

Communicating about animal research in antibiotics drug development

Recommendations developed by the COMBINE project and AMR Accelerator Scientific Interest Groups

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Animal models in the AMR Accelerator

The AMR Accelerator is a cluster of 9 public-private partnership projects funded by the Innovative Medicines Initiative (IMI), with the joint goal of progressing the development of new medicines to treat or prevent resistant bacterial infections. Animal research plays an important role in the preclinical development of novel antibiotics, and the AMR Accelerator projects develop tools and research infrastructures for the AMR community, including three animal models that can help reduce and refine animal research in antibiotics development:

- Standardised mouse pneumonia infection model (COMBINE)
- Mouse and non-human primate tuberculosis infection models (ERA4TB)
- Innovative mouse model for *M. abcessus* (RespiriNTM)

Uptake and use of these models needs to be supported by dissemination and communication, which in turn requires a proactive strategy.

Method

The COMBINE project has set up Scientific Interest Groups for the AMR Accelerator. A joint workshop between the groups on Science Communication and Animal Models resulted in guidance for the projects for how to proactively address risks posed by public controversy to the communication and dissemination of animal research.

Conclusions

Proactive communication and engagement strategies can be cost-effective ways to address concerns and prevent potential communication risks.

Open discussions of ethical concerns, the knowledge gap filled by animal studies, and the challenges of translating research from animals to humans could also help increase public acceptance and support communication of results from the AMR Accelerator to reluctant audiences.

The communications challenge

Public acceptance is crucial to secure public funding for medicines to combat antimicrobial resistance (AMR). Animal models play an important role in the development of new antibiotics. We need them to study efficacy, toxicity, and pharmacokinetics, and to assure safety before starting clinical research with human subjects. The care and use of laboratory animals in research are regulated under EU directives and national law. Animal experiments require ethical permits and project review, by ethics committees or institutional review boards. Training is required to handle laboratory animals and to perform experiments. Moreover, the 3R principle is pushing researchers to reduce the number of animals used, refine the experiments, and replace animals whenever possible. However, public opinion polls like the 2010 Eurobarometer or 2018 UK IPSOS survey indicate that the scientific community has yet to convince the public about the importance and role that animal research plays in the development of medicines that can help us combat AMR.

Key recommendations

- Explaining why animal research is needed
- Improving public understanding of the translational challenges in basic science
- Bridging the differences between academia and industry
- Paying attention to national and cultural differences
- Emphasising the importance of open and transparent communication
- Adapting to the audience and the platform
- Clearly communicating the 3R principles
- Explaining how animal welfare benefits science

References:

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