RAPID TESTING FOR CARBAPENAMASE PRODUCING ENTEROBACTERIACEAE
RENISHAW

Multi-drug resistance bacteria are a global threat to public health and have been associated with high mortality rates among those patients receiving long term acute care. In order to improve public health and provide information for infection control and prevention, there is an urgent need for rapid diagnostic tests that allow stratification of those patients carrying resistant bacteria.

Carbapenamase producing enterobacteriaceae (CPE) are organisms which are resistant to the carbapenem class of antibiotics, often considered the last resort in the treatment of many bacterial infections. CPEs restrict treatment options and are associated with an increase in morbidity and mortality. They are readily transmissible in healthcare settings and countries such as Greece and Italy are already considered endemic for some classes of CPE.

Renishaw Diagnostics Ltd (RDL), supported by the NIHR Diagnostic Evidence Co-operative (DEC) Newcastle, successfully applied for an Innovate UK, Small Business Research Initiative (SBRI) development contract, worth £150,000. The funding will be used to accelerate development of a PCR based diagnostic assay that will identify patients carrying CPE. Specifically it will detect the five most prevalent gene families known to confer resistance.

'We are delighted to have been awarded this funding, and to be able to collaborate with the DEC Newcastle and researchers at the Freeman Hospital, to support the development of a diagnostic assay for the growing threat of carbapenem resistance'.
Rupert Jones, General Manager - Renishaw Diagnostics

The Phase 1 study will include validation of the test which will be carried out in collaboration with researchers at the Freeman Hospital, Newcastle. Alongside this, the DEC Newcastle will consider the health economic implications of screening high risk patients with the new test and, through interactions with the AHSN NENC, will gain access to Key Opinion Leaders to help identify the optimal route to market for the test.

The work conducted in Phase 1 will provide the basis for a business case to support the adoption of the test into the NHS. RDL and the DEC Newcastle will work together to apply for Phase 2 funding, the focus of which will be the generation of clinical utility data required as supporting evidence for regulating bodies, policy makers and key decision makers within the NHS.