



ANTIMICROBIAL RESISTANCE RESEARCH WITH THE HEALTH PROTECTION RESEARCH UNIT

TALKING POINTS

KNOWLEDGE

1. What is antimicrobial resistance (AMR), and why is it a problem?
2. What are healthcare-associated infections (HCAIs)?

COMPREHENSION

3. What characteristics do you think are shared by the pathogens that Elita's team has identified as priorities for study?
4. Why do you think Esmita's team is considering both the social and physical environments in healthcare settings? How can each environment influence behaviours that may impact AMR or HCAIs?
5. How is Tim's team using technology to optimise antimicrobial use?
6. How did integration of data systems help Nina's team to assess HCAIs during the COVID-19 pandemic?

APPLICATION

7. How can a) medical professionals and b) you as an individual help to safeguard against AMR?
8. More people need to be aware of the silent pandemic of AMR. How would you communicate the risks of AMR to the public?
9. Do you think that lessons learned during the COVID-19 pandemic will make nations better equipped to deal with AMR? Why, or why not?

ANALYSIS

10. 'Research into AMR has to be collaborative to be successful'. Why is it important that the HPRU contains researchers from so many fields? Why could none of the team address AMR individually?
11. Why is it important that the HPRU is 'grounded in public health priorities, not just academic interest'?
12. Esmita says that antibiotics are perceived as 'miracle drugs'. Why might this be a problem?



ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

1 Design two posters to be put up in hospitals, one for patient waiting rooms and the other for staff rooms used by doctors and nurses. Your posters should highlight the problems of HCAs and AMR, and how the reader can take steps to address these issues. For both posters, think about:

- What key messages do you need to get across?
- What level of scientific detail is appropriate for each audience?
- How can the recommendations be tailored to the role of the target audience?
- How can you make your posters eye-catching and visibly engaging?
- How can readers find out more?

2 One of the HPRU's major strengths lies in the multitude of different disciplines it brings together to address a common issue. Using the information in the article and your own research, fill in the table below to see how a wide variety of fields are needed to tackle AMR. What other roles could you add to the table?

ROLE	HOW CAN THIS ROLE ADDRESS AMR?
Professor of Infectious Diseases	
Public Health Official	
Microbiologist	
Pharmacist	
Clinical Doctor	
Epidemiologist	
Bioinformatician	
Bioengineer	
Journalist	
Anthropologist	

MORE RESOURCES

- The HPRU has a webpage for the public to get involved with AMR: www.imperial.ac.uk/medicine/hpru-amr/patient-and-public-information/get-involved
- The HPRU also has a series of resources for schools: www.imperial.ac.uk/medicine/hpru-amr/applications-and-tools/lesson-plans-for-school-activities
- As well as being Director of the HPRU, Alison is also the Director of Imperial College London's Centre for Antimicrobial Optimism: www.imperial.ac.uk/antimicrobial-optimisation-centre
- Learn how you can become an antibiotic guardian: www.antibioticguardian.com
- Visit e-bug to find educational resources about microbes and antimicrobial resistance for all levels of the curriculum: www.e-bug.eu
- This free online course from Imperial College London teaches you how the social sciences are integral to combatting AMR: www.futurelearn.com/courses/social-science-for-tackling-antimicrobial-resistance
- Watch this animated video from TED-Ed about the history and future of the AMR crisis: www.youtube.com/watch?v=ZvhFeGEDFC8
- This article from the World Health Organization provides a detailed overview of the state of AMR in the modern world: www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance
- Many organisations working to address AMR provide educational resources, including articles, lesson plans, activity ideas and information about careers in the field. Take a look at the Microbiology Society (www.microbiologysociety.org/members-outreach-resources.html), the International Society for Infectious Diseases (www.isid.org/education) and the British Society for Antimicrobial Chemotherapy (www.bsac.org.uk/education).