Annihilating Antimicrobial Resistance

@NIHR HPRU in Healthcare Associated Infections and Antimicrobial Resistance; Centre of Antimicrobial Optimisation

Patients respond differently to **'antimicrobial'** treatments; some require different amounts and for different durations; some may have drug resistant infections that require less commonly used antimicrobials. However, most patients are treated using 'a one dose fits all' approach. This means some patients aren't properly treated, which can drive the microbes to evolve antimicrobial resistance.

This is a major health problem that risks us no longer having antimicrobials to treat infections.

We need to use existing and new antimicrobials more effectively, so patients are properly treated, and antimicrobial resistance falls.

We need to do more than just develop new antimicrobials.

	What we need:	How this helps:
	New technologies to diagnose infections and drug resistant infections quickly	Patients can be treated quickly with the correct antimicrobial
	Technologies that allow patients to be treated with the correct type and amount of antimicrobial, for the right duration	Patients will respond better to optimised treatment
	Technologies that allow the spread of resistance to be tracked, using the genetic fingerprint of the microbe (DNA or RNA)	We can see how a microbe, or a part of its RNA/DNA, is spreading. This lets us put infection control measures in place (e.g. separating infected patients or using PPE)

How do you think these experts contribute to this work?

Data scientists

Engineers

Microbiologists

Mathematicians

Public Health Experts

Infectious Disease