



The research commercialisation office of the University of Oxford, previously called **Isis Innovation**, has been renamed **Oxford University Innovation**

All documents and other materials will be updated accordingly.
In the meantime the remaining content of this Isis Innovation document is still valid.

URLs beginning www.isis-innovation.com/... are automatically redirected to our new domain, www.innovation.ox.ac.uk/...

Phone numbers and email addresses for individual members of staff are unchanged

Email : enquiries@innovation.ox.ac.uk

COMPASS – COMplete PAtrogen Sequencing Solutions

A solution for typing and identification of bugs, which will enable the delivery of faster, cheaper and more accurate diagnosis and treatment identification for patients.

Modernising Medical Microbiology (MMM) is working to find out more about bugs, in order to control and better manage them, ultimately improving people's health. Using new technologies such as whole-genome sequencing for reading the genetic code of microbes, and electronic information management, the work focuses on how infectious diseases are diagnosed, how infection is passed on, how infections are treated and how best to identify and control new outbreaks of infectious diseases.



The group are studying bugs that are the main causes of infections that people get when in hospital: *Staphylococcus aureus* (including MRSA), *Clostridium difficile* (C. diff) and Norovirus. In addition, the consortium is also conducting translational research for the diagnosis and treatment of other pathogens including: *Tuberculosis* (TB), *Escherichia Coli* (E. Coli) and *Neisseria gonorrhoeae*.

MMM are also using computer databases to investigate patterns of infectious disease among patients attending Oxfordshire hospitals and GPs.

MMM are developing a solution for typing and identification of bugs, which will enable the delivery of faster, cheaper and more accurate diagnosis and treatment identification for patients. Furthermore, the data will also allow tracking and monitoring of infectious diseases.

This novel approach is a replacement technology for the current, mostly manual, processes, enabling identification of species, prediction of antibiotic resistance and identification of virulence factors.

Consequently, this research is likely to transform routine diagnosis, management and control of infectious disease in the coming years. The team's work will help to minimise over-use of precious antibiotics. In turn this will reduce the incidence of antibiotic resistance and multi-resistance of bugs, reduce the risk of *C. diff* infections and provide cost savings in the NHS.



Helen Barker

Programme Manager,
Infectious Diseases, Nuffield Dept of Medicine
helen.barker@ndm.ox.ac.uk



Professor Derrick Crook

Principle Investigator,
Consultant Microbiologist and PHE Director
of Microbiology
derrick.crook@ndcls.ox.ac.uk

