

# RISE OF THE RESISTANCE



**Kip Heath**, Lead Healthcare Scientist, Public Engagement Lead and stand-up comedian, introduces a project to raise public awareness of antimicrobial resistance.



**W**hile the world has spent the last 18 months focused on COVID-19, a potentially far bigger public health crisis has continued to develop. The increase in antimicrobial resistance (AMR) is likely to have serious consequences for us all.

There are an estimated 700,000 deaths each year caused by drug-resistant organisms and the World Health Organization (WHO) estimates that by 2050 this figure could reach 10,000,000. To put things in perspective, this is almost three times the current official death toll for COVID-19.

As drug resistance increases, more and more of us will carry antibiotic-resistant bacteria as part of our normal flora. This may make medical treatments that we currently see as routine (e.g. knee and hip replacements) too risky to carry out, meaning patients would have to live with long-term painful conditions. As well as the serious impact on

health and survival, the estimated cost of AMR to global economies is staggering.

## **Q** Why is public engagement on this issue so crucial?

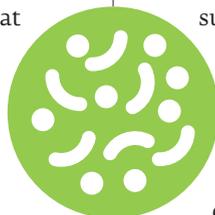
AMR is not a newly discovered health threat. Alexander Fleming warned of the dangers of antibiotic resistance when he accepted his Nobel Prize in 1945 for discovering penicillin. Despite this, public awareness of AMR and the issues surrounding it is fairly low. AMR is predominantly driven by using and misusing antimicrobials, so engaging with the public to change behaviours is essential to reduce the impact.

I was first involved in public engagement, aged 16, when I started supporting school science fairs and I've been passionate about it ever since. It's led to some really odd life experiences, such as eating crickets on stage, making buckets of fake blood, and almost falling down a flight of stairs during my first stand-up comedy set. It's also given me a huge number of opportunities and the ability to

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personally develop. If you'd told me five years ago that I would have been helping set up fake hospitals in front of Downton Abbey or telling jokes on stage for money, I would have just laughed at you. I strongly believe public engagement can benefit the scientists that carry it out, just as much as the people they're trying to reach.

With a topic like AMR, I've found it easier to engage with events that people can enjoy, rather than attempt to lecture them. Thankfully, I work in a team that completely agrees, and has a dubious track record for a successful work-life balance. From 3 to 6 June, as part of the





UCL Precision AMR project, we launched the first (but not last) Rise of the Resistance festival.

### Q What is Rise of the Resistance?

Nothing to do with the Star Wars franchise, the Rise of the Resistance event was an online public engagement festival. It celebrated the impact of healthcare science, and reinforced relationships between healthcare scientists, patients, families and the public through theatre, shared experience, and conversation, believing that better communication and understanding are vital for managing future threats to global health, such as AMR.

The festival showcased projects that had developed from collaborations between healthcare scientists and artists, all with the aim of raising awareness of AMR. After each event there was a panel discussion on one aspect of AMR, such as the impact of animal agriculture on drug resistance.

As AMR is a health crisis that will impact on us all, it was important to develop events that would appeal to all age groups. “Remember Remember” is a play written in conjunction with patients from Great Ormond Street Hospital, where three healthcare scientists travel back in time with a malfunctioning MALDI-ToF in an attempt to solve the gunpowder plot. As this event was online, activity packs were sent out to all the children who signed up so that they could get involved at home.



We also had adult-only events, such as the very popular “Klebsiella” monologue, and a science comedy panel show where all of the contestants performed their very own AMR limerick. For anyone that was interested in learning more about AMR, the discussion panels all contained members who are actively involved in AMR research or diagnostics and were able to talk about this.

We learned a lot from the process, not only that microbiologists are generally quite busy during a global pandemic and maybe it was not particularly sensible to take this on as well. (You can see from the final paragraph of this article that we actually did not learn this at all.)

### Q Where are we going?

We were fortunate to receive additional funding and interest for the festival while it was running! Therefore, there will be a second Rise of the Resistance on 3 to 4 July. Among other events, this will include the opera “La Biotique”, which is a contemporary reworking of “La Boheme” where a migrant textile worker in London sings of her heartbreak as she contemplates death

## RISE OF THE RESISTANCE EVENTS

### Adults only

- ✓ KLEBSIELLA – A portrait of Klebsiella through a psychoanalytic session
- ✓ NEVER EXPLAIN THE RESISTANCE – A comedy panel show about AMR
- ✓ STAND UP FOR HEALTHCARE SCIENCE – Comedy and cabaret from the best minds in science

### Content for families, suitable for children

- ✓ NOSOCOMIAL – Verbatim drama about NHS healthcare scientists
- ✓ SOCK THE PUPPET – A story for children about socks, science, superbugs and making friends
- ✓ REMEMBER, REMEMBER – Time-travelling healthcare science-themed detective drama

### Online panels

- ✓ How do we begin the AMR conversation?
- ✓ Bugs, behaviour and their impact on AMR.
- ✓ The value of collaboration within public engagement.
- ✓ Human and animal impact on AMR.

from TB. The partnerships that began during the first festival are ongoing and most of the projects are planning to be developed further, so watch this space.

If you are interested in learning more, in attending, or even developing a project yourself, visit [nosocomial.online](https://www.nosocomial.online) for more information. 

**Kip Heath** is Deputy Trust Lead Healthcare Scientist at Great Ormond Street Hospital for Children NHS Foundation Trust. She is also a STEM Ambassador, stand-up comedian and science communicator.