

Terms of Reference

This Agreement for Performance of Work (APW) is requested by:

Initiator:	Peter Beyer, IRC	Reg.#:	HQ/AMR/GCP/2021/8
Unit:	Impact Initiatives and Research Coordination (IRC)	Cluster / Dpt.:	Antimicrobial Resistance Division

1. Purpose of the APW:

To support the AMR IRC Unit in the implementation of the *Global Action Plan* on Antimicrobial Resistance (AMR), by updating the [2017 WHO bacterial priority pathogens list \(BPPL\)](#) for research and development (R&D) of new antibacterial treatments.

2. Background:

In 2015 the World Health Assembly (WHA) adopted the *Global action plan* (GAP) on antimicrobial resistance (AMR) ⁽ⁱ⁾. The plan consists of five strategic objectives aimed at (1) improving awareness around AMR, (2) strengthening surveillance, (3) reducing and preventing infections, (4) optimizing the use of antimicrobials and (5) increasing the investment in new health products, including R&D of new antibiotics.

In 2017 WHO developed the first bacterial priority pathogens list (WHO BPPL), to guide investments in R&D of new antibiotics ⁽ⁱⁱ⁾. The list highlighted 13 bacterial pathogens as well as tuberculosis (TB). The antibiotic-resistant bacteria in the priority list were classified into three tiers: critical, high, and medium ⁽ⁱⁱⁱ⁾. Since its launch the WHO PPL has shaped the antibacterial R&D landscape heavily influencing public and private investors and funders of R&D. The BPPL has also emerged as a tool for raising AMR awareness, informing infection prevention and control and antimicrobial stewardship interventions.

The AMR IRC Unit is seeking a contractual partner to support the WHO IRC in updating the 2017 BPPL. IRC will set up an Advisory Group of experts for this process considering gender and geographical balance. The Advisory Group will provide scientific guidance and feedback throughout the process. It will be managed by IRC, including convening meetings whether virtually or face-to-face.

3. Planned timelines (subject to confirmation):

Start date: 01/10/2021

End date: 31/12/2022

Total duration: 14 months

4. Requirements - Work to be performed:

Objective: To support the AMR IRC Unit in the update of the 2017 WHO BPPL, through the following non-sequential and overlapping outputs:

Output 1: In collaboration with IRC and the Advisory Group, develop a working protocol based on the existing 2017 BPPL methodology. The draft proposal must include proposals for: (1) a preliminary list of bacteria to be prioritized based on the BPPL with a discussion and proposal for the potential inclusion of additional bacteria and (2) a list of criteria for prioritization with draft definitions based on the criteria used for the BPPL and an explanation for possible changes and additions (3) a concept

how to provide more granular guidance on research gaps and needs by linking the selected bacteria with syndromes and existing treatment gaps.

- (a) The final list of preliminary pathogens to be included in the prioritization exercise for updating the BPPL;
- (b) the final list of criteria to be used to assess each of the pathogens to be prioritized.

The final concept to further develop the BPPL to provide more granular guidance on R&D needs and gaps.

Output 2: Conducting systematic reviews of the bacterial pathogens against the prioritization criteria. This includes (but is not limited to) the extraction and synthesis of new evidence that has become available since 2017 to support the ranking of each of the bacterial pathogens against the defined criteria. Develop and present a summary analysis of the results of the systematic reviews and the synthesized evidence to support relevant pathogen selection, weights and prioritization criteria, following the MCDA methodology best practices.

Output 3: Development of the MCDA stakeholder survey, in consultation with WHO IRC and the Advisory Group, utilizing an appropriate statistical software(s) and using the pre-defined criteria/levels of performance, as outlined in the working protocol.

- a. Support the WHO IRC Unit in organizing and facilitating 1-2 round table discussions with the BPPL AG and other WHO focal points to finalize the draft MCDA survey.
- b. Prepare a simulation presentation of the final MCDA survey (simulated survey).
- c. Support the IRC Unit preparation of translated versions of the survey if needed.

Output 4: Undertake the MCDA stakeholder survey (minimum 300 experts), and subsequent synthesis and analysis of the results to guide the finalization of the ranking of pathogens that include:

1. Planning and dissemination of the survey to ensure global representativeness,
2. Analysing the final scoring for each pathogen, based on survey results, evidence, and the weights assigned to each pathogen against the criteria,
3. Performance of stability assessment, sensitivity and subgroup analyses,
4. Presentation of results.

Output 5: Draft the WHO 2022 BPPL report, based on the feedback from the consultation meeting in collaboration with the IRC Unit and with the support of the Advisory Group.

Output 6: Develop and co-author a scientific publication in collaboration with the WHO IRC Unit team and the Advisory Group.

Output 7: Throughout the process, the contractor will have to assist IRC in preparing the meetings of the Advisory Group, present and discuss the working protocol, methodology, systematic reviews and any other outputs to the Advisory Group and implement feedback provided by the Group. It is expected that the Advisory Group will convene every two months with at least one longer meeting (two days) for the finalization of the BPPL.

Regular technical meetings with the IRC project leads will be held online, to discuss progress, technical and administrative aspects, and coordinate the project.

5. Requirements – Planning:

Target dates of delivery (indicative):

Output 1: Q3-Q4 2021

Output 2: Q4 2021 – Q1 2022

Output 3: Q4 2021-Q1 2022

Output 4: Q1 2022-Q2 2022

Output 5: Q2-Q3 2022

Output 6: Q2-Q3 2022

6. Inputs:

For the performance of this APW, the project lead and project coordinator of WHO will provide:

- A framework (concept notes) to build on for the objective defined above;
- Inputs on protocol, survey, presentations and reports;
- As needed: a matrix for the data collection, including SR software;
- Organization of the meeting with WHO representatives/experts from different regions and regional offices, providing feedback; and
- Organization of the expert meeting for the expert advisory group (to be formed by the WHO through open call process).

7. Activity Coordination & Reporting:

Technical Officer:	Peter Beyer, Unit Head, a.i.	Email:	beyerp@who.int
For the purpose of:	Technical supervision and instructions - Reporting		
Administrative Officer:	Sandra Kotur Corliss	Email:	koturcorliss@who.int
For the purpose of:	Contractual and financial management of the contract		

8. Reporting requirements:

The selected contractor will be reporting to the responsible technical officer(s).

9. Performance monitoring:

The selected contractor will be evaluated on:

- Their capacity to deliver products of an optimal technical quality within the agreed timelines;
- Their service orientation and responsiveness to WHO's needs and expectations.

10. Characteristics of the Provider / Specific Requirements:

* Specific requirements

Qualifications required:

- Ph.D. or MSc in Medicine, microbiology, molecular biology, organic chemistry, or another field related to bacterial infectious diseases

Desirable Qualifications: ID specialists, clinical microbiologist focused on bacteriology

Experience required:

- At least 10 years of relevant experience in bacterial infectious diseases, clinical microbiology and antibacterial drug R&D;
- In-depth understanding of clinical needs in bacterial infections in hospital and community and experience with antibiotics clinical trials;
- Strong expertise in Pharmacokinetics/Pharmacodynamics to evaluate the effect of dosages and formulations on the effectiveness of drugs and the likeliness of resistances to emerge;
- Expertise in developing and conducting MCDA surveys and statistical analysis;
- A track record of coordinating international scientific projects, preferably in the field of antimicrobial resistance;

- Experience in communicating research projects and their results to policymakers and the research community;
- Track record of peer-reviewed publications on antibiotic resistance and drug discovery; and
- Good writing skills, a track record of publications on antibiotic resistance and drug discovery.

11. Place of assignment:

N/A

12. Qualified candidates are requested to submit:

- Cover letter/application;
- A technical proposal with proposed methodology/approach to managing the project, showing understanding of tasks; timeframe for completion of deliverables;
- Financial quote in USD per deliverable;
- Curriculum vitae;
- Examples of previous, relevant work related to the deliverables.

13. Additional Information:

a. Questions during preparation of proposal

A prospective bidder requiring any clarification on technical, contractual or commercial matters may notify WHO via e-mail (antibacterialpipeline@who.int) no later than 3 August 2021 at 17:00 hours, Geneva time.

b. Deadline for submission of proposal

The deadline for final submissions of proposals is **3 August 2021 at 17:00 hours, Geneva time.**

c. Email address for submission of proposal

Final duly completed technical and financial proposals should be submitted in electronic format by e-mail to: antibacterialpipeline@who.int

ⁱ Global Action Plan on Antimicrobial Resistance: https://apps.who.int/iris/bitstream/handle/10665/193736/9789241509763_eng.pdf?sequence=1

ⁱⁱ Global priority list of antibiotic-resistant bacteria to guide research, discovery, and development of new antibiotics: https://www.who.int/medicines/publications/WHO-PPL-Short_Summary_25Feb-ET_NM_WHO.pdf

ⁱⁱⁱ Tacconelli E, Carrara E, Savoldi A, Harbarth S, Mendelson M, Monnet DL, Pulcini C, Kahlmeter G, Kluytmans J, Carmeli Y, Ouelllette M. Discovery, research, and development of new antibiotics: the WHO priority list of antibiotic-resistant bacteria and tuberculosis. *The Lancet Infectious Diseases*. 2018 Mar 1;18(3):318-27.