UK Health Security Agency

Manchester Metropolitan University

NHS Manchester University NHS Foundation Trust

The Outbreak Module: A partnership between Biomedical Scientists and Universities

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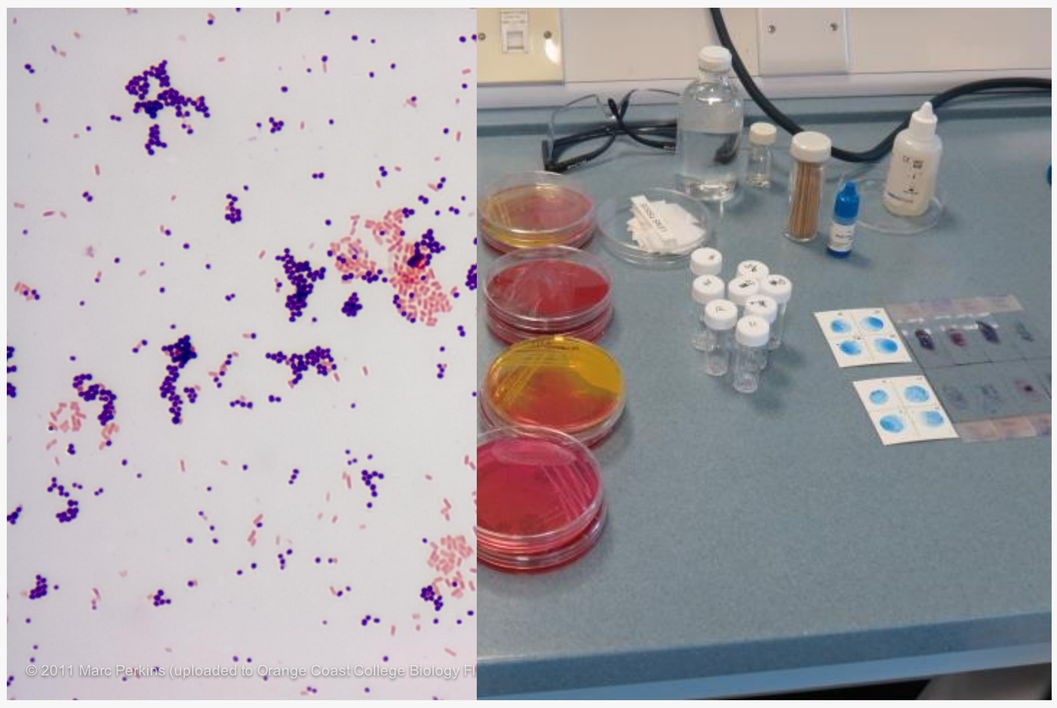
Objective

In June 2021, Manchester University NHS Foundation Trust (MFT) and Manchester Metropolitan University (MMU) partnered together and provided a week of biomedical science practicals for MMU Healthcare Science students. This year we focused on how NHS laboratories respond to outbreaks.

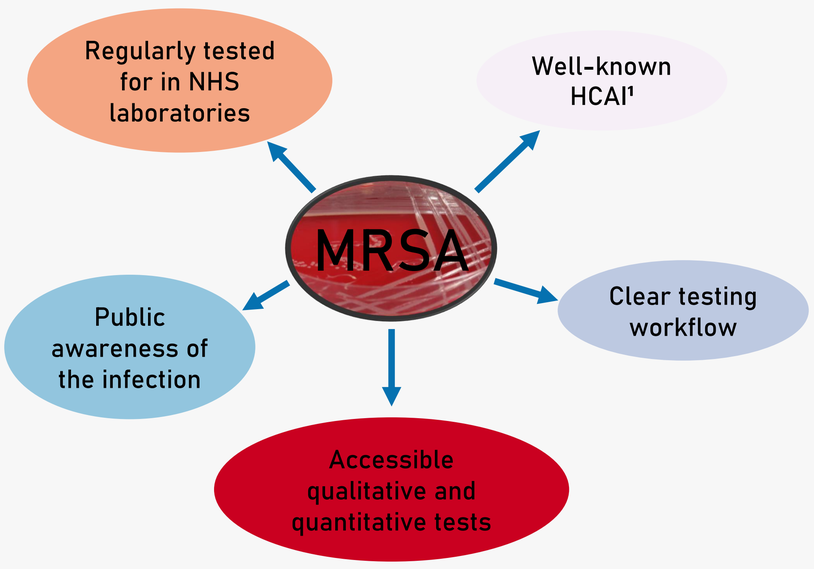
Our goal was to engage undergraduate students, introduce them to laboratory-based careers and give them the preliminary experience needed to enter the workplace. We ran a successful program and built on the foundational work of Malcolm Armstrong and Dr Lisa Coulthwaite's "Live Labs". The students improved their confidence, team work and communication skills. Our workshop provides an alternative, more flexible approach to traditional laboratory placements that can be more accessible to students.



Outbreak models are a useful tool for teaching students how NHS laboratories function.

They encompass all aspects of our work: from testing samples and monitoring cases, to providing information and increasing public awareness.

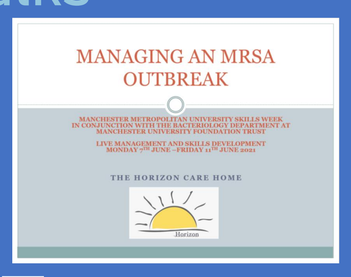
Why do we use MRSA as our example outbreak?



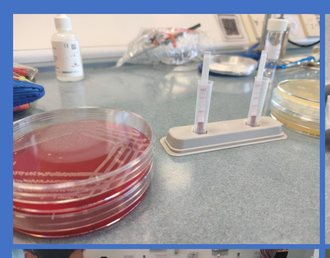
Outbreak:
"An incident where two or more persons have the same disease or similar symptoms and are linked in time, place and/or person association"[2]

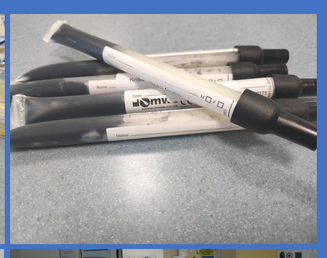
How we run the course:

Talks

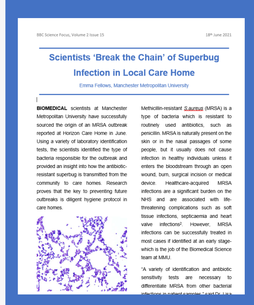


Tests





Reports



Presentations

How does our module improve the students education and prepare them for the workplace?

What we provide:

- Specialist talks from NHS and UKHSA employees
- Hands-on experience with current qualitative and quantitative laboratory tests
- Support from Biomedical Scientists and staff
- A logical, step-by-step investigation of an outbreak
- A fun and inclusive environment

Benefits to the students:

- Knowledge of NHS methods
- A toolkit for conveying complex scientific ideas to a general audience
- A clear connection between their university lectures and practical applications
- Team working and investigative skills
- Experience with relevant clinical microorganisms

You provide the space and the risk assessment and we'll do everything else

Team

Dr Lisa Coulthwaite
MMU Lead

Zonya Jeffrey
MFT lead

Emily Lee – BMS (MFT)

Helen George – BMS (MFT)

Jack McKoen - HSP (MFT)

This module would not have succeeded without the work of Dr Kate Hargreaves, Dr Paul Benson-White, Dr Aaron Butt and Csilla Czeto

References:
1. The Royal College of Nursing, 'Methicillin-resistant Staphylococcus aureus (MRSA) Guidance for nursing staff', The Royal College of Nursing, London, 2005, pg.5, https://www.nhs.uk/conditions/mrsa/documents/rcn%20mrsa%20guidelines.pdf, (accessed 6th Feb 2022)
2. Public Health England, 'Infection Prevention and Control: An Outbreak Information Pack for Care Homes', Public Health England, London, 2017, pg.6, https://www.england.nhs.uk/south/wp-content/uploads/sites/6/2019/10/phe-sw-care-home-pack-oct19.pdf (accessed 6th Feb 2022)

Image Credits: Mark Perkins, Gram stain showing Gram-positive coccus and gram-negative bacilli. Report screen-grabs courtesy of Soumaya Boudjemline, Emma Fellows and Iffat Shahzad. All other images are courtesy of Zonya Jeffrey and Jack McKoen.