

MAPPING DATA INTERPRETATION

Egle Kudirkiene
3rd mapping workshop
January 31, 2023



FWD AMR.
RefLabCap

■ General part

- Diagnostics of *Salmonella* and *Campylobacter*

■ Specific part

- Laboratories performing diagnostics of *Salmonella* and *Campylobacter*
- Human resources, laboratory equipment and funding at local/regional laboratories
- *Salmonella* and *Campylobacter* detection methods used in diagnostic laboratories
- *Salmonella* and *Campylobacter* characterisation methods used in local/regional laboratories
- *Salmonella* and *Campylobacter* isolate referral and linking to cases (
- Other
- Conclusions

- To identify strengths and weaknesses in national clinical laboratories' capacities for *Salmonella* and *Campylobacter* detection and characterization
 - To identify gaps/further needs and actions for improvements

1. Diagnostics of *Salmonella* and *Campylobacter*

Please, describe how human diagnostics of *Salmonella* and/or *Campylobacter* is done in your country and include in overall terms the role of different laboratories in detection, culturing and characterisation (e.g., species identification, serotyping, other typing, AMR-testing, WGS).

Write text here (insert more lines as needed)







Please, include your evaluation of strengths/weaknesses and gaps/further needs for the human diagnostics of *Salmonella* and *Campylobacter* in your country.

Write text here (insert more lines as needed)

- To identify strengths/weaknesses in national local/regional laboratory capacity for *Salmonella* and *Campylobacter* detection and characterization
 - Mapping results
 - Strengths are the points with no issues in a particular part of the survey
 - Weaknesses are the issues in a particular part of the survey
- To identify the gaps for national local/regional laboratory capacity building
 - Same as weakness, with a negative consequence for diagnostics/national AMR surveillance
- To identify needs/actions that are necessary for the improvements
 - Guidance/support from NRL
 - Guidance/support from FWD AMR-RefLabCap to NRLs
 - Training/bespoke consultancy/other support
 - Guidance/support from national PH authorities

- 8. Does your laboratory use control material (specimens, DNA etc.) from a reliable source for quality control testing of the following methods? (please select all relevant answers) *Includes both, phenotypic and genotypic testing*
 - Salmonella
 - Detection
 - Species identification
 - Serovar identification
 - Antimicrobial susceptibility testing
 - No, the laboratory does not have access to controls from reliable sources

Key Table/Figure

		Ratio
Detection		60%
Species identification		70%
Serovar identification		70%
Antimicrobial susceptibility testing		20%
No, the laboratory does not have access to controls from reliable sources		20%
No Answer		10%

■ Weakness/Gap:

- QC materials are not in use in 20% of clinical labs performing antimicrobial susceptibility testing. This may impact the reliability of testing results for human treatment and/or surveillance of AMR

■ Needs/Actions

- NRL will make a list of QC materials to clinical labs
 - FWD AMR – ReflabCap “*Guidance document on internal quality control schemes for reference antimicrobial susceptibility testing for Salmonella and Campylobacter isolates from human samples*” – to be shared and presented to all NRLs in 2023 Q1
- NRL will contact clinical labs to identify specific needs for QC materials
- NRL will guide clinical labs on a provision of QC materials in need
 - May require additional resources/support from national PH authorities or FWD AMR-RefLabCap

- 14. On a scale from 1 to 5, how would you rate staffing situation in relation to the workload resulting from the testing of *Salmonella* and/or *Campylobacter* in your laboratory (with 1 being not adequate at all and 5 being fully adequate)?
 - (e.g. diagnostic testing, quality assurance, participating in EQA, paperwork, training and continuous education of staff etc.)

Key figure/table

Staff situation in clinical laboratories (n=8)

- 16. On a scale from 1 to 5, how would you rate staffing situation in relation to the workload resulting from the testing of *Salmonella* and/or *Campylobacter* in your laboratory (with 1 being not adequate at all and 5 being fully adequate)? (e.g. diagnostic testing, quality assurance, participating in EQA, paperwork, training and continuous education of staff etc.)



Created with Datawrapper

■ **Weakness/Gap** – a large proportion of clinical labs reported poor staffing situation in the labs. This may have a negative effect in referring isolates to NRL/AMR testing for national surveillance of AMR.

■ **Needs/Actions**

- May require evaluation of current surveillance system workflow
 - guidance from FWD AMR - RefLabCap
- Result dissemination to national PH authorities:
 - To demonstrate the need of additional resources to local labs To demonstrate the need of additional resources to NRL

■ 20. Which media does your laboratory use for culture-based detection of the following pathogens? (please select all relevant answers)

a) *Campylobacter*

a. Direct plating, please indicate media in use _____

b. Selective enrichment and selective plating, please indicate media in use _____

Key Figure/Table

Agars in use in clinical laboratories for direct plating of *Campylobacter* spp.



- **Weakness/Gap** – Laboratories use various media and some commented to have issues with *Campylobacter* isolation. This have an effect on *Campylobacter* isolation rate and thus loss of isolates

■ Needs/Actions

- NRL will develop guidance document for clinical laboratories on *Campylobacter* isolation from different types of clinical samples to enable harmonization of methodology between the laboratories
 - See [presentation](#) from FWD AMR – RefLabCap hands-on course (2022)
- NRL will organize training to clinical laboratories on *Campylobacter* isolation
 - May need an additional support from FWD AMR – RefLabCap:
 - for course materials
 - guidance on how to organize a training course

- Laboratories perform Salmonella isolation from selected samples only, or do not perform the isolation and do not send samples for culturing
 - high proportion of isolates are not included in the national surveillance of AMR in Salmonella
- Laboratories use methods that are not recommended in the EU protocol
 - may impact the reliability of testing results for human treatment and/or surveillance of AMR
- Laboratories do not use electronic systems for laboratory information recording
 - negative effect on rapid information/data sharing and integration of clinical laboratory information for the national AMR surveillance purposes

- Gaps in five different areas of clinical laboratory capacity
 - Which ones should be prioritized?
 - Any common needs/actions to address them?



- Make a preliminary support plan for capacity building in clinical laboratories in 2023-2024
 - Common needs/actions for all clinical laboratories
 - Specific needs/actions for clinical laboratories with specific needs

- Representatives from each country (2 min each)
 - Aim(s) and status of ongoing mapping
 - Any good achievements, experiences, lessons learned to be shared with other countries?
 - Any challenges you are facing and would like to share/need advice?

