INTERNATIONAL CENTRE FOR ANTIMICROBIAL RESISTANCE SOLUTIONS

International Vaccine Institute

1 Request for Proposals

Advancing vaccine uptake to mitigate antimicrobial resistance in low- and middle-income countries of South or South-East Asia

Issue Date: July 30th 2024

Submission Deadline: September 16th 2024

2 Table of Contents

3 Converging AMR and vaccine agendas in LMICs of South/ South-East Asia

Vaccines are one of the most effective, evidence-based public health interventions available (1). They are estimated to save over 4 million lives each year and help people of all ages to live longer, healthier lives (2). Immunisation has been one of the key global strategies to improve public health outcomes, particularly in low- and middle-income countries (LMICs). Routine childhood immunisation is delivered through national immunisation programmes (NIPs) in most LMICs; however, its coverage remains variable (3).

The relationship between vaccines and antimicrobial resistance (AMR) is intricate and multifaceted. By preventing infections, vaccines decrease the demand for antibiotics, as well as their inappropriate use in the treatment of infections (4). This in turn helps mitigate the development and spread of AMR. Decreased use of antibiotics reduces the selective pressure that drives the emergence of resistant bacteria. Additionally, some vaccines target bacteria directly, further contributing to the containment of AMR (4). Although the value of vaccines to tackle resistant infections is acknowledged, the challenge lies in quantifying the exact impact of vaccines on resistance-related health outcomes, especially the economic value of those outcomes in comparison with other investments to tackle AMR. Recent efforts highlight the impact of vaccines in reducing infectious disease burden, the need for treatment with antibiotics, and the health and economic consequences resulting from the treatment of complex and hard-to-treat infections using modelling studies for specific LMIC contexts (5).

In 2020, the World Health Organization (WHO) developed a Vaccine Action Framework (6) to guide vaccine stakeholders in supporting the use of vaccines to tackle AMR. The framework identifies a series of priority goals to be taken by stakeholders in the fields of immunisation and AMR, in three areas:

1. Expanding the use of licensed vaccines to maximize impact on AMR

2. Developing new vaccines that contribute to the prevention and control of AMR

3. Expanding and sharing knowledge on the impact of vaccines on AMR

The International Centre for Antimicrobial Resistance Solutions (ICARS) and the International Vaccine Institute (IVI) are expanding on their existing partnership and announcing a joint Request for Proposal (RFP) to address the last goal from the Vaccine Action Framework by inviting proposals from South and South-East Asian LMICs to suggest recommendations and actionable strategies for including AMR as an important metric in the investment case for vaccines.

The population of South Asia is estimated to be 2.4 billion (25% of the world's population), and of this a total of 675 million populate South-East Asian countries. Countries in these regions face a high burden of AMR and have well established and robust national childhood immunisation programs, as well as good availability of life course vaccines in the region (7). IVI has an established network of partners in the region as part of its project portfolio in vaccine research and development (8). ICARS is expanding its efforts in the region with a portfolio of projects that focus on testing solutions for AMR mitigation using the intervention-implementation research (IIR) framework (9). Through this RFP, both IVI and ICARS aim to establish and nurture a knowledge network of vaccine and AMR stakeholders, which will provide thought leadership for advancing the use of vaccines to prevent and manage AMR.

4 The aim and scope for this request for proposals

This RFP will support **a single project** aimed at aligning the AMR and vaccine agendas at the country level in an LMIC context in South and Southeast Asia. The outcome of the successful proposal is a project that aims to provide key recommendations and strategies to integrate vaccines as a tool to mitigate AMR. It will bring together stakeholders from the National Action Plan on AMR, National or State Immunisation Programs, and other immunisation stakeholders. The successful proposal will also outline possible research along the intervention-implementation continuum.

The project should build on existing local evidence and knowledge to provide key recommendations and actionable strategies to help relevant stakeholders in LMICs integrate vaccine initiatives with AMR mitigation efforts. The project (developed either through a single institution or a consortium of research institutions in partnership) should generate local evidence to advocate and advance the use of vaccines to mitigate the burden of AMR in LMICs. The grant recipient and the implementing team(s) must be based in an LMIC geographical context.

The vaccines studied as part of this RFP must be relevant to the country context and proposals MUST include at least one vaccine from at least two of the vaccine categories:

Category 1. Routine childhood national immunisation program vaccines: e.g. Pneumococcus/Hemophilus Influenzae Type B (Hib)/Measles/Malaria

Category 2. Vaccines for outbreak control through mass programs: e.g. Dengue/Typhoid/ Cholera/Meningitis/Yellow Fever/Ebola

Category 3. Vaccines for life course immunisation: e.g. RSV/HPV/Hepatitis B

Category 4. Seasonal vaccines: e.g. Influenza/COVID

For example, measles (Category 1) and hepatitis B (Category 3) could be included, but measles and HiB cannot be included as they are both from the same category.

Vaccine examples given above are only for guidance and the list is not exclusive. Researchers are encouraged to consider other vaccines if a case can be made based on local disease burden, AMR surveillance or vaccine-related data.

Proposals should include the collection and analysis of relevant local data and research methodologies that advance the assessment of vaccine impact on AMR, including changes in antimicrobial prescription, and use. More information is provided in the section 'Objectives and Deliverables'. This RFP builds on previous findings from joint webinars conducted by IVI and ICARS summarized in Annex 1.

Objectives and Deliverables

The following tables outline the three objectives and their expected outputs/deliverables. The example activities are for guidance only.

No. 1. Real-World Data analysis	
Objective	Collection of evidence to highlight the gaps in real world data (RWD) at regional/national/sub national level (as applicable) for advancing the use of vaccines as a tool against AMR.
Output/Deliverable	A comprehensive report compiling findings including: • Summaries of gaps in real-world data related to the impact of vaccines on AMR. • Recommendations on prioritized actions in AMR and Immunisation programs at regional/national/sub national level. These include (Short-Medium-Long term) and specific recommendations for key relevant stakeholders (e.g. researchers, donors, government agencies, healthcare institutions, and civil society organizations). SMART (Specific, Measurable, Achievable, Relevant, Time-based) strategies for measuring the real-world impact of vaccines on the burden of AMR and antimicrobial use (AMU). • Key areas for further research, program implementation, advocacy efforts, or capacity building at regional/national/sub national level incorporating an intervention-implementation research framework for action to advance the use of vaccines to tackle AMR in the country.
Example of activities	Desk evidence review and synthesis (not limited to peer-reviewed literature but including grey literature and vernacular policy documents: economic and strategic analyses of national vaccination strategies, summaries of current activities related to vaccine use in preventing AMR Expert consultations

No. 2. Establishment of an AMR and Vaccines Network at regional/national/sub national level	
Objective	Establishment of an AMR and Vaccines Network including key relevant stakeholders from AMR and Immunisation programs at regional/national/sub national level. The intent is to support departments within an institution / network of institutions that conduct research on vaccines or AMR to work together for suggesting the ways in which AMR or AMU surveillance can guide use of vaccines to mitigate the AMR burden in these settings. Propose an action plan for the sustainability of this network to undertake research studies, evaluations, consultations, etc. To use local AMR and AMU surveillance data for guiding the use of vaccines in local contexts.

Output/Deliverable	a. Stakeholder Map (identification and interest – power matrix) that should include stakeholder meetings/consultation summaries capturing the discussions, outcomes, and prioritized areas for action or identified during the consultations. b. A 2–3-year action plan for the sustainability of the network in the region/national /sub national level.
Example of activities	Mapping and analysis of essential relevant local AMR and vaccines stakeholders. These may include eminent local professionals or institutions for suggesting ways to study the use of vaccines for tackling AMR at the regional/national/subnational level. These could encompass aspects of epidemiological research, program implementation, advocacy, communication and capacity building. Quantitative and qualitive methods for stakeholder engagement.

No. 3. AMR and Vaccines Network advocacy events and workshop	
Objective	Organize local advocacy and consultative events (virtual or in-person) during the grant period culminating in a final dissemination workshop announcing the AMR and Vaccine Network with key stakeholders from the relevant LMIC region/national or sub-national level.
Output/Deliverable	Stakeholder consultation events (1-2) at local level Communication materials for advocacy on the topic Dissemination workshop Summary of the consultation and dissemination workshop that should propose the way forward for generating local data for bringing the vaccines and AMR agenda forward, and related activities for dissemination of the event report/publication.
Example activities	Co-design workshop consultations to develop communication materials including blogs, video, policy briefs Consultation and Dissemination workshop

In addition to the deliverables outlined in the tables above, the signed grant agreement with the final agreed project implementation plan and timeline after feedback from ICARS and IVI must be delivered within 3 months of the letter of commitment being issued.

Outputs from joint webinars conducted by IVI and ICARS over the last three years can be found in Annex 1 and should be considered as background information for the project. Applicants are advised to review this Annex and consider the themes that emerged from the third webinar (2023), as well as integrate other topics as relevant.

Proposals should aim to use existing local data regarding the burden of vaccine preventable diseases, the proportion of drug resistant infections (or AMR attributable burden), vaccines registered in the country, those

included in NIPs, special category or life course immunisation, as well as the existing evidence regarding the use of vaccines for AMR mitigation in the local context.

At the end of the project period, the successful team must have developed a recommendation document for integrating the vaccine and AMR agenda in LMICs with roles for different stakeholders across the discovery-implementation continuum and ways for implementation in practice. The deliverables of this project are expected to directly inform IVI and ICARS activities and be piloted in LMIC settings.

Purely desk-based studies or systematic reviews will **NOT** be considered for this proposal round.

5 Eligibility and requirements

5.1 Eligibility

For the purpose of this RFP, ICARS and IVI have agreed that project proposals **must** demonstrate the following criteria to be considered for funding:

1. The study setting, research institution and affiliated ministries must be based in a LMIC in South and South-East Asia, as per the DAC List of ODA Recipients for 2024 and 2025 (DAC-List-of-ODA-Recipients-for-reporting-2024-25-flows.pdf (oecd.org)).

2. The lead institution must be a university or other research institution (public or private) in the LMIC in which the project will be implemented.

5.2 Additional Requirements

5.2.1 Submitting institution

Proposals must be submitted by a single institution or a consortium of institutions. In the case of a partnership/consortium, one proposal should be submitted on behalf of all partners.

The lead organisation must:

1. Be based in an LMIC
2. Be a registered legal entity and be willing and able to enter into a contractual agreement, as the Commissioned Organisation, with ICARS, who will be managing this proposal on behalf of ICARS and IVI. The successful institutions will be required to comply with the grant conditions of ICARS.
3. Demonstrate equity, diversity, and inclusion in the project team.
4. Have submitted a completed application as per the guidance in this RFP. Incomplete applications and those submitted after the deadline will not be reviewed.

Profit-making organisations, international organisations established by treaty or other instrument governed by international law with their own legal status (including United Nations Organizations or any international academic/non-profit/for-profit institution) and institutions from high-income countries can be collaborators bringing their own funding or in-kind contributions. Also, as only a single institution will receive the fund disbursement from ICARS, we expect that the lead organization will disburse funds to partner institutions. Additionally, we expect partnership contracts to be signed between the lead institutions and all partner institutions within the first 3 months of the project.

5.2.2 Project team required expertise:

Research teams should demonstrate:

- Expertise and skills in infectious disease research, especially vaccines and AMR with relevance to applied work in human health, vaccine surveillance and implementation.
- Qualitative research skills, as well as skills for any other chosen methods.
- Ability to carry out literature reviews and evidence synthesis across a broad, sometimes abstract database.
- Demonstrated project management skills including experience in organising stakeholder consultations and meetings.
- Excellent written communication and ability to compose easily understandable reports for policymakers as well as lay audiences.
- Excellent command of English (written and verbal).

The project team can include consultants as subject matter experts (SMEs) from any country; however, preference should be given to SMEs based in LMICs. Consulting SMEs from high-income countries must be clearly justified and may not be allocated more than 10% of the budget.

5.2.3 Legal compliance and knowledge translation

The successful institutions will be required to comply with the grant conditions, including organisational policies of ICARS. ICARS policies including the code of ethics and professional conduct and the anti-bribery, fraud and corruption policy, are publicly available on the following website: https://icars-global.org/icars-policies/

Following the ambitions of open science, researchers involved in this project must ensure that science and society can be made aware of the information about the project as early as possible in the research process.

5.2.4 Reporting requirements

Research teams will be required to submit a workplan and proposed timeline at the time of signing the grant agreement for the project. The detailed workplan will be drafted in consultation with ICARS and IVI in the first 3 months after issuing the letter of commitment and it will be required before finalization of the grant agreement.

The successful project will be required to submit quarterly progress and financial reporting as per ICARS' grant conditions. Monthly project catch up meetings between the successful applicant(s) and funders are expected.

Project Oversight Group: There will be an Oversight Group to inform the project strategy and will include 2-3 experts besides representatives from IVI and ICARS.

6 How to apply

6.1 Contents of a proposal

Proposals should be no more than 10 pages, without annexes. Proposals must be submitted in English and have a font style and size that is easy to read. Proposals should include:

1. A cover letter, including the primary contact person (applicant) with respect to this RFP (name, address, phone number and email address) and contact persons at partner applicant institutions.

2. The body of the proposal including (not exceeding 10 pages):

a. Proposal Summary (no more than half a page)
b. Project Background, Problem and Rationale
c. Aim and Objectives
d. Methodology
e. Implementation Plan with Gantt Chart included
f. Expected Outcomes, Outputs and Activities
g. Risk Management strategy
h. Project Management and Team Composition
i. Team Expertise and Relevant Projects Undertaken

3. Annexes

4. Budget in USD, with a detailed breakdown as given in the section below.

5. CVs of team members (max 2 pages per CV)- A suggested template is attached to be filled by the team.

For any eligibility query, proponents are encouraged to contact: rfp_amrandvaccines@icars-global.org

6.2 Budget guidance

The project budget should include the following categories at minimum:

a. Salaries and Fees (including estimated number of billable days to complete the work and rates for project team members)
b. Travel and Subsistence
c. Project activities including SME cost (if considered)
d. Dissemination costs, including all costs related to knowledge translation and dissemination

Indirect costs: (e.g. Audit, Overhead, etc) should be limited to 15% of the direct costs. Maximum overhead rates will be 15%

If a co-applicant research institution, university or partner stakeholder has an actual overhead/indirect cost rate that is lower, the lower rate will apply and the institution/university/stakeholder should not increase the funding request to the maximum overhead rate allowed. Co-applicant research institutions or universities and partner stakeholders are required to provide documentation if they have a general overhead/indirect cost rate.

The actual overhead awarded in a grant budget may vary up to the maximum overhead rate and is based on a case-by-case decision depending on factors including, but not limited to, the type of research project, the level of administrative effort required, the overall grant size and the extent of sub-awards.

e. Contingency

For flexibility purposes, a contingency of maximum of 5% of the direct costs can be included. It will be possible to use this amount for the cost of items directly related to the project that were encountered in the process of project implementation and that were unforeseen in the process of budget preparation. These costs should not include items that otherwise should be absorbed by the project overhead. Utilisation of the contingency must be communicated and agreed with ICARS during project implementation.

f. Audit

The annual and the final accounts must be externally audited, and the audit is to include the entire set of project accounts, including the accounts of every partner institutions/stakeholder. The maximum amount to be used for audits is 4,500 USD per year and 7,700 USD for the final audit. The funds for audit are earmarked. Additional expenses will not be accepted but must be borne by the research institution responsible for the financial reporting. The audit expenses are not subject to overhead.

A budget template is attached to fill in the categories as suggested. If budget lines are not relevant for this project, please leave the line blank.

6.3 Funding

The maximum budget allocated to the successful proposal will be 120,000 USD including overheads for a project duration of 18 months.

6.4 Proposal submission

Please submit your proposal to the following email address: rfp_amrandvaccines@icars-global.org

6.5 Proposal deadline

Proposals must be submitted by 16th September 2024 (midnight CEST). Any proposal submitted after this deadline will not be considered.

7 Proposal Evaluation

7.1 Proposal review process

The proposals submitted as part of this RFP will undergo a two phased review process:

Phase 1: A panel of ICARS and IVI representatives will review all the proposals. This will be done between 17th September (deadline of the RFP) and 7th October 2024 using the criteria described in 7.2. All proposals shall be informed regarding their review status and progress to the next stage. The top five ranked proposals will move to Phase 2.

Phase 2: The IVI and ICARS panel will invite the shortlisted proposals for discussion and clarifications between 14th October – 31st October 2024. The panel will then recommend one proposal to the management for a decision on funding. The outcome will be communicated on 15th November, and from this date, the grant agreement will be finalized with the selected team within 3 months.

Final funding and agreement will be committed by 30th November 2024. Subsequently, a meeting between ICARS, IVI and the successful project team will take place at the start of the project. The purpose of the meeting will be to ensure that the project team understands the project mandate and background documents provided, agreed lines of communication, reporting requirements and understands ICARS/IVI expectations for project implementation, timelines and deliverables.

7.2 Proposal review criteria

Proposals will be reviewed based on the following criteria:

1. **Fit the scope of the RFP.**
   The application:
   - Delivers an approach that supports the key objectives and results required.

- Demonstrates a robust logic that clearly links research questions, methodologies, activities, outputs and outcomes.

2. **Clarity and focused approach**

   The application:

   - Has a feasible and clearly defined approach to understand the interconnections between AMR and vaccination.
   - Has a strong methodology to deepen the understanding of the interlinkages of AMR and vaccines in the defined context.
   - Provides a justified budget aligned to the scale and scope of the proposed project.

3. **Competence and strength, including equity and diversity of the research collaboration.**

   The application:

   - Clearly promotes intersectoral partnerships and processes between researchers.
   - Demonstrates skills/expertise/experience/location of the team that are relevant to the proposed scope and activities.
   - Demonstrates ability to manage the funds and produce required deliverables in compliance with the grant conditions, including ethical guidelines, standards and principles.
   - Has considered potential solutions to address the gaps that emerge – both barriers and best practices (positive and negative)

Timeline for this RFP

- RFP published: 30th July
- Deadline for submission: 16th September
- Internal review of proposals: 17th September– 7th October
- Interviews: 14th – 31st October
- Outcome communicated: 15th November
- Letter of commitment issued: By 30th November
- Grant agreement (contingent upon receipt of final workplan): By 1st March 2025

Questions

For any specific questions related to this RFP, please contact ICARS by email: rfp_amrandvaccines@icars-global.org

8 ICARS and IVI

ICARS

ICARS works to partner with low- and middle-income countries (LMICs) in their efforts to reduce drug-resistant infections. ICARS provides funding to national partners as well as expertise needed to support intervention and implementation research projects across the One Health spectrum. ICARS works in partnership with LMIC ministries and other research institutions to respond to AMR challenges identified in country. ICARS does this by co-developing tailored solutions with LMIC governments and researchers, who then implement interventions on the ground, building on AMR National Action Plans through context-specific and cost-effective solutions for sustainable scale-up. As part of this mandate, ICARS also works with researchers, organisations and AMR partners globally to better understand the influence of local social and

economic contexts that influence intervention and implementation research projects on AMR. ICARS provides resources and aims to co-develop evidence that support implementation of activities to mitigate AMR and sustain real-world impact. For more details visit: https://icars-global.org/.

IVI

IVI is a non-profit international organization established in 1997 at the initiative of the United Nations Development Program with a mission to discover, develop, and deliver safe, effective, and affordable vaccines for global health. IVI's current portfolio includes vaccines at all stages of pre-clinical and clinical development for infectious diseases that disproportionately affect low- and middle-income countries, such as cholera, typhoid, chikungunya, shigella, salmonella, schistosomiasis, hepatitis E, HPV, COVID-19, and more. IVI developed the world's first low-cost oral cholera vaccine, pre-qualified by the World Health Organization (WHO) and developed a new-generation typhoid conjugate vaccine that also achieved WHO prequalification in early 2024. Through three separate Fleming Fund Regional Grants, funding provided by the UK government, IVI and partners are working with countries across Asia and sub-Saharan Africa to identify, evaluate, and create a demand for quality data to advance effective policymaking. For more details visit: https://www.ivi.int/

ICARS and IVI have signed a Memorandum of Understanding (MoU) for joint development and research to advance AMR and Vaccine agendas in relation to advocacy efforts as well as explore projects looking at effects of vaccine on AMR and vaccine uptake. This includes development of implementation projects, scientific publications, organizing meetings or advocacy round tables to advance and acknowledge the value of vaccination as a key strategy to tackle AMR.

References

1. Ozawa S, Mirelman A, Stack ML, Walker DG, Levine OS. Cost-effectiveness and economic benefits of vaccines in low- and middle-income countries: A systematic review. Vaccine. 2012 Dec 17;31(1):96–108.

2. Canada G of. Immunization in developing countries [Internet]. 2024 [cited 2024 Jun 20]. p. 1. Available from: https://www.international.gc.ca/world-monde/issues_development-enjeux_developpement/global_health-sante_mondiale/immunization-vaccination.aspx?lang=eng

3. World Health Organization. Immunization Coverage. 2023 [cited 2024 Jun 28]. p. 1 Immunization Coverage Fact Sheets. Available from: https://www.who.int/news-room/fact-sheets/detail/immunization-coverage#:~:text=Coverage of a third dose,the 2019 level of 86%25.

4. Micoli F, Bagnoli F, Rappuoli R, Serruto D. The role of vaccines in combatting antimicrobial resistance. Nat Rev Microbiol [Internet]. 2021;19(5):287–302. Available from: https://doi.org/10.1038/s41579-020-00506-3

5. Kalanxhi E, Roberts N, Miller L, Bahati F, Laxminarayan R, Bhushan I, et al. The value of vaccines to mitigate Antimicrobial Resistance. 2023;(October). Available from: https://www.ifpma.org/wp-content/uploads/2023/10/The-Value-of-Vaccines-to-Mitigate-AMR.pdf

6. World Health Organization. Leveraging vaccines to Reduce Antibiotic Use and Prevent Antimicrobial Resistance: An Action Framework [Internet]. Available from: https://cdn.who.int/media/docs/default-source/immunization/product-and-delivery-research/action-framework-final.pdf?sfvrsn=13c119f3_5&download=true

7. World Health Organization. Immunization. 2024. Immunization in the South East Asia. Available from: https://www.who.int/southeastasia/health-topics/immunization

8. International Vaccine Institute. Global Network of Project Sites, Collaborators and Member States [Internet]. 2023. Available from: https://www.ivi.int/where-we-work/overview-map/

9. Khurana MP, Essack S, Zoubiane G, Sreenivasan N, Cordoba GC, Westwood E, et al. Mitigating antimicrobial resistance (AMR) using implementation research: A development funder's approach. JAC-Antimicrobial Resist [Internet]. 2023;5(2):1–10. Available from: https://doi.org/10.1093/jacamr/dlad031

Annex 1: Vaccines & Antimicrobial Resistance (AMR): Considerations for AMR Policy and Practice in Low- and Middle-Income Countries

In 2023, ICARS and IVI held a webinar on vaccines and AMR: Considerations for AMR policy and Practice in LMICs. The report from the webinar can be found here: IVI_Report_091023 (icars-global.org).

The webinar was hosted by Denmark's Ministry of Foreign Affairs, Embassy of Denmark in Korea, IVI and ICARS. Vaccines offer a unique chance to tackle both antimicrobial resistance (AMR) and infectious diseases at the same time. However, greater advocacy is needed to align these goals in low- and middle-income countries (LMICs). Challenges include limited awareness, political commitment, and resource allocation. Nonetheless, vaccines, which are proven public health tools, can effectively reduce AMR, especially in LMICs. Efforts should focus on assessing the real-world benefits of approved vaccines in national immunisation programs through coordinated research projects involving vaccine and AMR departments within national agencies. Additionally, highlighting the AMR benefits of vaccines during their discovery and clinical trials will support their role in combating AMR. Typhoid vaccination is a prime example of aligning AMR and vaccination efforts in LMICs for dual benefits.