

# International Centre for Antimicrobial Resistance Solutions (ICARS)

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The increasing problem of antimicrobial resistance (AMR) has long been recognised by researchers and professionals both in human and veterinary medicine, but has only recently been more generally acknowledged. In the last five years, several reports<sup>1,2,3,4</sup>

have highlighted the global crisis of AMR and WHO has ranked it among the top 10 most serious medical problems. Yet, as urgently highlighted in the final report of the UN Inter-Agency Co-ordination Group (IACG)<sup>5</sup> on AMR, the global response does not sufficiently match the scale and scope of the issue and challenges remain in implementation, particularly in low- and middle-income countries (LMICs). Over 140 nations have developed, or are currently developing, a National Action Plan (NAP) against AMR. However, executing these plans is not straight forward because at times, those creating the solutions are part of the problem.

In response to this challenge, Denmark, with support from the World Bank, has taken the initiative to establish the International Centre for Antimicrobial Resistance Solutions

(ICARS) – a partnership that focuses on co-developing intervention and implementation research with LMICs. It is envisaged that ICARS will be an international ‘One Health’ knowledge, intervention and implementation research partnership; a platform for generating, assessing and using evidence to support the

development and implementation of cost-effective and context-specific solutions to AMR in LMICs. Doing so, ICARS will expedite action by translating policy into practice.

ICARS will work at both a national and an international level and work out of five core principles (see **Table**).

At a national level, ICARS will partner with governments of LMICs to support the translation of NAPS by supporting evidence-based solutions using a one health approach. ICARS will work with the country’s AMR Coordinating Committees and other stakeholders to identify and prioritise activities. Projects will be developed in partnership with local research institutes taking a cross- and transdisciplinary approach, national and local policymakers, professionals, businesses, communities, and wider stakeholders (the Tripartite, United Nations Environment Programme [UNEP], non-government organisations [NGOs], amongst others) as appropriate (see **Figure**). By close consultation,

<b>Country Ownership</b>	<ul style="list-style-type: none"> <li>Country led</li> <li>Priorities defined by individual countries based on country NAPs, needs and challenges at national and local levels</li> <li>Integrated top down (e.g. government, local authorities) and bottom up (e.g. professionals, academia, community representatives) approach in country</li> </ul>
<b>One Health</b>	<ul style="list-style-type: none"> <li>A collaborative, multisector and holistic approach</li> <li>Actions relevant to human and animal health, the environment, global food security and economic prosperity</li> <li>AMR specific and AMR sensitive activities</li> </ul>
<b>Partnership</b>	<ul style="list-style-type: none"> <li>A solution development partnership - delivering in partnership with key stakeholders at various levels (international, regional, national, and/or local)</li> <li>Alignment and collaboration across public, private, and philanthropic sectors and various disciplines</li> <li>Maximising the use of limited resources, building on existing work for an effective approach and to avoid duplication</li> <li>Participatory cross-disciplinary research approach</li> </ul>
<b>Solution-Focused</b>	<ul style="list-style-type: none"> <li>Focusing on providing policy relevant evidence-based solutions</li> <li>Translation of country NAPs and international policies, standards and frameworks into practice on the ground</li> <li>Identifying causes and barriers to implementation of existing solutions</li> <li>Combining immediate action with long-term vision</li> </ul>
<b>Sustainability</b>	<ul style="list-style-type: none"> <li>Cost-effective solutions (economically feasible and practical for the country)</li> <li>Laying the foundations for change and supporting initial implementation</li> <li>Integrating into existing resources, systems and infrastructure, where possible</li> <li>Capacity and capability building in country – supporting leaders and local champions, utilising and expanding expertise of existing capacity and training the next generation</li> <li>Alignment to other global and country agendas and priorities (e.g. SDGs, Universal Health Coverage)</li> </ul>

**Table: Core Principles of ICARS**

collaboration and alignment with existing activities, ICARS will avoid duplication, build on, and strengthen the essential wider efforts to address AMR within the country. Projects will include economic evaluations to inform of the cost-benefit of the identified solutions. Output from these projects will be owned by the countries and ICARS will work to make data as accessible as possible to the wider global community.

At an international level, and anchored by hubs with projects and activities in various locations around the world, ICARS will play a key role in the delivery of the UN General Assembly AMR Resolution agreed in September 2016, the Global Action Plan and international strategies and agendas. ICARS will do so by filling some of the gaps highlighted in the IACG recommendations<sup>5</sup> calling for independent evidence synthesis, reports on the science and evidence related to AMR, its impacts and future risks, and recommendations for adaptation and mitigation. Outputs will be communicated to different stakeholders to increase awareness, and advocate for action.

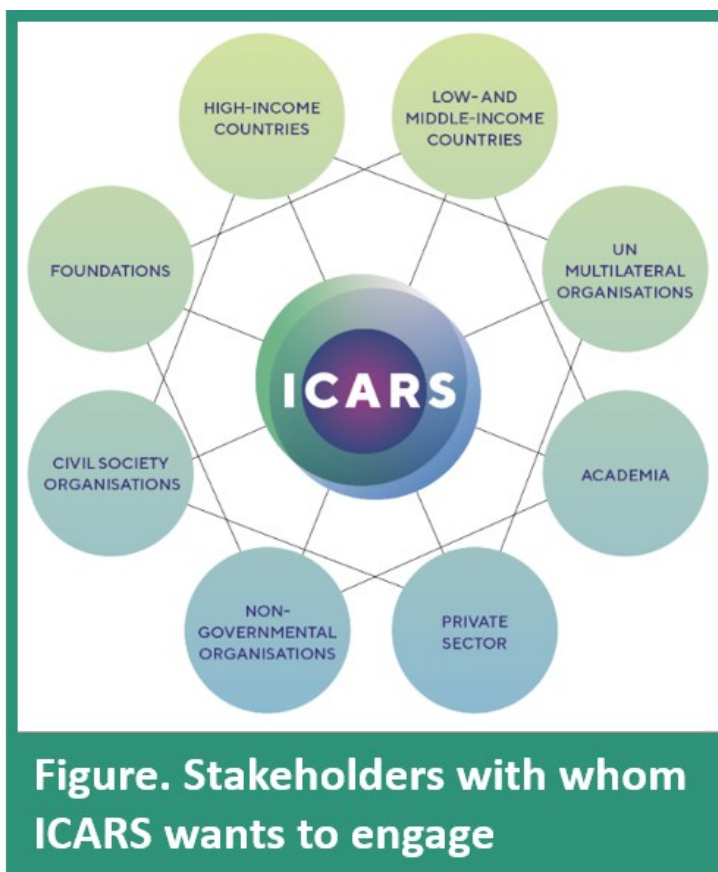
### Organisation

ICARS is currently embedded within the Danish government but during 2020, ICARS will transition into an independent organisation with clear governance and structure, attracting support and funding from other donors. The governance model for ICARS is envisaged to be structured around a Board of Trustees and relevant advisory forums, including a Stakeholder Forum, Scientific Advisory Forum and a Donor Forum.

### Invitation to Participate

ICARS invites partnership from committed governmental bodies, policymakers, foundations and international organisations. This may take several forms, including political support and commitment, in-kind contributions and/or financial contributions.

ICARS is working with LMIC partners who are committed to mitigating AMR and willing to show leadership to initiate a number of demonstration projects in 2020, to identify and implement solutions to AMR. Supported projects will be continuously monitored, adapted, and evaluated while ICARS builds towards a larger and more long-term programme of work.



### References

1. O'Neill J. *Tackling drug-resistant infections globally: final report and recommendations*. The review on antimicrobial resistance. Report. 2016
2. Jonas *et al* on behalf of World Bank Group. *Drug-resistant infections : a threat to our economic future (Vol. 2): final report (English)*. HNP/Agriculture Global Antimicrobial Resistance Initiative. Washington, D.C. 2017
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