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**Deliverable**

**D-IA.2.2.OH-Harmony-**

**Cap.2.2**

**Results and evaluation of  
the pilot survey**

**Work package 2 of  
OH-Harmony-Cap:  
Development of the  
OHLabCap**

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# OHLABCAP: RESULTS OF THE PILOT SURVEY

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## OHLabCap: results and evaluation of the Pilot survey

This is a public deliverable of One Health EJP Joint Research Project, Integrative Action-2.2, OH-Harmony-Cap: One Health Harmonisation of Protocols for the Detection of Foodborne Pathogens and AMR Determinants

<https://onehealthjep.eu/jip-oh-harmony-cap/>

OH-Harmony-CAP is a 2.5 year project, which aims to collect information on current capabilities, capacities and interoperability at both the National Reference Laboratory (NRL) and the primary diagnostic level. The quantitative description of current and best practices and the development of harmonised protocols will identify and possibly close the gaps and suggest future studies of how best to detect and characterise food borne pathogens across the One Health sectors.

## 1. WP2-T2: Scoring of collected data and chosen indicators (OH-Harmony-Cap NRLs and other participating diagnostic laboratories)

### EXECUTIVE SUMMARY

The One Health (OH) laboratories (medical, veterinary and/or food/feed) across EU/EEA countries should be surveyed for interoperability, capacity, and performance. For this, a benchmarking instrument 'OHLabCap' is developed in the One Health EJP project OH-Harmony-Cap. This instrument will be able to identify gaps and needs necessary to develop and implement harmonised and interoperable protocols for the detection and typing of foodborne pathogens and AMR determinants across the OH fields.

The development work has the following steps:

- A pilot survey was conducted in 2020, an adjusted survey is planned for 2021, and final version of the OHLabCap tool is expected to be ready in 2022
- The pilot survey was sent to 46 OH-Harmony-Cap participants representing 15 institutes and laboratories in 11 countries. The main aim was to test the content, the format and the possible outcomes of the survey
- The pilot survey covered six priority bacteria and ten priority parasites together with the antimicrobial resistance (AMR) testing of *Salmonella* and *Campylobacter*
  - Shiga toxin-producing *E. coli* (STEC), *Salmonella*, *Campylobacter*, *Shigella*, *Yersinia*, and *Listeria*
  - *Echinococcus multilocularis*, *Toxoplasma gondii*, *Trichinella spiralis*, *Echinococcus granulosus*, *Cryptosporidium* spp., *Trichinella* spp. other than *T. spiralis*, *Giardia lamblia*, *Anisakidae*, *Toxocara* spp., and *Taenia solium* [in prioritised order according to Bouwknegt et al. 2016 (1)]
- The pilot survey included 63 questions that covered capability, capacity, and interoperability. The EU Survey tool was used.
- The pilot survey results were analysed by applying "scoring options" similar to those used in EULabCAP survey (2). The scoring was based on a compilation of indicators (questions included in the pilot survey), across three dimensions (primary diagnostic testing, NRL services, and interoperability and communication)
- The pilot study participants provided general comments, e.g., about the order and consistency of provided options and terminology, as well as editing suggestions.

The pilot survey and report can be found here: [Deliverable D-IA.2.2.OH-Harmony-Cap.2.1: Completed Pilot Survey | Zenodo](#) .



This deliverable summarizes the comments received, preliminary analyses of the results of the Pilot survey, and key decisions made based on them.

#### **DISCLAIMER:**

**The results, comments and analyses in this report should be considered to be presented as in a “working document”, which will be used within the OH-Harmony-CAP in the further development of the OHLabCap tool (D-IA.2.2.OH-Harmony-Cap.2.3)**

## **2. General observations and recommendations**

### **General observations**

The participants of the pilot survey provided general observations e.g. about the length of the survey, order of options, and missing options. Moreover, a number of scoring challenges were identified.

#### **Specific observations**

##### ***Provision and regulation***

All questions need NA (non applicable). A number of scoring issues were identified. Baselines should be accurate numbers. In Q9 the samples need to be split out per pathogen.

##### ***Diagnostic guidelines***

All questions need NA (non applicable). Scoring of «in house» or «other» guidelines needs to be identified.

##### ***Diagnostic testing and surveillance***

The baseline for the number of pathogens typed/size of population covered by the laboratory. Rephrase or refine Q23 and Q24 and include the number. Boxes must include «Do not type» and “NA” (Q25 & Q27). Move WGS details to “Whole genome sequencing for surveillance”. Scoring of phenotypic vs. molecular, WGS, MLST (Q25 & Q26), include RFLP PCR.

##### ***Antimicrobial drug susceptibility testing***

Specify for *Salmonella* and *Campylobacter*.

##### ***Provision and regulation***

Add questions on storage of sequence data, storage capacity (terabyte?) and if Public repository. “NA” is missing (Q33 - Q36). Scoring of capacity: No = 0, Yes = 2; 2 weeks = 0, 12 months = 1 >1year = 2 ?

##### ***Whole genome sequencing for surveillance***

Include all details for WGS in this target: Serotyping, virulence characterization, cgMLST, wgMLST, SNP, and AMR for each pathogen. Include “NA”, “no”, “occasionally” and “yes”. “NA” is missing (Q37 – Q40). Include No WGS, WGS planned = 0, WGS occasionally = 1, routinely = 2

Scoring of Serotyping and VG = 0, MLVA and MLST/ST= 1, WGS = 2 ?

##### ***National surveillance networks***

Include Q on whether the laboratory has coordinated reporting across the OH sector *i.e.* National Zoonosis report. “NA” is missing (Q41- 46). Scoring of results report: format and where (Q48). Suggest to move Q48 to “Communications”. Suggest to remove peer review publications and specify Webpage (continuously, Weekly, Monthly, Annually and other (bi-weekly, quarterly...)). Score number of meetings – score  $\geq 3 = 2$  ?

##### ***Active participation in EU disease networks***

“NA” is missing (Q50- Q52). Score number of meetings – score  $\geq 3 = 2$  ?

Specify Q51 & 52: No reporting, NRL, National surveillance systems, EFSA, ECDC. Scoring of reporting to Europe and nationally = 2, nationally or Europe = 1, no reporting = 0 ??

##### ***National outbreak response support***

“NA” is missing (Q54, Q55 & Q57). Q55: Include “during outbreaks”. Q56 – omit. Q59: Consider to remove?

##### ***Communications***

Box to specify if we mean the laboratory or the institute

Move Q48 to “Communications”.



Evaluation of the outcome of the survey by and discussions among the OH-Harmony-CAP-WP2 team lead to the following conclusions:

Modifications of the survey questionnaire should include a change in the format into a routed survey so that questions that are irrelevant or don't pertain to a particular expertise or organism are avoided. Classification and scoring of indicators by functions measured on capacity, capability, interoperability and communication needs to be clarified. Of particular attention is the inclusion of the "NA" option in many of the questions. This report only presents the combined, general targets and dimensions. The final revised tool should be able to present the target score distribution by discipline (human, animals, and food/feed) and dimension scores (for human, animal and food/feed) by country (maps). The OH-Harmony-Cap participants with special insight in parasitology will have to address the question if all parasites should be included in the adjusted survey?

It should be considered if the adjusted survey could include an indicator and associated targets on adaptability *i.e.* the capacity and ability to adjust preparedness, methodology and organisation of each laboratory. Simple indicators could include time frames such as when a method was implemented or how long the present organisation has been in place. Adaptability has been more relevant than ever in 2020 because of the Covid-19 pandemic. Therefore, adaptability is very relevant and should be part of the OHLabCap tool in order to improve the preparedness in laboratories if or when the next foodborne outbreak with an emerging or rare pathogen occurs in the EU.



### 3. Evaluation, assessment, and scoring of the collected data and chosen indicators

The pilot survey contained three dimensions and 10 selected targets as shown in Figure 1.

## Structural overview of OHLabCap

Three dimensions	<b>Primary diagnostic testing</b>	<b>NRL services</b>	<b>Interoperability and communication</b>
	Provision and regulation	Provision and regulation	National surveillance networks
10 targets	Diagnostic guidelines	Whole genome sequencing for surveillance	Active participation in EU disease networks
	Diagnostic testing and surveillance		National outbreak response support
	Antimicrobial drug susceptibility testing		Communications

19/11/2020

**Figure 1.** The structure of the OHLabCap pilot survey.

## Dimensions, targets and indicators

Dimensions	Targets	Questions	No. of indicators
<b>Primary diagnostic testing</b>	Provision and regulation	4-17	28
	Diagnostic guidelines	18-22	64
	Diagnostic testing and surveillance	23-27	48
	Antimicrobial drug susceptibility testing	28-29	2
<b>NRL services</b>	Provision and regulation	30-36	65
	WGS for surveillance	37-40	32
<b>Interoperability and communication</b>	National surveillance networks	41-49	39
	Active participation in EU disease networks	50-52	48
	National outbreak response support	53-59	37
	Communications	60-63	4
<b>Total</b>	<b>10</b>	<b>59</b>	<b>365</b>

**Figure 2.** Dimensions, targets and indicators of the OHLabCap survey. Number of questions and indicators for each of the three dimension and ten targets.

The scores of each indicator were:

- 0 (low)
- 1 (median)
- 2 (high)
- not applicable (NA)/ not relevant (NR)



Scoring of each target were set at a scale from 0 to 10. Dimensions, targets and indicators are shown in Figure 2. The maximum score was  $2 \times 365 = 730$ .

#### 4. Collection and analysis the pilot survey results

The pilot survey was circulated to the NRL, institutes and laboratories across Europe. All 15 laboratories participated and their results were included in the analysis. The participating laboratories were, in alphabetical order :

- Anses, Ploufragan Laboratory, MBA Unit - Anses, Laboratory for Food Safety, B3PA Unit (ANSES)
- German Federal Institute for Risk Assessment, BfR
- Instituto Nacional de Investigação Agrária e Veterinária (INIAVIP-2)
- Instituto Nacional de Investigação Agrária e Veterinária (INIAVIP-3)
- Instituto Nacional de Investigação Veterinária, I.P (INIAVIP-1)
- Istituto Superiore di Sanità (ISS)
- National Institute for Public Health and the Environment (RIVM)
- National Institute of Health Dr Ricardo Jorge (NIH)
- National Veterinary Institute (NVI-SVA)
- National Veterinary Research Institute in Pulawy, PIWet (NVRI)
- Norwegian Institute of Public Health (NIPH)
- Public Health Agency of Sweden, FOHM
- Statens Serum Institut (SSI)
- The Irish Agriculture and Food Development Authority, Teagasc (TGC)
- The Norwegian Veterinary Institute (NVI)

The results are presented so that the individual laboratories cannot be identified. The order they are presented in the figures is uniform across the figures, but it is not the alphabetical order above. The distribution between animal, human, food/feed laboratories is shown in **Figure 3**.

Source	No. of laboratories
Humans	3
Humans; Animals	1
Humans; Animals; Food/Feed	3
Animals; Food/Feed	7
Food/Feed	1
<b>Total</b>	<b>15</b>

**Figure 3.**The distribution between animal, human, food/feed laboratories.

### Primary diagnostic testing

#### 4.1.1. Provision and regulation

##### Overview

- 13 questions, 28 indicators, max score: 56

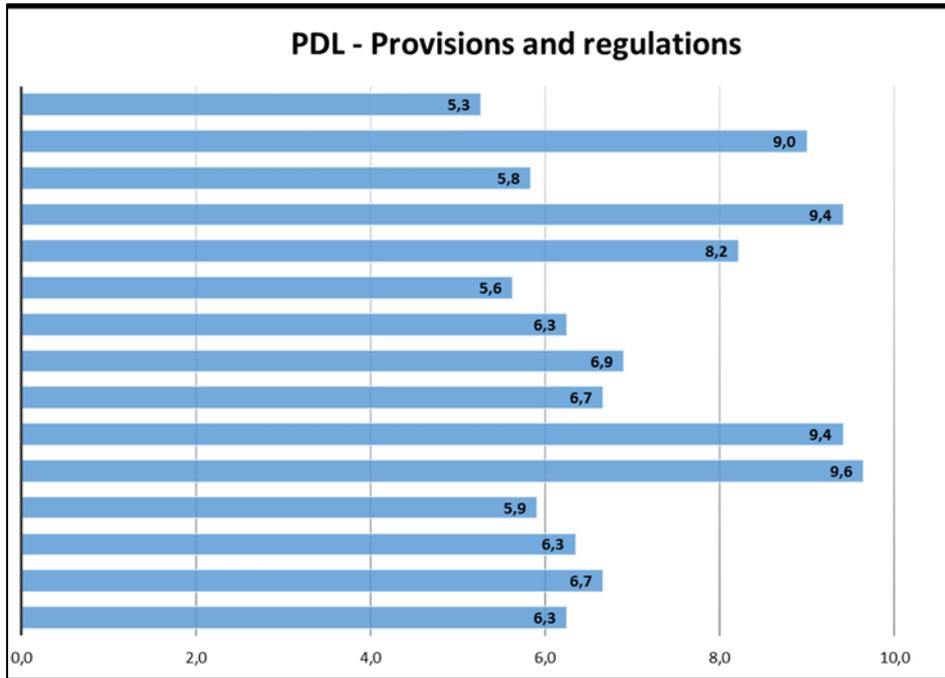


Figure 4. Relative scores by the pilot survey participants from a total of 28 indicators (see Figure 2).

### Comments

#### Provision and regulation

- All questions need NA (non applicable)
- Q6: Specify food/feed and environmental
- Q7: Specify the total number: technicians (trained and temporary staff) and supervisors. No. of samples analysed annually (from Q9)/no. of microbiologists (no. of samples/no of persons)
- Q8: 5. 000 000 – 10. 000 000 large range. We need the exact number of human population that the laboratory is covering.
- Q9: Better to ask how many samples each lab analyse per pathogen weekly (or annually) (baseline)
- Q10: additional question: which pathogens do the lab test for? Then we are able to score Q10 (0%, 50% and >50%)
- One parasite misspelled:

	Maximum number of isolates that can be typed per week
• <i>Campylobacter</i> spp.	
• <i>Salmonella</i> spp.	
• <i>Listeria</i>	
• Shiga toxin producing <i>E. coli</i>	
• <i>Shigella</i> spp.	
• <i>Yersinia</i> spp.	
• <i>Echinococcus multilocularis</i>	
• <i>Toxoplasma gondii</i>	
• <i>Trichinella spiralis</i>	
• <i>Echinococcus granulosus</i>	
• <i>Cryptosporidium</i> spp.	
• <i>Trichinella</i> spp. other than <i>T. spiralis</i>	
• <i>Giardia lamblia</i>	
• Anisakidae	
• <i>Toxicara</i> spp.	
• <i>Taenia solium</i>	

Correct: **Toxicara** spp.



- Q10-11: Switch the sequence of these 2 questions, it should be asked first if the lab is accredited according to which standard, and also added not accredited, and then how many tests are accredited for each pathogen
- Q12:
  - How many times can you upscale no .of samples analysed weekly (2x, 2-5x, >5x) (baseline from Q9)
  - How to score this? Is a doubling of capacity good?, <2x samples/week, <2x-5x sample/week, >5x sample/week
- Q13: Analysing, not typing. Important to have the answer to Q9 (new) before we can calculate Q13 (baseline is missing)

### Improvements

- Need to define the baseline
- No. of human population the lab is covering (more exact number) (Q8)
- No. of samples each lab processed annually/weekly (per pathogen) (Q9)
- Need to know which pathogens the lab test for (Q10)

### Scoring challenges

- Q12: upscale 2x, 2-5x and >5x
- Q15: why differentiate between LIMS and another equivalent?
- Q16: paper/digital better than digital?
- Q17: Clarify and explain

## SUMMARY

All questions need NA (non applicable). A number of scoring issues were identified. Baselines should be accurate numbers. The number of samples needs to be split out per pathogen.

### 4.1.2. Diagnostic guidelines

#### Overview

- 5 questions, 64 indicators, max score: 128

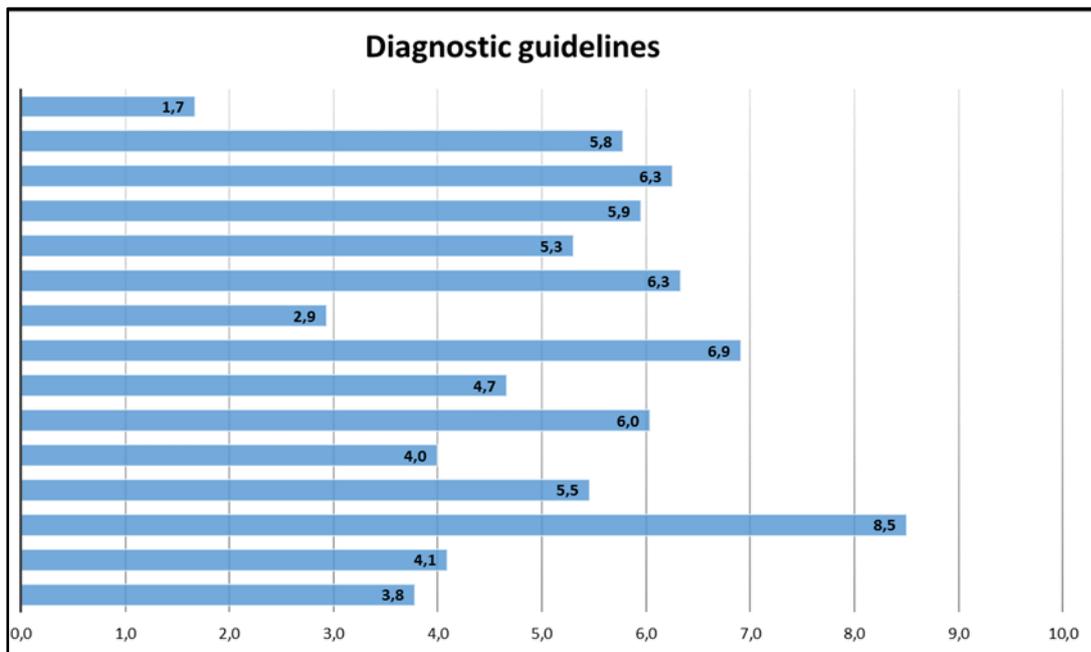


Figure 5. Relative scores by the pilot survey participants on **Diagnostic guidelines** from a total of 64 indicators (see Figure 2).

### Scoring challenges



- Q19 and Q20 how to classify «in house» or «other» guidelines?
- Q18: replace “No” with “NA”
- Q21 and Q22 include “NA” (not applicable)

## SUMMARY

Classify «in house» or «other» guidelines” and include “NA”.

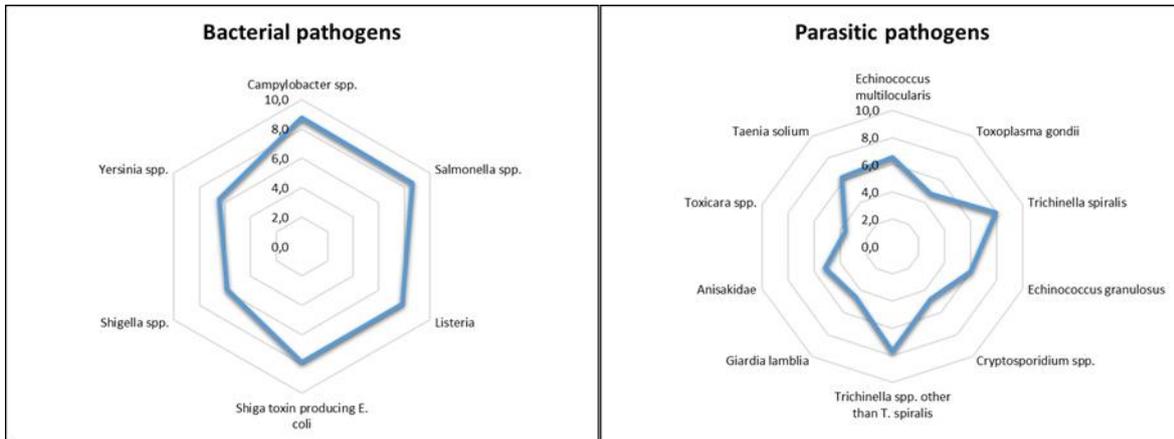


Figure 6. Relative average scores by all the 15 pilot survey participants on **Diagnostic guidelines** split into the six priority bacteria and the ten priority parasites.

### 4.1.3. Diagnostic testing and surveillance

#### Overview

- 5 questions, 48 indicators, max score: 96

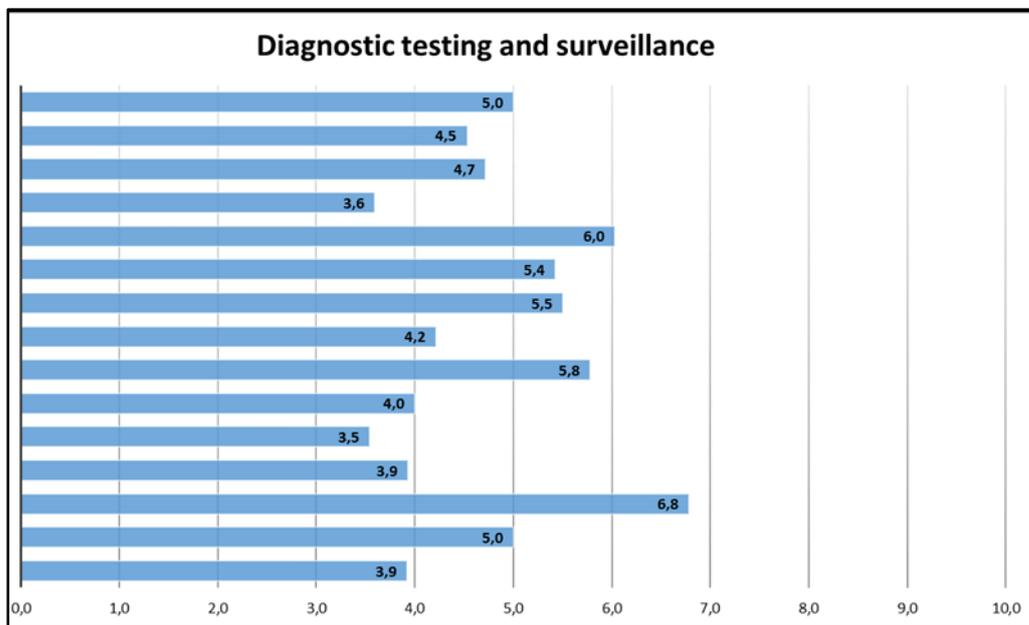


Figure 7. Relative scores by the pilot survey participants on **Diagnostic testing and surveillance** from a total of 48 indicators (see Figure 2).

#### Improvements

- Need baseline (no. of pathogens typed/size of population covered by the lab)
- Rephrase/define "type" (Q23 and Q24)
- Two boxes are missing: “NA” and «Do not type» (Q25 and Q26)
- Do not include WGS details here – move to WGS part



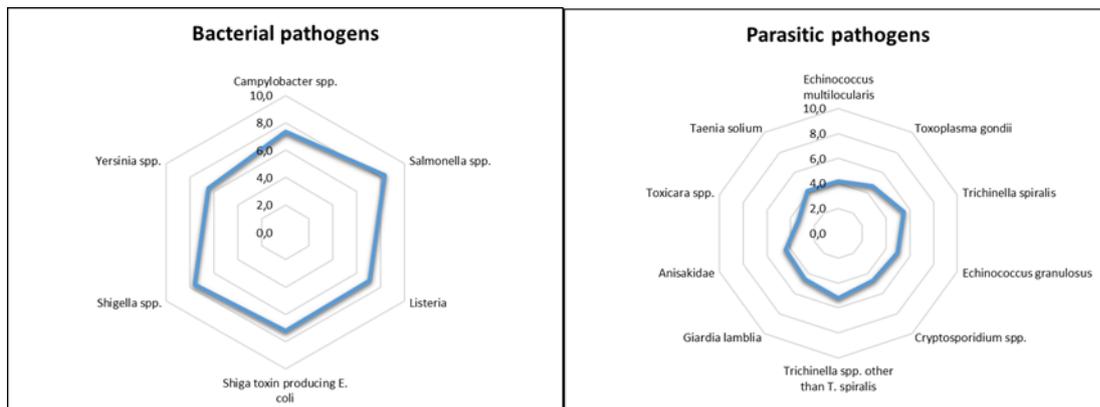
- Two boxes are missing: "NA" and "Do not type", include other typing methods (RFLP PCR)? (Q27)

### Scoring challenges

- Campylobacter, Salmonella, STEC, Listeria, Yersinia, Shigella and parasites
- Q25 How to score phenotypic vs. molecular?
- Q26 Remove WGS details
- Q27 Single locus = 0, Multi locus and MLST = 1 and WGS = 2. Should other typing methods be included?
- Q23 and Q24: no. of isolates typed
  - What does this question give?
    - Cannot be answered before baseline
    - Define what you mean with type (phenotype and molecular) – what about culture – more identify?
  - no of pathogens typed/no. of population the lab is covering
  - <2 = 0, 2-<5 = 1, >5 = 2; Campylobacter, Salmonella, STEC, Listeria
  - Parasites and Yersinia and Shigella – their own scale

### SUMMARY

The baseline for a number of pathogens typed/size of the population covered by the laboratory. Rephrase or refine Q23 and Q24 and include the number. Boxes must include «Do not type» and “NA” (Q25 & Q27). Move WGS details to “Whole genome sequencing for surveillance”. Scoring of pheno vs. molecular, WGS, MLST (Q25 & Q26), include RFLP PCR.



**Figure 8.** Relative average scores by all the 15 pilot survey participants on **Diagnostic testing and surveillance** split into the six priority bacteria and the ten priority parasites.

#### 4.1.4. Antimicrobial drug susceptibility testing

##### Overview

- 2 questions, 2 indicators, max score: 4

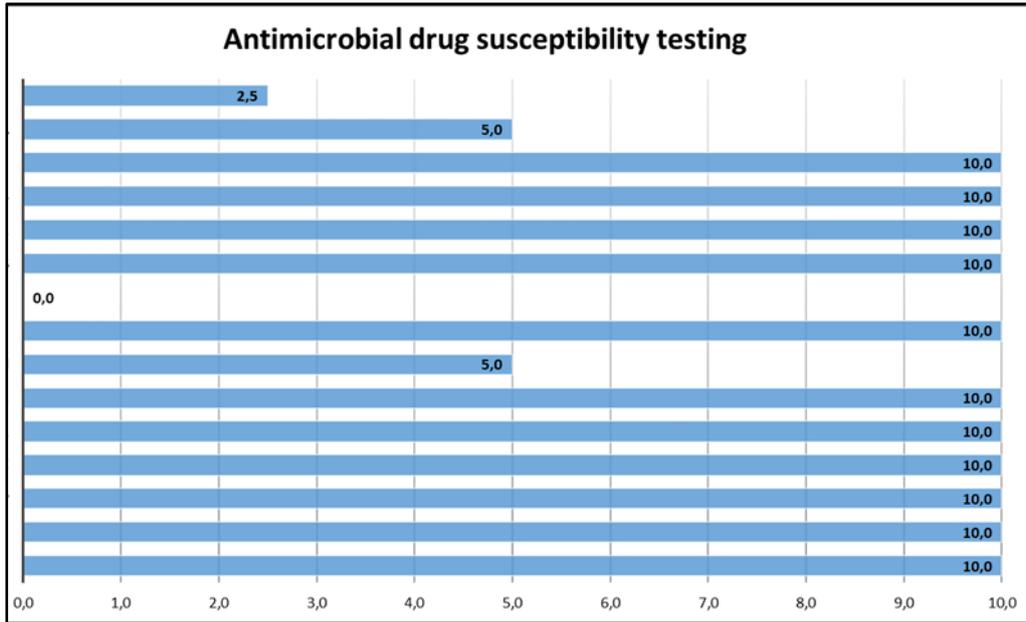


Figure 9. Relative scores by the pilot survey participants on Antimicrobial drug susceptibility testing from a total of 2 indicators (see Figure 2).

### Improvements

- Q28 and Q29
  - Salmonella specific
  - Campylobacter specific

### SUMMARY

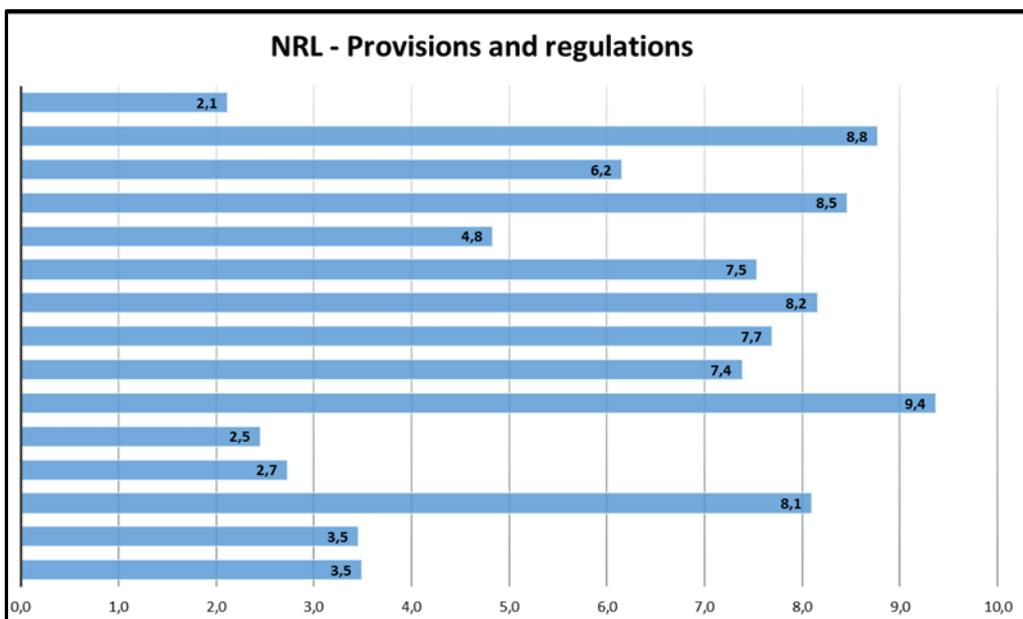
Specify for *Salmonella* and *Campylobacter*.

## National Reference Laboratory (NRL) services

### 4.1.5. Provision and regulation

#### Overview

- 6 questions, 65 indicators, max score 130





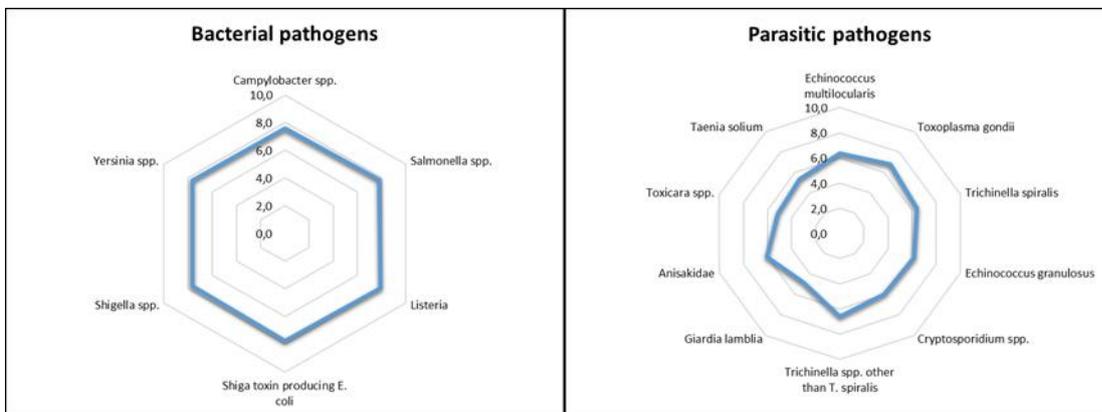
**Figure 10.** Relative scores by the pilot survey participants on **Provision and regulation** from a total of 65 indicators (see Figure 2).

### Improvements

- Add questions on storage of sequence data
  - Storage capacity
  - Public repository
  
- Q31, Q32
  - NA is missing
  - No =0, Yes=2
  - 2 weeks =0, 12 months=1 >1year=2
  
- Q33 and Q34
  - NA is missing
  - Score as Q31 and Q32
  
- Q35
  - NA is missing
  - Storage capacity(Terabyte)
  - Public repository/public available
  
- Q36
  - NA is missing

### SUMMARY

Add questions on storage of sequence data, storage capacity (terabyte?) and if Public repository. "NA" is missing (Q33 - Q36). Scoring of capacity (Q31-Q34): No = 0, Yes = 2; 2 weeks = 0, 12 months = 1 >1year = 2 ?



**Figure 11.** Relative average scores by all the 15 pilot survey participants on **Provision and regulation** split into the six priority bacteria and the ten priority parasites.

### 4.1.6. Whole genome sequencing for surveillance

#### Overview

- 4 questions, 32 indicators, max score 64

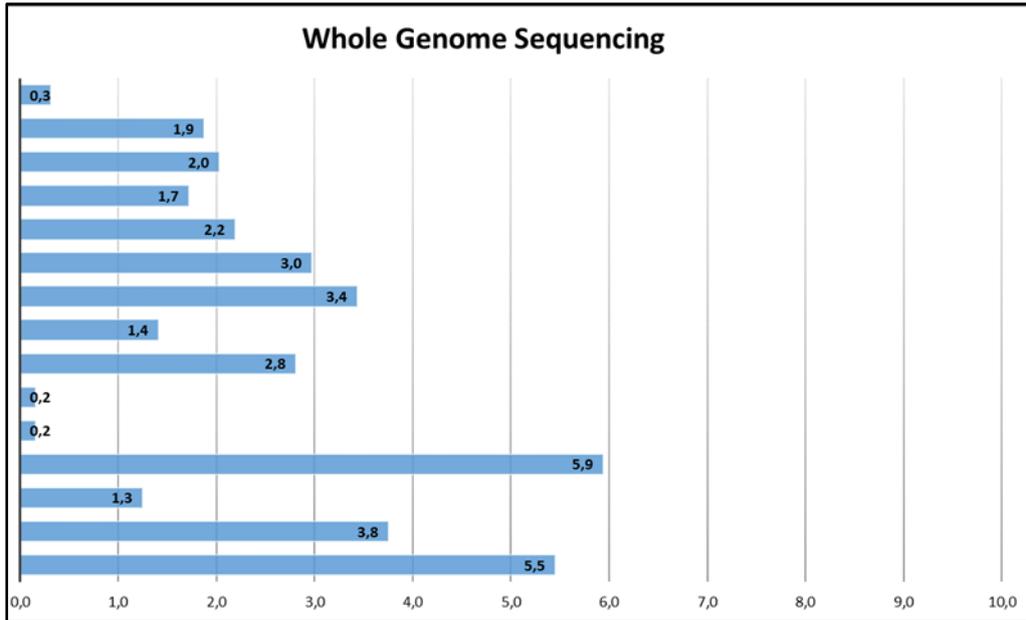


Figure 12. Relative scores by the pilot survey participants on **Whole genome sequencing for surveillance** from a total of 32 indicators (see Figure 2).

### Improvements

- Include all details for WGS in this target
  - Serotyping, virulence characterization, cgMLST, wgMLST, SNP, and AMR
  - Each pathogen
  - NA is missing

### Scoring challenges

- Include No WGS, WGS planned = 0, WGS occasionally = 1, Routinely = 2
- Scoring of Serotyping and VG = 0, MLVA and MLST/ST= 1, WGS = 2 ?

### SUMMARY

Include all details for WGS in this target: Serotyping, virulence characterization, cgMLST, wgMLST, SNP, and AMR for each pathogen. Include “NA”, “no”, “occasionally” and “yes”. “NA” is missing (Q37 – Q40).

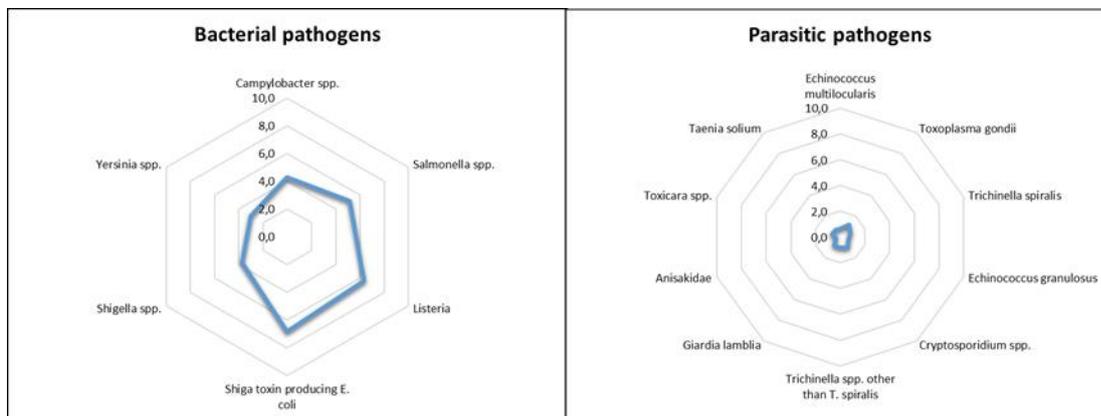


Figure 13. Relative average scores by all the 15 pilot survey participants on **Whole genome sequencing for surveillance** split into the six priority bacteria and the ten priority parasites.

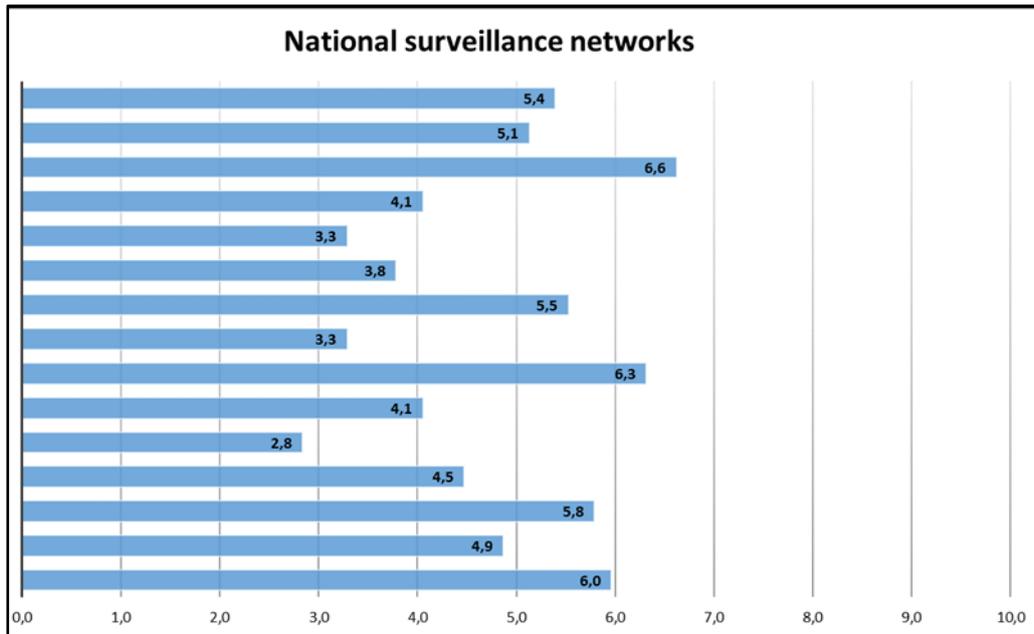


## Interoperability and communication

### 4.1.7. National surveillance networks

#### Overview

- 8 questions, 38 indicators, max score 76



**Figure 14.** Relative scores by the pilot survey participants on **National surveillance networks** from a total of 39 indicators (see Figure 2).

#### Improvements

- Include: Does your laboratory have coordinated reporting across the OH sector?
- Q41, Q42, Q43
  - Q41 and Q42 NA is missing
- Q43: Add "When needed"
- Q44
  - Yes and no – ok
  - Human, animal, food, environment??
- Q45
  - NA is missing
  - Into a national surveillance system
    - NA: No (= 0), No, only partially or to local/regional level (= 1), Yes (= 2)
- Q46: Omit question?
- Q47 (notification not alert)
  - Only digital (=2)
  - Partly digital (=1)
  - Paper (=1)
  - Phone (=0)
  - NA
- Q48
  - Peer review publications – remove
  - Webpage (continuously)
  - Weekly
  - Monthly
  - Annually
  - Other (bi weekly, quarterly...)



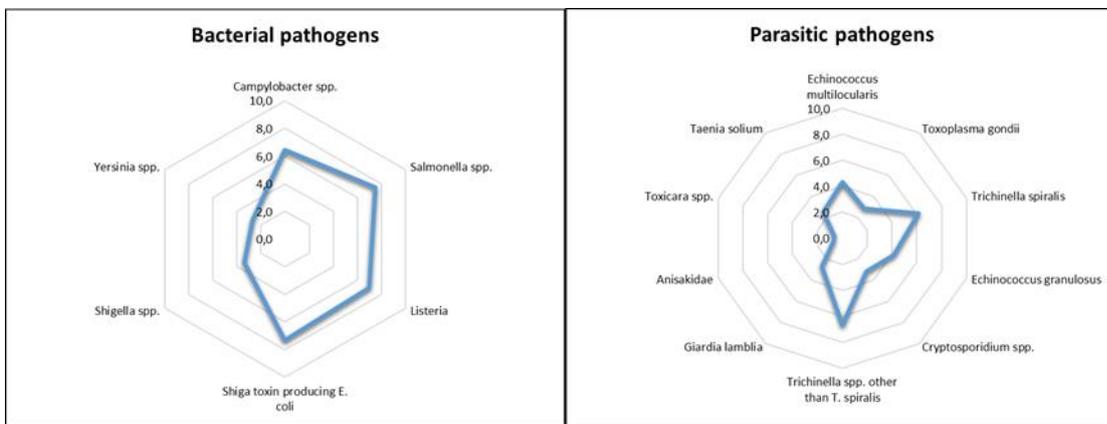
- NA
- Q49: Additional question
  - Coordinated reporting across OH sector (Zoonosis report – Norway, AMR report)

**Scoring challenges**

- Change some of the answering boxes (Q45, Q47, Q48)
- Remove Q46?

**SUMMARY**

Include Q on whether the laboratory has coordinated reporting across the OH sector *i.e.* National Zoonosis report. “NA” is missing (Q41- 46). Scoring of results report: format and where (Q48). Suggest to move Q48 to “Communications”. Suggest to remove peer review publications and specify Webpage (continuously, Weekly, Monthly, Annually and other (bi-weekly, quarterly...)). Score number of meetings – score  $\geq 3 = 2$  ?

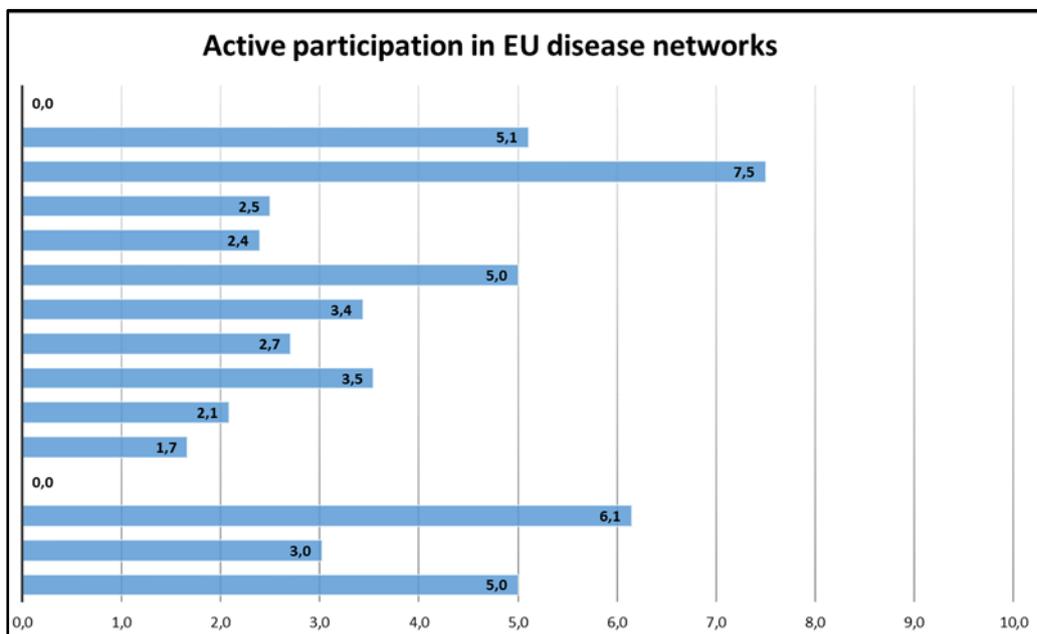


**Figure 15.** Relative average scores by all the 15 pilot survey participants on **National surveillance networks** split into the six priority bacteria and the ten priority parasites.

**4.1.8. Active participation in EU disease network**

**Overview**

- 3 questions, 48 indicators, max score 96





**Figure 16.** Relative scores by the pilot survey participants on **Active participation in EU disease network** from a total of 48 indicators (see Figure 2).

**Scoring challenges**

Active participation in EU disease networks

- Q50
  - NA is missing
  - No of meetings – score  $\geq 3 = 2$ ,

Q50: Change “parasites” to “pathogens” in box.

50. Did your laboratory actively participate in an EU disease network organized by ECDC, EFSA, or the EU Commission in 2019?

	No participation	Food- and waterborne (FWD) ECDC disease network	External quality assessments (EQA)	Annual meeting	European Union Reference Laboratories (EURL) Foodborne parasites	Other (please specify in a box below)
* <i>Campylobacter</i> spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Salmonella</i> spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Listeria</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* Shiga toxin producing <i>E. coli</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Shigella</i> spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Yersinia</i> spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Echinococcus multilocularis</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Toxoplasma gondii</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Trichinella spiralis</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* <i>Echinococcus granulosus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q51

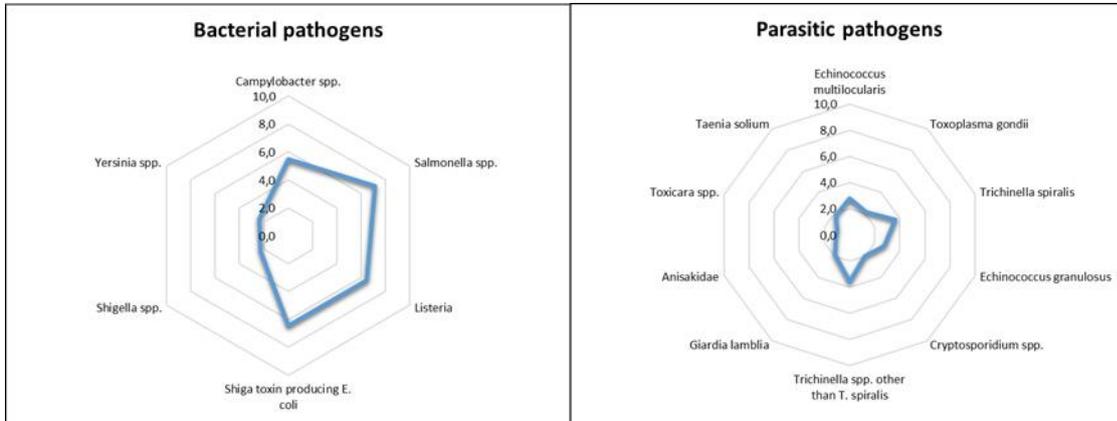
- Change to: when does your laboratory report the....
  - NA is missing
  - No reporting
  - Suspicion of an outbreak
  - Routine
- Q52
  - NA is missing
  - No reporting
  - NRL
  - National surveillance systems
  - EFSA
  - ECDC
  - Reporting to Europe and nationally=2, nationally or Europe =1, no reporting = 0
- Q52:
  - no reporting = 0
  - nationally or Europe = 1
  - nationally and Europe = 2



**SUMMARY**

“NA” is missing (Q50- Q52). Score number of meetings – score  $\geq 3 = 2$  ?

Specify Q51 & 52: No reporting, NRL, National surveillance systems, EFSA, ECDC. Scoring of reporting to Europe and nationally = 2, nationally or Europe = 1, no reporting = 0 ??

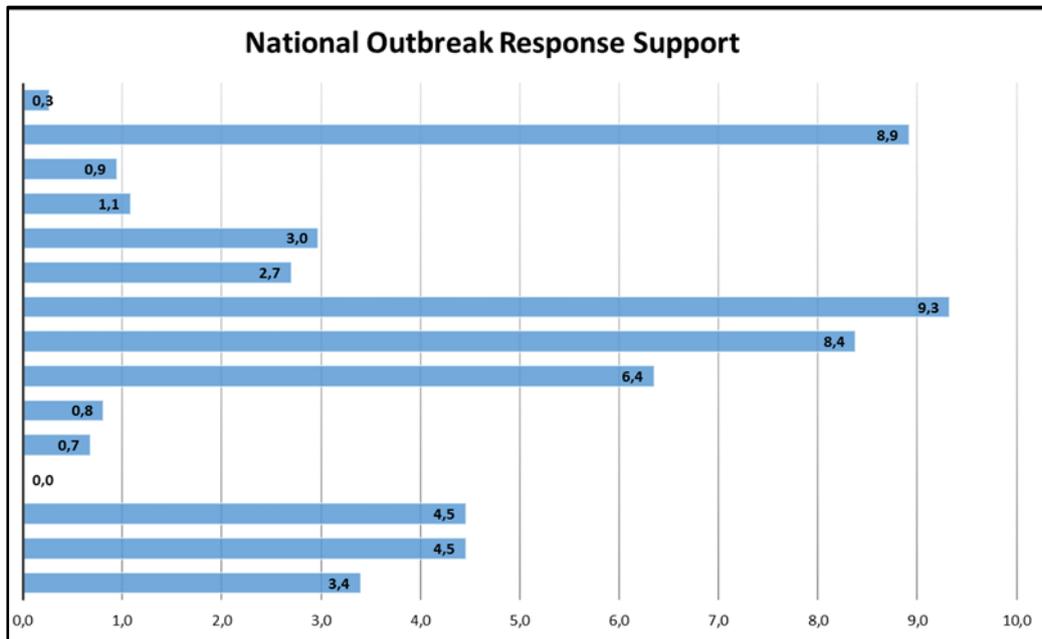


**Figure 17.** Relative average scores by all the 15 pilot survey participants on **Active participation in EU disease network** split into the six priority bacteria and the ten priority parasites.

**4.1.9. National outbreak response support**

**Overview**

- 7 questions, 36 indicators, max score 74



**Figure 18.** Relative scores by the pilot survey participants on **National outbreak response support** from a total of 37 indicators (see Figure 2).

**Improvements**

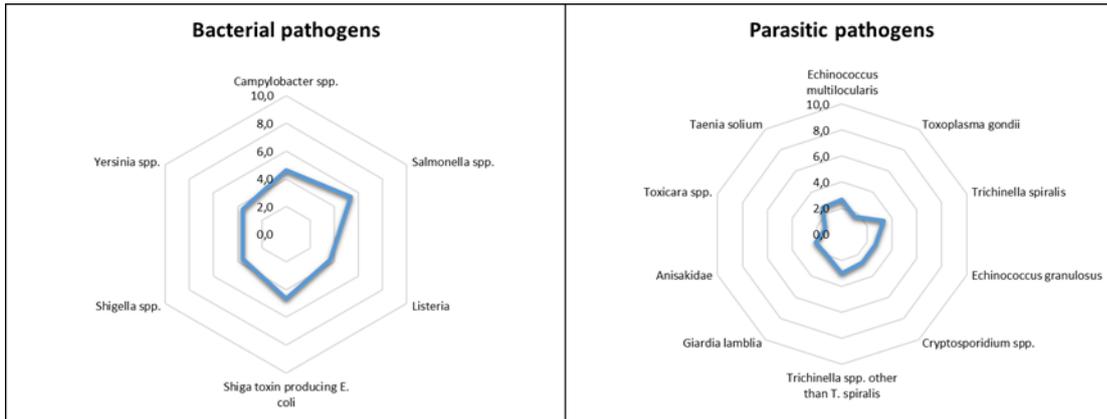
- Q54
  - NA is missing
- Q55
  - NA is missing
  - Include “during outbreaks”
- Q56 – omit (asked in Q55)
- Q57



- NA is missing
- Q58
- Please clarify, consider to remove?
- Q59
- Omit?

**SUMMARY**

“NA” is missing (Q54, Q55 & Q57). Q55: Include “during outbreaks”. Q56 – omit. Q59: Consider to remove?

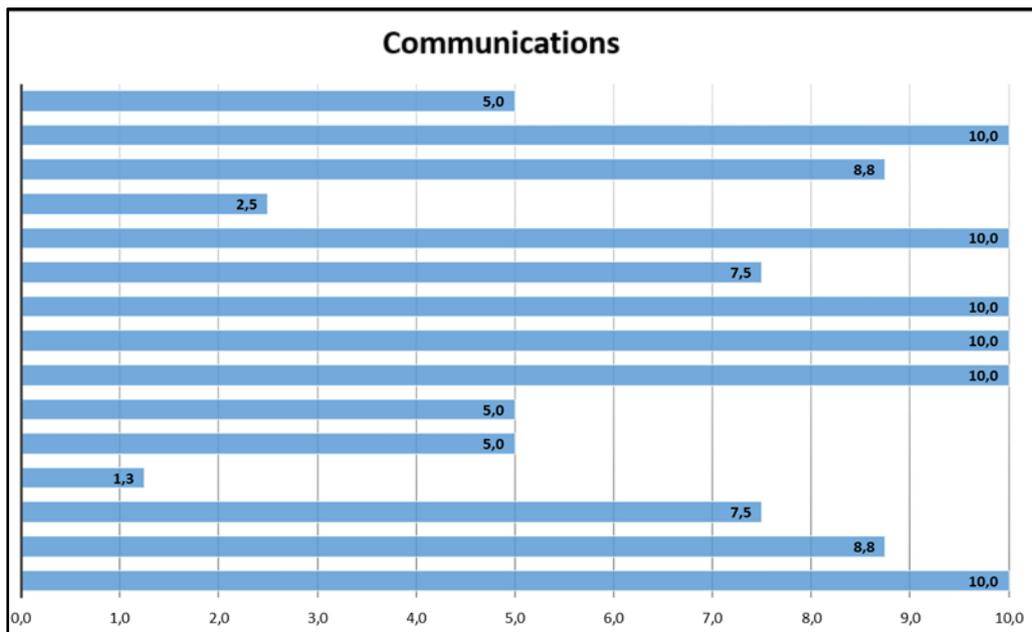


**Figure 19.** Relative average scores by all the 15 pilot survey participants on **National outbreak response support** split into the six priority bacteria and the ten priority parasites.

**4.1.10. Communications**

**Overview**

- 4 questions, 4 indicators, max score 8



**Figure 20.** Relative scores by the pilot survey participants on **Communications** from a total of 4 indicators (see Figure 2).

**Improvements**



This activity is part of the European Joint Programme One Health EJP.  
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- Specify if we mean the lab or the institute
- Q61 omit – see Q48 (no national and international)

### **SUMMARY**

Box to specify if we mean the laboratory or the institute

Move Q48 to “Communications”.



## 5. Determination of which pathogens should be included in the adjusted survey

The choice of bacteria and AMR determinants was made at the Kick-off Meeting. No need to change this selection appeared from the results of the pilot survey.

The choice of parasites to be included in the survey was initially made at the Kick-off Meeting and based on the prioritised order according to Bouwknegt et al. 2016 (1). The pilot survey included the top 10 highest ranked foodborne parasites. Based on the results of the pilot survey and discussions among the OH-Harmony-Cap participants with expertise in parasitology, the following parasites were decided to be included in the final survey:

- *Echinococcus multilocularis*
- *Toxoplasma gondii*
- *Trichinella* spp.
- *Echinococcus granulosus (sensu lato)*
- *Cryptosporidium* spp.

This list is the top 5 highest ranked foodborne parasites, with minor adjustments: all *Trichinella* species are included, and *Echinococcus granulosus* is specified to mean *sensu lato*.

It was also discussed that the order of the top 5 parasites could be changed. For example, the two *Echinococcus* species would be reasoned to list after each other. Suitable order could be e.g.

- *Echinococcus multilocularis*
- *Echinococcus granulosus (sensu lato)*
- *Trichinella* spp.
- *Toxoplasma gondii*
- *Cryptosporidium* spp.

The survey does not currently include other pathogen types, e.g. viruses.

Specific question about whether the order of the pathogens is good could be asked in connection to the adjusted survey.



## 6. Conclusions

The pilot testing proved highly useful, and the results illustrated the complexity of the OH fields. The results of the pilot survey are useful for other parts of the work in OH-Harmony-CAP, in addition to the development work towards the OH-Lab-CAP tool.

Preparation of the OHLabCap instrument of the levels of system capability/capacity/interoperability for each of the EU/EEA countries will include the following key points that will be addressed in the development work of the revised full survey:

- Modifications to the questionnaire according to the presented suggestions
- Routed survey
- Classification of indicators by functions measured
  - Capacity
  - Capability
  - Interoperability and communication
  - Adaptability
- Presentation of results
  - Target score distribution by discipline (human, animal, food/feed)
  - Dimension scores (for human, animal and food/feed) by country (maps)

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### References

1. **Bouwknegt M, Devleeschauwer B, Graham H, Robertson LJ, van der Giessen JW.** 2018. Prioritisation of food-borne parasites in Europe, 2016. Euro Surveill 23. doi:10.2807/1560-7917.ES.2018.23.9.17-00161 [doi].
2. **ECDC (European Centre for Disease Prevention and Control).** 2018. EU Laboratory Capability Monitoring System (EULabCap) – Report on 2016 survey of EU/EEA country capabilities and capacities. ECDC, Stockholm. doi: 10.2900/486040.  
<https://www.ecdc.europa.eu/en/publications-data/eu-laboratory-capability-monitoring-system-eulabcap-report-2016-survey-eueea>

Website: [OH-HARMONY-CAP - One Health EJP](#)