

# **GLOBAL ANTIMICROBIAL RESISTANCE LABORATORY AND RESPONSE NETWORK**

## **PERFORMANCE MEASUREMENT TOOL**

ANTIMICROBIAL RESISTANCE STRATEGY AND COORDINATION UNIT

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## INTRODUCTION

FORM APPROVED
OMB CONTROL NUMBER: 0920-1282
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Thank you for completing the Global Antimicrobial Resistance (AR) Laboratory and Response Network (Global AR Lab and Response Network) Performance Measurement (PM) tool. This tool is intended to establish and collect standardized process and outcome metrics for recipients implementing Global AR Lab and Response Network projects. Recipients will be asked to complete this tool annually, in addition to the required Cooperative Agreement annual performance and progress reporting.

Please complete the tool using information that will be included in [recipientname\_bp4]'s performance narrative submission for the current reporting period. Please answer as many questions as possible.

If you need any assistance, please contact [GARLRN@cdc.gov](mailto:GARLRN@cdc.gov).

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Public reporting burden of this collection of information is estimated to average 5 hours per response per year, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Officer; 1600 Clifton Road NE, MS D-74, Atlanta, Georgia 30333; Attn: OMB-PRA (0920-1282).

\*\*\*\*Please complete the following forms based on project activities implemented during the current reporting period.

## FORM 1: RECIPIENT INFORMATION

Please answer the following questions related to [recipname\_bp4]'s Global AR Lab and Response Network project implementation, laboratory activities, and workforce development activities during the current reporting period. This form is to be completed at the recipient level.

Any recipients implementing multiple projects during the current reporting period are kindly requested to **complete FORM 1 for each Strategy 2-5 project(s)**.

For any questions where recipient is not aware or unsure of response, please enter 'Does not apply' where applicable

RECIPIENT INFORMATION			
QID	Question	Answer options	Notes
1.	Name of Recipient Organization:		Variable name = [recipname_bp4]
2.	[recipname_bp4] HQ location:		
3.	Select the option that best describes [recipname_bp4]: (select all that apply)	a) Academic institution b) Governmental organization c) Non-governmental organization (NGO) d) Other (Please specify):	
4.	Select the CK21-2104 funded strategy(s): (select all that apply)	a) Strategy 2: Assess Antimicrobial Resistance in Enteric Pathogens b) Strategy 3: Assess Antimicrobial Resistance in Fungal Pathogens c) Strategy 4: Assess Antimicrobial Resistance in Invasive Bacterial and Respiratory Pathogens d) Strategy 5: Assess Antimicrobial Resistance in N. gonorrhoeae	

RECIPIENT INFORMATION			
QID	Question	Answer options	Notes
5.	<p><b>Select the pathogen(s) of interest for this project:</b></p> <p><i>(select all that apply)</i></p>	<ul style="list-style-type: none"> <li>a) <i>Aspergillus fumigatus</i></li> <li>b) <i>Bordetella pertussis</i></li> <li>c) <i>Campylobacter</i> spp.</li> <li>d) <i>Candida auris</i></li> <li>e) <i>Candida</i> spp. (excluding <i>Candida auris</i>)</li> <li>f) Carbapenem-resistant <i>Acinetobacter</i></li> <li>g) Carbapenem-resistant Enterobacterales</li> <li>h) <i>Clostridioides difficile</i></li> <li>i) <i>Cronobacter</i> spp.</li> <li>j) Extended-spectrum beta-lactamase-producing Enterobacterales</li> <li>k) <i>Escherichia coli</i></li> <li>l) Group A <i>Streptococcus</i> (<i>Streptococcus pyogenes</i>)</li> <li>m) Group B <i>Streptococcus</i> (<i>Streptococcus agalactiae</i>)</li> <li>n) <i>Haemophilus influenzae</i></li> <li>o) <i>Listeria monocytogenes</i></li> <li>p) Methicillin-resistant <i>Staphylococcus aureus</i></li> <li>q) Multidrug-resistant <i>Pseudomonas aeruginosa</i></li> <li>r) <i>Mycobacterium tuberculosis</i></li> <li>s) <i>Neisseria gonorrhoeae</i></li> <li>t) <i>Neisseria meningitidis</i></li> <li>u) Non-typhoidal <i>Salmonella</i> spp.</li> <li>v) <i>Salmonella</i> serotype Typhi</li> <li>w) <i>Shigella</i> spp.</li> <li>x) <i>Streptococcus pneumoniae</i></li> <li>y) Vancomycin-resistant <i>Enterococci</i></li> <li>z) <i>Vibrio</i> spp.</li> <li>aa) Other (please specify):</li> </ul>	

## SECTION 1: PROJECT IMPLEMENTATION

Please answer the following questions related to Project Implementation for [recipname\_bp4]'s Global AR Lab and Response Network project during this reporting period. We recommend using information that will be reported in the performance narrative submission.

PROJECT IMPLEMENTATION			
Q ID	Question	Answer options	Notes
1.	How many countries was this project implemented <sup>1</sup> in during this reporting period?	(Integer – Enter 8888 if does not apply, 9999 if unknown)	
2.	Select the countries this project was implemented in during this reporting period.  (select all that apply)	Check boxes for <a href="#">all countries</a> . For each country selected, answer 2.a. and 2.b.	
	2.a.	In [selected country], did this project directly collaborate with: (select all that apply)  a) Ministry of Health b) National Reference Laboratory <sup>2</sup> c) National AMR Coordination Center <sup>3</sup> d) None of the above e) Does not apply	Follow up for each country selected
	2.b.	Did this project contribute to [selected country]'s National Action Plan on Antimicrobial Resistance (NAP AMR)? a) Yes (à 2.b.i.) b) No (à 2.b.ii.) c) Don't know d) Does not apply since the country does not have a NAP AMR	Follow up for each country selected
	2.b.i.	Describe how project activities contributed to supporting [selected country]'s NAP AMR.	

<sup>1</sup> **Implementation:** The execution or practice of a plan, a method, or any design, idea, model, specification, standard or policy for doing something. As such, implementation is the action that must follow any preliminary thinking for something to happen.

<sup>2</sup> **National Reference Laboratory (NRL):** A laboratory that accepts samples from across a country and often tests specimens that are referred to it by lower tier laboratories. Within an AR surveillance system, NRLs promote good laboratory practices and support other laboratories.

<sup>3</sup> **National Coordinating Centre:** An entity that establishes and oversees the national surveillance programme, gathers national antimicrobial resistance data, and communicates with Global Antimicrobial Resistance and Use Surveillance System (GLASS) via a national focal point

PROJECT IMPLEMENTATION			
Q ID	Question	Answer options	Notes
	2.b.ii.	If no, list barriers to participation and/or support of the NAP AMR. (Open-ended)	
3.	How many sites (laboratories, healthcare facilities, etc.) were supported as part of the project across all countries during this reporting period?	(Integer – Enter 8888 if does not apply, 9999 if unknown)	
4.	Select the phase that best describes this project's implementation stage at the end of this reporting period:	a) <b>Exploration</b> – Engaging stakeholders to identify 1. need(s); and 2. appropriate steps to address gaps or enhance activities b) <b>Initiation</b> – Project planning; consensus reached with stakeholders regarding project sites, objectives, and activities, as well as timeline for implementation c) <b>Initial Implementation</b> – Beginning stages of project implementation at selected sites including: 1. collection of baseline data; 2. establishing new practices/protocols; 3. supply/equipment procurement; 4. recruitment/hiring of locally based staff; etc. d) <b>Full Implementation and Maintenance</b> – Majority of project activities have been rolled out and routinely monitored e) <b>Expansion/Scale-Up</b> – Increasing the number of sites targeted for project activities f) <b>Reduction/Scale Down</b> – Decreasing the number of sites targeted for project activities or scaling down scope of activities g) <b>Close Out</b> – Project/funding cycle coming to a close and activities completed	
5.	What major product(s) were developed during this reporting period? How many of each product were developed?  (Select all that apply)  If none, select Does not apply	a) Communications products (e.g., website, promotional articles) (à 5.a.) b) Conference presentations or posters (à 5.a.) c) Non-conference presentations (à 5.a.) d) Peer-reviewed publications (à 5.a.) e) Standard Operating Procedures (SOPs) and Job Aids (à 5.a.) f) Workshop or training materials (e.g., curriculum, modules) (à 5.a.) g) Other (à 5.a.) h) Does not apply	For every category selected, text box will pop up requesting number of each type of product

PROJECT IMPLEMENTATION			
Q ID	Question	Answer options	Notes
	5.a.	Provide links to any major products developed within this reporting period that are publicly available.	
6.	Did CDC Subject Matter Experts (SMEs) review <sup>4</sup> the major products listed in question #5?	a) Yes, all major products were reviewed by CDC SMEs b) Yes, some major products were reviewed by CDC SMEs (à 6.a.) c) No, major product were not reviewed by CDC SMEs (à 6.a.) d) Don't know e) Does not apply	
	6.a.	If only some or no products were reviewed by CDC SMEs, explain why. (Open-ended)	
7.	<b>How did [recipname_bp4] ensure sustainability of project activities during this reporting period?</b>  <i>(Consider all project activities, including those related to workforce development, laboratories, and surveillance and response.)</i>	Open-ended	
	<b>Please use this space to provide any additional information related to [recipname_bp4]'s project implementation, including notable successes or challenges, during this reporting period.</b>	Open-ended	

<sup>4</sup> **Review:** SMEs provided feedback or help on major products developed through this project? This question aims to understand collaborative relationship between CDC SMEs and recipients



## SECTION 2: LABORATORY ACTIVITIES

Please answer the following questions related to laboratory activities for [recipname\_bp4]'s Global AR Lab and Response Network project during the current reporting period. We recommend using information that will be reported in the performance narrative submission.

LABORATORY ACTIVITIES			
Q ID	Question	Answer options	Notes
1.	Did [recipname_bp4] directly provide or collaborate with another organization to provide external quality assessment (EQA) to laboratories for this project?	a) Yes (à 1.a.) b) No c) Don't know d) Doesn't apply	
	1.a.	<b>Describe the EQA</b> (number of laboratories, organization[s] providing EQA, pathogens included, number of isolates or samples submitted, and frequency), by country during this reporting period. (Open-ended)  <i>List as follows:</i> <ol style="list-style-type: none"> <li>1. [Country A Name], [Number of laboratories], [details about EQA];</li> <li>2. [Country B Name], [Number of laboratories], [details about EQA];</li> <li>3. [Country C Name], [Number of laboratories], [details about EQA]; etc.</li> </ol>	
2.	How many laboratories received training or support for culturing any of the pathogen(s) of interest during this reporting period?	(Integer – Enter 8888 if does not apply, 9999 if unknown)	
3.	How many laboratories received training or support for phenotypic testing of any pathogen(s) of interest during this reporting period?	(Integer – Enter 8888 if does not apply, 9999 if unknown)	
4.	How many laboratories received training or support for genotypic testing of any pathogen(s) of interest during this reporting period?	(Integer – Enter 8888 if does not apply, 9999 if unknown)	

LABORATORY ACTIVITIES			
Q ID	Question	Answer options	Notes
5.	How many laboratories received training or support for antimicrobial susceptibility testing (AST), including antifungal susceptibility testing (AFST), of any pathogen(s) during this reporting period?	(Integer – Enter 8888 if does not apply, 9999 if unknown)	
6.	How many laboratories received training or support for sequencing of any pathogen(s) during this reporting period?	(Integer – Enter 8888 if does not apply, 9999 if unknown)	
	Please use this space to provide any additional information related to [recipname_bp4]'s laboratory activities, including notable successes or challenges, during this reporting period.	Open-ended	

### SECTION 3: WORKFORCE DEVELOPMENT ACTIVITIES

Please answer the following questions related to Workforce Development activities for [recipname\_bp4]'s Global AR Lab and Response Network project during the current reporting period. We recommend using information that will be reported in the performance narrative submission.

WORKFORCE DEVELOPMENT ACTIVITIES			
Q ID	Question	Answer options	Notes
1.	How many personnel received training from [recipname_bp4] during this reporting period?	Integer  Enter 9999 if unknown	
	<b>Select the type(s) of personnel that received training from [recipname_bp4] during this reporting period:</b> (can be in collaboration with partners) (select all that apply)	2) Epidemiologists/Data managers 3) Healthcare workers 4) Laboratory personnel 5) Ministry of Health (MOH)/National Public Health Laboratory (NPHL) leadership 6) Other (please specify): (à a & b only) 7) Personnel type(s) were not captured (→ a & b only) 8) No personnel received training during this budget period (à skip a.-e.)	
a.-e. For each personnel type selected above (2-6), please answer the following:			
a.	How many CDC-supported <sup>5</sup> education and training opportunities targeted [insert personnel type] during this reporting period?	Integer  Enter 9999 if unknown	Follow up for options 2-6
b.	How many [insert personnel type] received training during this reporting period?	Integer  Enter 9999 if unknown	Follow up for options 2-6

<sup>5</sup> **CDC-supported:** any training activities or opportunities related to the implementation of the Global AR Lab and Response Network where CDC provided financial or technical support.

WORKFORCE DEVELOPMENT ACTIVITIES			
Q ID	Question	Answer options	Notes
c.	Was a training curriculum established for training [insert personnel type]?	a) Yes b) No	Follow up for options 2-4
d.	Did the trainings use a Train-the-Trainer model?	a) Yes b) No	Follow up for options 2-4
e.	What assessments were conducted to ensure trainings objectives were met?	(Open-ended)	Follow up for options 2-4
	Please use this space to provide any additional information related to [recipname_bp4]'s workforce development activities, including notable successes or challenges, during this reporting period.		

-----END OF FORM 1 -----

## FORM 2: PARTNER OR LABORATORY SITE INFORMATION

Please answer the following questions related to project implementation with partners as well as laboratory activities and surveillance and network practices for EACH health care facility (e.g. hospital, clinic, etc.) and/or laboratory that is participating in [recipname\_bp4]'s Global AR Lab and Response Network project during the current reporting period. We recommend using information that will be reported in the performance narrative submission.

Please complete **FORM 2 for EACH partner, healthcare facility, and/or laboratory**. Recipients with projects in multiple countries or engaged with multiple partners or healthcare facilities/laboratories will be asked to specify country and partner/facility name on each form.

For any questions where recipient is not aware or unsure of response, please enter 'Does not apply' where applicable.

PARTNER OR LABORATORY SITE INFORMATION			
QID	Question	Answer options	Notes
1.	Name of Partner <sup>6</sup> or Laboratory Site:		Variable name = [partnr1_projsite]
2.	Name of [partnr1_projsite]'s location (e.g. name of town, city, district, province, etc.):	Open-ended	
3.	Name of country:	Drop down menu listing all countries	
4.	Is [partnr1_projsite] a laboratory or a healthcare facility with a laboratory?	a) Yes (à 5., 5.a., & 5.b.) b) No (à go to "Alternative 5." & STOP once Section 1 is complete)	
5.	Select the option that best describes the level of the health system that [partnr1_projsite] supports:	a) National b) Regional, state, or provincial c) District or local level d) Other (Please specify):	
	5.a.	Is [partnr1_projsite] part of an academic institution?	

<sup>6</sup> We are defining the term "partners" broadly to include all entities that the recipient regularly collaborates with or engages as part of the activities for this project. This can include national and sub-national level government ministries; individual healthcare facilities, hospitals and/or individual laboratories; academic partners; other non-governmental organizations (NGOs); etc.).

Examples: Country X MoH; Local hospital; Private laboratory; etc.

PARTNER OR LABORATORY SITE INFORMATION			
QID	Question	Answer options	Notes
		a) Yes b) No	
	5.b.	<b>Is [partnr1_projsite] part of a private organization?</b> a) Yes b) No	
Alternative 5.	<b>If answered "No" to Question 4, select the option that best describes [partnr1_projsite]:</b>	a) Academic institution b) Government ministry (national or sub-national) c) Non-governmental organization d) Private industry e) Other (Please specify):	
6.	<b>Please select pathogen(s) of interest for [partnr1_projsite] for this project:</b>  <i>(select all that apply)</i>	a) <i>Aspergillus fumigatus</i> b) <i>Bordetella pertussis</i> c) <i>Campylobacter</i> spp. d) <i>Candida auris</i> e) <i>Candida</i> spp. (excluding <i>Candida auris</i> ) f) Carbapenem-resistant <i>Acinetobacter</i> g) Carbapenem-resistant Enterobacterales h) <i>Clostridioides difficile</i> i) <i>Cronobacter</i> spp. j) Extended-spectrum beta-lactamase-producing Enterobacterales k) <i>Escherichia coli</i> l) Group A <i>Streptococcus</i> ( <i>Streptococcus pyogenes</i> ) m) Group B <i>Streptococcus</i> ( <i>Streptococcus agalactiae</i> ) n) <i>Haemophilus influenzae</i> o) <i>Listeria monocytogenes</i> p) Methicillin-resistant <i>Staphylococcus aureus</i> q) Multidrug-resistant <i>Pseudomonas aeruginosa</i> r) <i>Mycobacterium tuberculosis</i> s) <i>Neisseria gonorrhoeae</i> t) <i>Neisseria meningitidis</i> u) Non-typhoidal <i>Salmonella</i> spp. v) <i>Salmonella</i> serotype Typhi	

PARTNER OR LABORATORY SITE INFORMATION			
QID	Question	Answer options	Notes
		w) <i>Shigella</i> spp. x) <i>Streptococcus pneumoniae</i> y) Vancomycin-resistant <i>Enterococci</i> z) <i>Vibrio</i> spp. aa) Other (please specify):	

## SECTION 1: PROJECT IMPLEMENTATION

Please answer the following questions based on [partnr1\_projsite]'s project implementation for [recipname\_bp4]'s Global AR Lab and Response Network project during the current reporting period. Do not answer questions based on future efforts.

PROJECT IMPLEMENTATION			
Q ID	Question	Answer options	Notes
1.	Select the current phase that best describes [partnr1_projsite]'s implementation stage at the end of this reporting period:	a) <b>Exploration</b> – Engaging stakeholder to identify 1. need(s); and 2. appropriate steps to address gaps or enhance project site's activities b) <b>Initiation</b> – Project planning; consensus reached with stakeholder(s) regarding project site, objectives, and activities, as well as timeline for implementation c) <b>Initial Implementation</b> – Beginning stages of project implementation at project site including: 1. collection of baseline data; 2. establishing new practices/protocols; 3. supply/equipment procurement; 4. recruitment/hiring of locally based staff; etc. d) <b>Full Implementation and Maintenance</b> – Majority of project site's activities have been rolled out and routinely monitored e) <b>Expansion/Scale-Up</b> – Scaling up scope of project site's activities f) <b>Reduction/Scale Down</b> – Scaling down scope of project site's activities g) <b>Close out</b> - Project/funding cycle coming to a close and site activities completed h) <b>Institutionalization</b> - Site has taken ownership of project activities with little to no support from the implementing partner	
2.	What type of assistance did [partnr1_projsite] receive during this reporting period?	a) Financial assistance only b) Technical assistance only c) Financial and technical assistance d) Does not apply	



PROJECT IMPLEMENTATION			
Q ID	Question	Answer options	Notes
3.	<b>What contribution(s) did [partnr1_projsite] make for the project during this reporting period?</b> (select all that apply)	a) Epidemiological data collection, management, and reporting b) Facilitation of or participation in meetings, trainings, or workshops c) Laboratory testing d) Project coordination e) Sample collection f) Sample submission, including storage, handling, and transport g) Technical assistance to other project sites h) Work product development (e.g., SOPs, publications, etc.) i) Other (Please specify) j) Does not apply	
	<b>Please use this space to provide any additional information related to project implementation with [partnr1_projsite], including notable successes or challenges, during this reporting period.</b>	Open-ended	

## SECTION 2: LABORATORY ACTIVITIES

Please answer the following questions based on [partnr1\_projsite]'s laboratory activities for [recipname\_bp4]'s Global AR Lab and Response Network project during the current reporting period. Do not answer questions based on future efforts.

This section is **only completed for laboratories or healthcare facilities with a laboratory**. Recipients will complete this section for each individual laboratory or healthcare facilities with a laboratory site where the project is being implemented.

LABORATORY ACTIVITIES (Only asked of laboratories or healthcare facilities with a laboratory)			
Q ID	Question	Answer options	Notes
1.	Does [partnr1_projsite] participate in a laboratory network or referral network <sup>7</sup> ?	a) Yes b) No (à 1.a.) c) Don't know d) Does not apply	
	1.a.	If no, list barriers to [partnr1_projsite]'s participation in a laboratory network or referral network.	Open-ended
	Which of the following testing methods are routinely performed on the pathogen(s) of interest at [partnr1_projsite]?  Select all that apply.	2. <b>Culture</b>  3. <b>Antimicrobial Susceptibility Testing (AST or ASFT)</b> (e.g., E test, disk diffusion, broth microdilution)  4. <b>Phenotypic Testing</b> (e.g., MALDI-TOF, VITEK 2, API, etc.)  5. <b>Genotypic Testing</b> (e.g., PCR)  6. <b>Sequencing</b> (e.g., WGS, short-read Illumina, long-read ONT, direct amplicon sequencing, NGS, etc.)  7. <b>Other</b> (Please specify): _____  8. <b>Unknown</b> (à if only Unknown selected, skip to 9.)	

<sup>7</sup> **Laboratory network or referral network:** Defined here as a coordinated system that allows a health facility or laboratory lacking capacity to perform test(s) to safely send a patient's specimen to another or higher-level laboratory with capacity to perform the requested test(s)

LABORATORY ACTIVITIES (Only asked of laboratories or healthcare facilities with a laboratory)			
Q ID	Question	Answer options	Notes
For each test type selected above, please answer iterative subquestions a.-c.:			
2-7.a.	Select testing methods performed on the pathogen(s) of interest for this project (Select all that apply)		
	2.a. Culture – only in context of the pathogen(s) of interest	<ul style="list-style-type: none"> <li>• <i>Candida</i> spp. culture</li> <li>• Enteric bacteria culture</li> <li>• Invasive respiratory bacteria culture</li> <li>• <i>N. gonorrhoeae</i> culture</li> <li>• Other fungal culture</li> <li>• Other bacterial culture</li> <li>• Other (please specify):</li> <li>• Unknown</li> </ul>	
	3.a. AST/AFST – only in context of the pathogen(s) of interest	<ul style="list-style-type: none"> <li>• Agar dilution;</li> <li>• Broth microdilution (e.g. Sensititre);</li> <li>• Disk diffusion;</li> <li>• Gradient test/E test;</li> <li>• VITEK 2</li> <li>• Other automated device (e.g. Phoenix, Microscan)</li> <li>• Other (please specify):;</li> <li>• Unknown</li> </ul>	
	4.a. Phenotypic – only in context of the pathogen(s) of interest	<ul style="list-style-type: none"> <li>• API (manual)</li> <li>• Chromogenic Media (e.g. CHROMagar)</li> <li>• Colormetric Tests (e.g. Carba NP, Blue-Carba)</li> <li>• Lateral Flow Assay (e.g. Carba 5)</li> <li>• MALDI-TOF (e.g. Bruker, Vitek MS)</li> <li>• mCIM</li> <li>• Serotyping</li> <li>• VITEK 2</li> <li>• Other biochemical tests</li> <li>• Other (please specify):</li> <li>• Unknown</li> </ul>	

LABORATORY ACTIVITIES (Only asked of laboratories or healthcare facilities with a laboratory)			
Q ID	Question	Answer options	Notes
	<b>5.a. Genotypic</b> – only in context of the pathogen(s) of interest	<ul style="list-style-type: none"> <li>• Cepheid Xpert (e.g. Carba-R)</li> <li>• Hologic Panther</li> <li>• LAMP</li> <li>• PCR</li> <li>• RT-PCR/qPCR</li> <li>• Other (specify);;</li> <li>• Unknown</li> </ul>	
	<b>6.a. Sequencing</b> – only in context of the pathogen(s) of interest	<b>What type(s) of sequencing are you doing?</b> <ul style="list-style-type: none"> <li>• Direct Amplicon Sequencing</li> <li>• Next Generation Sequencing</li> <li>• Long-read sequencing</li> <li>• Short-read sequencing</li> <li>• Sanger Sequencing</li> <li>• Whole Genome Sequencing</li> <li>• Other, please specify</li> </ul>	
	<b>7.a. Other</b> – only in context of the pathogen(s) of interest	<b>Please describe the testing method (Open-ended)</b>	
2-7.b.	<b>What was the total testing volume for the pathogen(s) of interest for [testing method] during this reporting period?</b>	Integer Enter 9999 if unknown	
2-7.c.	<b>How many personnel received training in [testing method] during this reporting period?</b>	Integer Enter 9999 if unknown	

LABORATORY ACTIVITIES (Only asked of laboratories or healthcare facilities with a laboratory)			
Q ID	Question	Answer options	Notes
Additional <u>Sequencing only</u> questions (6.d.-f.)			
6.d.	What instrument(s) were used to sequence the pathogen(s) of interest?	<ul style="list-style-type: none"> <li>• Illumina               <ul style="list-style-type: none"> <li>○ Please specify machine:                   <ul style="list-style-type: none"> <li>▪ MiniSeq</li> <li>▪ MiSeq</li> <li>▪ NextSeq</li> <li>▪ Other, please specify:</li> </ul> </li> </ul> </li> <li>• Pacific Bio (PacBio)               <ul style="list-style-type: none"> <li>○ Please specify machine:                   <ul style="list-style-type: none"> <li>▪ Onso</li> <li>▪ Revio</li> <li>▪ Vega</li> <li>▪ Other, please specify:</li> </ul> </li> </ul> </li> <li>• Oxford Nanopore Technologies               <ul style="list-style-type: none"> <li>○ Please specify machine:                   <ul style="list-style-type: none"> <li>▪ GridION</li> <li>▪ MinION</li> <li>▪ PromethION</li> <li>▪ Other, please specify:</li> </ul> </li> </ul> </li> <li>• Other, please specify</li> </ul>	
6.e.	How many personnel were trained to perform bioinformatic <sup>8</sup> analysis of sequencing data for the pathogen(s) of interest during this reporting period?	Integer Enter 9999 if unknown	
6.f.	Please name the bioinformatics pipelines that were utilized to analyze sequencing data for the pathogen(s) of interest.	Open-ended	
9.	How are laboratory samples and data <u>primarily</u> managed?	a) Laboratory Information Management System (LIMS) - please specify b) Microsoft Excel c) Paper	

<sup>8</sup> **Bioinformatics:** the science of collecting and analyzing complex biological data.

LABORATORY ACTIVITIES (Only asked of laboratories or healthcare facilities with a laboratory)			
Q ID	Question	Answer options	Notes
		d) Other – please specify e) Does not apply f) Unknown	
10.	<b>Was the [partnr1_projsite] participating in any EQA programs for the pathogen(s) of interest?</b>  <b>(NOTE: answer yes even if EQA was provided separately from project)</b>	a) Yes (à 10.a.) b) No c) Don't know d) Does not apply	
	10.a.	<b>Describe EQA (organization[s] providing EQA; pathogens included; number of isolates or samples submitted; and frequency)</b>  <i>List as follows:</i> <ol style="list-style-type: none"> <li>1. [Organization providing EQA], [pathogen(s) included], [number of isolates or samples submitted], and [frequency];</li> <li>2. [Organization providing EQA], [pathogen(s) included], [number of isolates or samples submitted], and [frequency];</li> <li>3. [Organization providing EQA], [pathogen(s) included], [number of isolates or samples submitted], and [frequency];</li> </ol>	Open-ended
	<b>Please use this space to provide any additional information related to laboratory activities with [partnr1_projsite], including notable successes or challenges, during this reporting period.</b>	Open-ended	

### SECTION 3: SURVEILLANCE AND RESPONSE ACTIVITIES

Please answer the following questions based on [partnr1\_projsite]'s surveillance and response activities for [recipname\_bp4]'s Global AR Lab and Response Network project during the current reporting period. Do not answer questions based on future efforts.

SURVEILLANCE AND RESPONSE ACTIVITIES			
Q ID	Question	Answer options	Notes
1.	Were epidemiological data elements collected with samples tested as part of this project?	a) Yes (à 1.a.) b) No (à 1.b.) c) Don't know	
	1.a. If yes,	Describe what data elements were being collected and, if applicable, how they were used for public health decision-making.	(Open-ended)
	1.b. If no,	List the barriers to collecting epidemiological data elements at this site.	(Open-ended)
2.	Were the data (e.g. laboratory, epidemiological, etc.) collected for this project submitted to subnational, national, or global databases?  (select all that apply)	a) Global (à 2.a.) b) National (à 2.b.) c) Subnational (à 2.c.) d) Other (à 2.d.) e) Not submitted to a database (à 2.e.) f) Does not apply g) Don't Know	
	2.a.-d.	Sub-questions i. and ii. will iteratively repeat for each of the selections above a-d.	
		i. How often were data submitted to the database(s)	a) Daily b) Weekly c) Bi-weekly d) Quarterly e) Annually f) Other (please specify):
		ii. Please list and describe database(s) that data were reported to (Open-ended)  List as follows: 1. [Name of database]; [Description of database] 2. [Name of database]; [Description of database] 3. [Name of database]; [Description of database]	
	2.e.	If no, list any barriers to data submission or sharing.	(Open-ended)

SURVEILLANCE AND RESPONSE ACTIVITIES			
Q ID	Question	Answer options	Notes
3.	Did any findings from [partnr1_projsite] lead to an alert <sup>9</sup> notification during this reporting period?	a) Yes (à 3.a.) b) No c) Don't know a) Does not apply	
	3.a.	<p>If yes, describe the alert, including why an alert was needed, entities and levels of health system involved, and how data were shared.</p> <p>List as follows:</p> <ol style="list-style-type: none"> <li>1. [Alert 1: description and justification], [level(s) of health system involved[, [entities involved], and [describe how data were shared];</li> <li>2. [Alert2: description and justification], [level(s) of health system involved[, [entities involved], and [describe how data were shared];</li> </ol>	(Open-ended)
4.	Did any findings from [partnr1_projsite] lead to the detection of an outbreak that required a response <sup>10</sup> ?	a) Yes (à 4.a. & 4.b.) b) No c) Don't know d) Does not apply	

<sup>9</sup> **Alert:** Any newly detected\*\* antimicrobial resistance findings that may influence surveillance and control practices.

\*\* Examples of newly detected antimicrobial resistance include:

1. Exceptional phenotypes that have not previously been reported or are very rare; and
2. Novel resistance genotypes that are associated with mechanisms of resistance that have a high public health impact (i.e., high potential for spread and health impact) or pose serious challenges in laboratory detection and surveillance

Source: [GLASS Emerging antimicrobial resistance reporting framework \(GLASS-EAR\)](#)

<sup>10</sup> **Outbreak response:** organized efforts taken to manage and control an outbreak of disease to minimize spread and impact ranging from initial data sharing and deployment of IPC measures to coordination of response with relevant entities, etc.



SURVEILLANCE AND RESPONSE ACTIVITIES			
Q ID	Question	Answer options	Notes
	4.a.	What level(s) of the health system were involved in the response? (select all that apply) a) Global b) National c) Subnational d) Other e) Don't Know	
	4.b.	Describe the outbreak and response activities, including entities and levels of health system involved.  <i>List as follows:</i> 1. [Outbreak 1: description of outbreak and response activities], [entities involved], and [level(s) of health system involved] 2. [Outbreak 2: description of outbreak and response activities], [entities involved], and [level(s) of health system involved]	(Open-ended)
	Please use this space to provide any additional information related to surveillance and response activities with <a href="#">[partnr1_projsite]</a> , including notable successes or challenges, during this reporting period.	Open-ended	

-----END OF FORM 2-----

-----END OF PM TOOL-----