professional learning would be suitable for your Member State?



Comparison of training needs with the 2015 survey

In 2015, of the 31 EU/EEA countries invited to participate, 20 responded to the survey, providing access to their IHR monitoring questionnaire report. Of these, only 16 gave figures on training needs.

In 2019, out of the 31 EU/EEA countries invited to participate 14 responded to Part 2 of the survey on training needs.

Denmark, Iceland, Latvia, Malta, Norway, Portugal, Spain, the Netherlands, and the UK responded only in 2015; while Austria, Belgium, Croatia, Germany, Hungary, Poland, and Sweden replied only in 2019.

Bulgaria, Czech Republic, Estonia, Finland, Ireland, Lithuania and Romania replied in 2015 and 2019.

The 2019 survey had a different structure, with the questions grouped by domain. In the 2015 survey, the questions were grouped by sub-domains and a disease-specific question was also included. The laboratory systems and methods domain only appeared in the 2019 survey. See Table 4.

Table 4. Comparison of 2015 and 2019 survey areas

2015 Survey	2019 Survey
Risk communication	Communication and advocacy
Health communication	
Surveillance	Surveillance
Epidemic intelligence	
Population-based research	
Risk assessment	Risk assessment
Crisis management	Public health emergency preparedness
Simulation exercise	
Planning for response	
Outbreak investigation	Response
Evaluate response	
Public health decision-making	Additional domains
Scientific writing	
Training	
Public health policy-making	
	Laboratory systems and methods

In 2015, the survey showed that three areas clearly stood out in terms of the estimated number of public health specialists that needed to be trained to reach and maintain full capacity: surveillance, risk assessment and outbreak investigations. Surveillance and risk assessments were indicated as areas with the greatest need for ECDC training. In 2018, the highest priority training needs for the Member States had not changed - public health emergency preparedness, surveillance and response were indicated by the survey respondents as being most important.

Due to the variations in structure in the countries submitting the responses (and different populations represented), it was not possible to compare the data on the estimated number of professionals requiring ECDC- or Member State training. However, the magnitude of the estimate is the same.

Figure 17 shows the figures extracted from the 2015 survey analysis.

Figure 17. 2015 survey results on number of professionals to be trained by ECDC

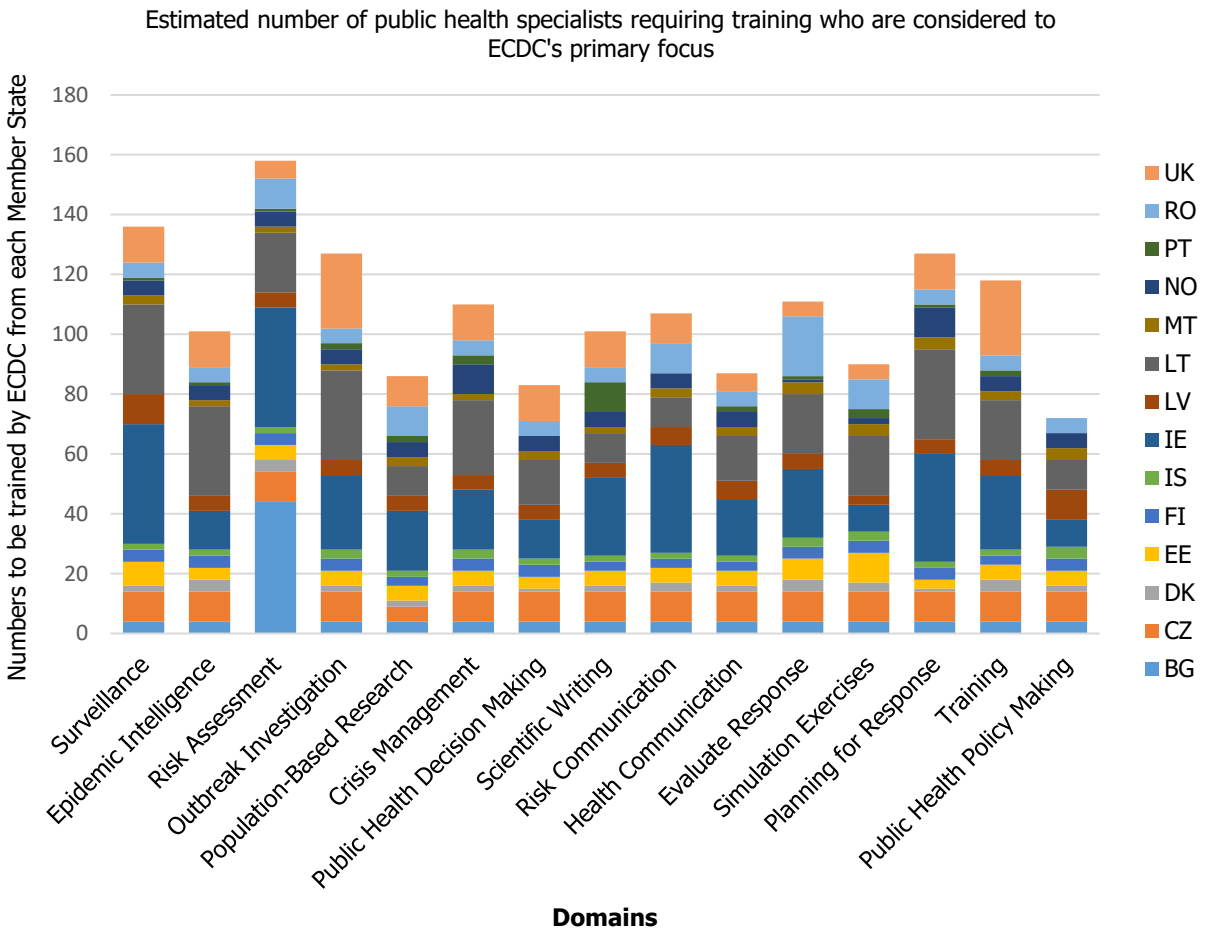
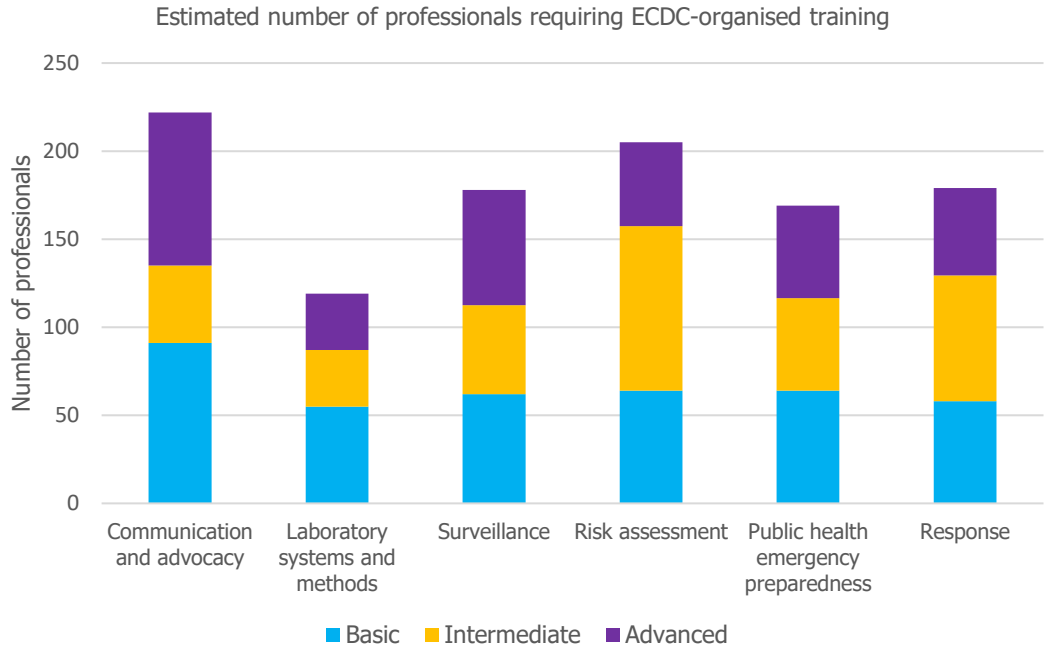


Figure 18. 2019 survey results on number of professionals to be trained by ECDC



Conclusions

The capacity and training needs assessment surveys, conducted every three years, aim to provide ECDC with feedback from the EU/EEA Member States on the workforce capacity and training needs/gaps in specific areas within communicable disease prevention and control.

The survey was developed to serve as a tool for countries in mapping the size and composition of their existing workforce capacity in the area of communicable disease prevention and control. One of the objectives of the 2018 survey was to quantify, qualify and prioritise training needs in order to help ECDC develop and adapt the training offered during the period of 2020-2022. Here the focus was mainly on the scope of the Centre's continuous professional development training.

According to the results of the capacity assessment, only a few countries have a mechanism or legal instrument in place for workforce planning and development in the area of public health. Recruiting sufficient numbers of staff to work in communicable disease is a challenge for most countries, due to the lack of qualified applicants.

According to the results of the training needs assessment survey, practically all areas of competency included in the survey are of high priority for the Member States. Respondents expressed the need to have professionals from their countries trained by ECDC in all domains, in the following order of priority: 1) Communication and advocacy, 2) Risk assessment; 3) Response; 4) Surveillance; 5) Public health emergency preparedness; 6) Public health laboratory systems and methods.

ECDC used the qualitative and quantitative data collected on training needs to help with its annual planning. Preliminary results of the 2018 survey were used to plan ECDC training activities (e.g. face-to-face courses, e-learning courses and simulation exercises in 2019 and 2020), and to help with the planning of future initiatives (e.g. multi-annual projects for training courses on vaccination and how to tackle vaccine hesitancy and training on how to conduct after-action reviews (see Annex 1).

Next steps

In order to get closer to countries, ECDC is planning to enhance its knowledge and understanding of their vulnerabilities and needs. The data collected (including data on capacity) will be used to provide targeted country support.

Finally, due to the difficulty experienced by some countries in providing data on the number of professionals to be trained, which might have affected the participation rate, a combined approach (complementing the survey with other methods) is essential. For example, the training needs assessment surveys can be combined with annual consultations of National Focal Points for Training and other public health functions and disease programmes, to help direct ECDC's training priorities. We propose to conduct further training needs assessments in the different areas of competency, involving the dedicated ECDC public health functions and disease programme networks, and collecting more detailed information on the specific topics to be addressed.

Both ECDC and the countries could benefit from the joint design of tools to facilitate self-assessment at national and subnational level, taking into consideration complementary activities in the countries (e.g. individual training needs assessments and workshops).

The ongoing COVID-19 pandemic will definitely reveal capacity gaps and training needs that can be identified during the in- and after-action reviews. ECDC is in close contact with the Member States and the Commission and will identify those needs and reorient the training it offers accordingly.

Annex 1. ECDC training activities in the period 2019–2020

To address Member State needs ascertained from the survey results, ECDC used the qualitative and quantitative data collected to help with its annual planning. Preliminary results of the 2018 survey were used to plan ECDC training activities in 2019 (see Table 5) and 2020 (see Table 6 and the Course listing 2020[4]) and to help with the planning of future initiatives (multi-annual projects).

Table 5. ECDC courses organised in 2019

Type of activity	Title
Short course	Public health genomic workshop
Short course	Cross-sectoral bio-risk awareness and mitigation training
Short course	ECDC outbreak investigation questionnaire tool – Voozanoo (response and emergency operations)
Short course	ECDC rapid risk assessment training
Simulation exercise	Simulation exercise for an emerging threat (regional) – decision (EU) No 1082/2013
E-learning	Introduction to outbreak investigation
E-learning	Introduction to rapid risk assessment
E-learning	Epidemic intelligence
E-learning	Writing and reviewing scientific abstracts: a field epidemiology focus
E-learning	Cross-border sharing of health data
E-learning	PRECEPT – A framework for assessing and grading evidence in public health
E-learning	Influenza vaccination campaigns targeting healthcare workers
E-learning	Influenza bioanalytics

Table 6. ECDC courses organised in 2020

Type of activity	Title
Short course	ECDC hospital-associated infections outbreak investigation course 2020
Short course	Cross-sectoral bio-risk awareness and mitigation training
Short course	Control of multidrug-resistant organisms (MDROs) in healthcare settings
Short course	ECDC rapid risk assessment training
Short course	Emergency preparedness capabilities: policy development, adaptation and implementation
Short course	Emergency preparedness capabilities: detection and assessment
Short course	Public health genomics workshop
Short course	Wet lab course – vaccine-preventable diseases and immunisation programmes
E-learning	COVID-19 micro learning

With regard to multi-annual projects, ECDC is planning to conduct after-action reviews (AAR) in several countries and has started a project for training in the area of vaccination and vaccine hesitancy for primary healthcare professionals. The output of this training course will be

- a competency-based e-learning course on vaccinology, freely accessible both at the national and sub-national level. The target audience is public health and primary healthcare professionals;
- a competency-based blended training course on behaviour change communication in relation to vaccine hesitancy. 'Train the trainer' (TOT) format, delivered at national level. The target audience is public health or public healthcare professionals with a training mission/mandate.

The trainers trained at national level will then pass on their knowledge as part of the Member State contribution to this project.

[4] https://www.ecdc.europa.eu/sites/default/files/documents/Compendium-of-2020-ECDC-CPD-training-activities-2020-03-27.pdf