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Scottish One Health AMR Register (SOHAR): Updated research insights to support national action on antimicrobial resistance

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Project Overview

The project aimed to update the Scottish One Health AMR Register (SOHAR) to reflect developments in Scotland's antimicrobial resistance (AMR) research landscape over the past three years and to identify priorities for improving the register.

To inform this update, a review was conducted of AMR-related publications and projects published or active between July 2021 and May 2025. In addition, an online workshop was held with people working in AMR research, policy, and practice to explore how SOHAR could support their work.

Together, the review and workshop helped answer two key questions:

i. What published research and projects have been undertaken in Scotland in the last three years that assist Scotland in meeting its research commitments under the UK Government AMR National Action Plan (NAP) 2019–24 in the areas of human health, animal health, plant health, food, and the environment?

ii. What publications and projects identified in the register can be mapped onto the commitments of the UK AMR NAP 2024–29, with a focus on helping Scotland deliver the commitments for which it has specific responsibility?

Background

AMR occurs when bacteria, viruses, fungi, or other microbes change in ways that stop medicines, like antibiotics, from working properly. This makes infections harder to treat and increases the risk of illness spreading, lasting longer, or becoming more serious.

AMR can affect anyone, and it spreads between people, animals, plants, and the environment. That's why integrated action is needed across all these areas – a concept known as 'One Health.'

SOHAR was created in 2021 to bring together research on AMR involving Scottish researchers and organisations. It collects and organises this research to highlight Scotland's contribution to tackling AMR. The register groups the research by theme and links it to national priorities set out in the UK AMR NAP.

This helps identify strengths, gaps, and opportunities, supporting decision-makers, researchers, and organisations working on the health of people, animals, plants, and the environment to focus their efforts and investments.

Key Findings

- Stakeholders recognise SOHAR's value in mapping research, supporting collaboration, and informing decisions. However, they also stress that it should not become a passive database.
- Scotland's AMR research is making good progress, especially in exploring potential new treatments and improving how antibiotics are used in healthcare.
- Research on AMR in the environment is growing, helping us to understand how resistance can spread beyond healthcare settings.
- Scotland is actively involved in UK-wide AMR research networks and continues to contribute to monitoring and tracking AMR.
- Some areas remain under-researched, including:
    - Animal health
    - How resistance spreads through food
    - The impact of AMR on different communities of people
    - Public understanding and behaviour
    - Turning research on new treatments and tools into practical solutions

Conclusion and recommendations

AMR is a growing problem that affects everyone. Research helps us to understand it and find better ways to tackle it. SOHAR helps highlight what work is already happening across Scotland and where more focus is needed.

The 2025 update shows that Scotland is making good progress, especially in some key areas – but there are still gaps. Closing these gaps is important to support more effective action against AMR.

To help strengthen Scotland's AMR research response, five key actions are recommended:

i. **Keep SOHAR active and up to date**
Build in regular updates and stronger links with research systems (e.g. Elsevier PURE or SEFARI's Research Register) so that the register stays useful over time.

ii. **Make SOHAR easier to use and explore**
Improve search functions and visual summaries. Include information on the people involved in different projects to support collaboration.

iii. **Use SOHAR to track national progress**
Help monitor how Scotland is contributing to UK AMR research goals by using the register to spot strengths and gaps.

iv. **Support research in underrepresented areas**
Fund more work on animal health, food systems, behaviour change, health inequalities, and public understanding of AMR, while ensuring full and effective use of existing evidence.

v. **Encourage collaboration in research**
Support joint efforts between people in research, healthcare, public health, animal care, the environment, policy, and communities, to help turn new ideas and evidence into real-world solutions.

SOHAR is expected to move to a new platform hosted by National Services Scotland in late 2025. This will make it easier to access and use, increasing its value for stakeholders.

In the meantime, guidance on how to use the Excel version of SOHAR is available at:
www.crew.ac.uk/publication/updated-scottish-one-health-amr-register-sohar

By building on these findings and continuing to use and update SOHAR, Scotland can strengthen its efforts to tackle AMR and help protect people, animals, plants, and the environment.

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To access the outputs for this project, please visit: www.crew.ac.uk/publication/updated-scottish-one-health-amr-register-sohar