Plan Overview

A Data Management Plan created using DMPonline

Title: Exploring the gaps and opportunities for development of an AMR educational package for higher education: An online survey of higher education professionals

Creator: Delphine Kayem

Principal Investigator: Michael Dillon, Delphine Kayem

Affiliation: University of Plymouth

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ORCID iD: 0000-0001-6751-7678

ORCID iD: 0000-0001-8308-3312

Project abstract:

Antimicrobial Resistance (AMR) is an ongoing silent pandemic (1), exacerbated in part by the COVID-19 pandemic (2, 3). The global burden of bacterial antimicrobial resistance (1) estimates that in 2019, over 4.95 million deaths globally were associated with drug-resistant infections, and 1.27 million deaths were directly caused by drug-resistant organisms. While bacterial AMR was found to be a problem in all regions, the global burden estimates show that the highest burden of AMR is in low and middle-income countries, particularly in the Sub-Saharan African region (1). There is a paucity of high-quality data and a limited reach of targeted AMR policies and education (1). A holistic approach is needed to tackle AMR and eliminate the threat of AMR (4). Using a one-health, whole-of-society approach, similar to other pandemics like COVID-19, would be our best line of defence. Looking at this from the educational perspective, the Microbiology Society seeks to identify gaps and priorities for AMR educational resource development and to design a comprehensive AMR educational package that can be adapted for individual or institutional use.

Global recommendations suggest incorporation of AMR training into human, animal and environmental sciences curricula (5) such as veterinary medicine, clinical medicine, public health, nursing, pharmacy and the allied health sciences and there has also been a drive to include AMR into social science curricula (6). However, variations exist in what is taught and how this is taught. A recent review looking at work-based AMR training suggested that formal education on AMR was effective. However, there was limited evidence about what type of educational intervention, and for which profession, it was most effective (7). While the WHO has developed guidance on AMR education and training for health workers (5), the diversity of curricula found in numerous areas makes it more challenging for educators. Moreover, studies suggest that health professional graduates do not feel adequately trained or prepared to prescribe antibiotics accurately (8, 9). We propose identifying resources and teaching or training guidance to present a one-stop shop on the Microbiology Society web pages. To do this requires a better understanding of the gaps and opportunities that currently exist in AMR educational curricula/programs in higher education. The focal areas for the project are One Health, co-creation of educational content, and AMR-focused student projects. As a first step, the research team will conduct a survey to explore how educators across higher education are teaching antimicrobial resistance (AMR), identify the challenges and gaps educators

currently face, and identify resources and educational support that could enhance the teaching and learning experience.

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Copyright information:

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Data Collection

What data will you collect or create?

Participants will fill in a questionnaire to collect information on their experiences with teaching antimicrobial resistance (AMR) in higher education. The questionnaire will collect some demographic information such as how long they have taught AMR and on what programme(s) they teach AMR. The questions would vary and include some single answer responses. All responses will be strictly confidential and anonymous. We will never collect names or IP addresses or use these in any communications about the project.

How will the data be collected or created?

Self-reported survey data will be collected via a licensed software called JISC. The service operates in the UK, is governed by UK law, is GDPR compliant and meets the ISO/IEC 270001 information security standard.

Documentation and Metadata

What documentation and metadata will accompany the data?

Survey results will be stored on JISC servers. The service operates in the UK, is governed by UK law, is GDPR compliant and meets the ISO/IEC 270001 information security standard. JISC is a trusted, professional data collection organisation that will execute the survey on our behalf and anonymise the data.

Ethics and Legal Compliance

How will you manage any ethical issues?

Informed consent will be required from participants. The first page of the survey will detail the participant information sheet and will have consent questions. Participant’s would then have the chance to consent or decline to participate and will have a final opportunity to ask questions relating to the research. After consent, any response a participant makes will be aggregated and completely anonymous; thus researchers will have no way to identify individual responses.

All participants will have access to The University of Plymouth privacy policy which includes the General Data Protection Regulation (GDPR) Act and Data Protection Act 2018.

How will you manage copyright and Intellectual Property Rights (IPR) issues?

There is no external funding currently attached to this research. Rights to use the data will reside with the University of Plymouth for the purposes of this research project only.

Storage and Backup

How will the data be stored and backed up during the research?

All data will be stored on The University of Plymouth OneDrive account, which is backed up regularly by IT staff at the university.

How will you manage access and security?

The research team will be the only people with access to the anonymised data. They will be able to download this on to their university supplied equipment to conduct analysis and other research related activities. All members of the research team will access data through IT equipment that has been supplied by the university which are password protected with 2-factor authentication; data will be analysed on this equipment.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

the pseudoanonymised data will be retained

What is the long-term preservation plan for the dataset?

All anonymous survey responses will be retained and preserved on the University of Plymouth's Microsoft OneDrive account for 10 years, per university policy.

Data Sharing

How will you share the data?

Only authorized individuals directly involved with the study at Plymouth University will have access to the data. We will comply with Plymouth University’s policies to ensure confidentially of the data throughout the process. No one outside of the research team will have access to the anonymous survey responses. Aggregated data will be used and published in an academic journal and a report will be produced. The findings may also be presented at conferences and discussed at other public events. The findings from this study will be used to inform the future development of a freely available one-stop-shop for AMR educational resources and training.

Are any restrictions on data sharing required?

Data will only need to be shared with staff working directly on the project.

Responsibilities and Resources

Who will be responsible for data management?

The research team leads: Dr Michael Dillon and Dr Delphine Kayem

What resources will you require to deliver your plan?

We will be using JISC software which is provided through the university and hardware is also provided by the university. there will be no charges for data repositories as data will be stored on the University of Plymouth servers