

*CDC-RFA-OE20-20010101SUPP20: Enhancing Public Health Laboratory
Capabilities and Increasing Capacity*

Supplemental Project Proposal

Appendix D: Infectious Diseases - NCEZID



Appendix D: Infectious Diseases

Focus Area Name

Infectious Diseases

Focus Area Contact Information

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1. General Information

Project Name: AR informatics enhancement

Project Activity Contact Information:

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Approximate Amount of Supplemental Funding Available

\$1,400,000

2. Project Description

i. Purpose

Combating antibiotic resistance (AR) bacteria requires early detection of new resistance and robust prevention efforts, including early detection and response. Expanding state-based and regional capacity to detect AR bacteria and fungi, like carbapenem-resistant Enterobacteriaceae (CRE) and *Candida auris*, will improve the nation's ability to implement timely local prevention efforts and develop national strategies that limit transmission of resistant pathogens and prevent infections.

To address this need, CDC supports an Antibiotic Resistance Laboratory Network (AR Lab Network) that (1) enhances state capacity to detect and report AR and (2) provides regional capacity using cutting-edge laboratory testing methods. These lab network activities are supported under the Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement.

ii. Justification

Building and supporting this lab capacity requires enhanced informatics and testing support for state public health labs (PHL). AR Lab Network regional labs should be using consistent methods across regions that maximize capacity and responsiveness and lend well to surge support requests. Additionally, regional labs should continue to build upon expertise in areas such as whole genome sequencing to provide additional support and capacity for AR testing of urgent and concerning pathogens. Finally, AR Lab Network labs must ensure timely reporting of AR testing results and data to submitting facilities, public health laboratories and prevention programs in the jurisdiction and CDC.



iii. Identification of need

In 2019, CDC identified the need for additional testing capacity in response to emerging AR threats, such as *Aspergillus fumigatus*. New pilots were proposed in ELC Cooperative Agreement for regional labs to apply. Due to the emergence of COVID-19 and subsequent response efforts, additional areas of need for AR testing were identified and considered for funding, including expansion of screening for transmission of AR pathogens such as *Candida auris* and CRE, and expanding testing regimen for *Neisseria gonorrhea*. These new opportunities require additional informatics and testing support from APHL.

iv. New or expanded project

Activities below are an expansion of current support provided through the Enhancing Public Health Laboratory Capabilities and Increasing Capacity Cooperative Agreement (CDC-RFA-OE20-2001). APHL will support these testing and informatics needs as follow:

- Activity 1: \$500,000
Expand information technology solutions for new and expanded testing in the AR Lab Network.
 - Build upon the AIMS IT infrastructure and capacity developed for regional laboratory testing to provide ETOR solutions for state public health lab reporting to submitting facilities and jurisdictional public health authorities to support expansion of AR screening outside of the regional labs.
 - Support the reporting of data back to CDC (preferably via HL7) for expanded CPO screening in states.
 - Support IT solutions for new regional lab testing pilots (three pilots in 2-3 regional labs), including ETOR functionality and data reporting back to CDC.
- Activity 2: \$550,000
APHL will facilitate the implementation of harmonized and automated *C. auris* screening among regional labs within the AR Lab Network. In this role APHL will coordinate the purchase of BD MAX™ System to up to five AR Lab Network regional laboratories selected by CDC to perform this testing. APHL will coordinate the purchase of necessary equipment and reagents as well as ensure the exchange of protocols. Outcomes will be measured by the successful screening testing at the five selected regional laboratories by the end of Y02.
- Activity 3: \$350,000
APHL will facilitate the implementation of WGS for *C. auris* among regional labs within the AR Lab Network. In this role APHL will coordinate the purchase of reagents and supplies to up to seven AR Lab Network regional laboratories selected by CDC to perform this testing. APHL will coordinate the purchase of necessary equipment and reagents as well as ensure the exchange of protocols. Outcomes will be measured by the successful WGS testing at the selected regional laboratories by the end of Y02.

3. Outcomes

Activities in this project should achieve or contribute to the following proximal outcomes:

PO-7. Enhanced technical and non-technical knowledge, skills, and abilities among public health laboratory professionals in diverse settings

PO-13. Improved laboratory testing capability and surge capacity for emergency response through equipment procurement, competent staff and partnerships.

Activities in this project should achieve or contribute to the following intermediate outcomes:

IO-5. Improved data exchange and interoperability among public health laboratories and their partners

IO-6. Improved public health laboratory detection, surveillance, and response

Activities in this project should contribute to the following long-term outcome: Improved effectiveness of public health laboratories to detect and report antibiotic resistance.

4. Strategies and Activities

List specific strategies, activities, and process measures

Strategy/Activity	Process Measure
1. S4.1 Develop and implement informatics-related solutions and standards to improve data exchange and interoperability.	• % increase in number of PHLs submitted HL7 messages to DAART • Number of PHLs implementing LWP solution for screening
2. S4.5 Identify and address gaps in laboratory infrastructure and capability to prepare and respond to public health threats	• Number of regional labs with supplies and equipment needed to perform enhanced testing for C. auris.
3.	

Please note: APHL is expected to collaborate with their CDC point of contact and/or technical monitor for this project to develop realistic measurable process objectives. In response to this proposal, APHL should provide a detailed work plan with: Outcomes, outcome measures, strategies/activities, and process measures.



5. Budget

CELS/DLS project officers will provide budget spreadsheet for APHL to complete for requested funds by object class category

By submitting this project plan, I certify that my CIO currently does not maintain a comparable NOFO for similar activities and the proposed use of funds is consistent with the appropriation.

X *Stephanie Gumbis*

Technical Monitor Signature

