NEXT GEN DIAGNOSTICS SELECTED TO PARTNER WITH A UK CONSORTIUM TO CONDUCT THE FIRST TRIAL OF PROSPECTIVE SEQUENCING-ENABLED TRANSMISSION DETECTION, AT ADDENBROOKE'S HOSPITAL, IN CAMBRIDGE, UK.

CAMBRIDGE UK and MOUNTAIN VIEW, CALIFORNIA, January 10, 2018 – Next Gen Diagnostics (NGD) will partner with a Consortium funded by the Wellcome Trust and the United Kingdom Department of Health and Social Care under a 4.4M£ Health Innovation Challenge Fund (HICF) grant, to do the first deployment of prospective sequencing of all MRSA samples as a means to detect transmission of infection and thereby prevent outbreaks. Led by Professor Sharon Peacock of the London School of Hygiene and Tropical Medicine and Julian Parkhill of the Wellcome Sanger Institute, the project will be done with Addenbrooke's Hospital in Cambridge, UK, in close partnership with the leadership of Addenbrooke's microbiology laboratory and infection control teams.

"This is the first time that prospective whole genome sequencing has been deployed and evaluated as a powerful tool to catch hospital transmission," said Paul A. Rhodes, Ph.D., Next Gen's CEO. "To do so successfully requires a true partnership between NGD, the HICF consortium, and hospital stakeholders. We can analyze sequence information and point to likely transmission events as they occur, but it then requires an infection control team poised and ready to validate putative outbreaks, and take appropriate actions prompted by this information so that further spread is prevented. The HICF team and Addenbrooke's microbiology and infection control leadership, and their staffs, are a key reason this first-ever trial of prospective WGS as an infection control system has had a real impact right from the beginning."

"The automation of bioinformatics that NGD has developed has been crucial to launching this important study of prospective MRSA sequencing as a means to detect outbreaks and intervene to prevent further spread," said Professor Peacock. "The entire process, from sample preparation to bioinformatic analysis, must keep up with a high volume of samples, perform efficiently at the lowest possible cost, and provide relevant information with high accuracy. NGD's automation of bioinformatics is enabling what we predict will be a very impactful study. This is only possible because of the support of clinical microbiologists Doctors Nick Brown and David Enoch and the entire infection control team, who have informed and shaped our approach from the outset. We look forward to reporting our findings, including a quantitative measure of the financial benefit to Addenbrooke's costs of operation that have arisen from the prevention of on-going MRSA transmission and reduction in risk of MRSA infection."

About the Next Gen Diagnostics WGS System

Next Gen Diagnostics has developed and deployed a fully automated pathogen bioinformatics analysis pipeline, based on the bioinformatics pipeline and expertise of the Wellcome Sanger Institute. Via an interactive information system, the NGD Dashboard, information is furnished each morning highlighting any new transmission chains detected the night before along with new cases added to already-identified outbreak. Tools enable and support the action of infection

control teams and other stakeholders in validating and intervening to stop the outbreak. In addition, the NGD Dashboard includes modules that predict antibiogram, compare that prediction with phenotype, and enumerate the sample's full resistome profile including all genes and mutations known to be associated with resistance. Quality control is embedded throughout the system. Information visibility can be tiered by user ID, so infection control teams are presented with interpreted and actionable results (patient status within each transmission chain) while senior leadership can have access to layers of visualization suitable for expert review.

About Next Gen Diagnostics

Headquartered in Mountain View California and with a team based at the world-renowned Wellcome Sanger Institute outside Cambridge, UK, Next Gen Diagnostics (NGD) has developed the world's most complete automation of pathogen WGS bioinformatics and has combined that with a highly automated robotic sample preparation and sequencing service to offer hospitals a unique turn-key capability: on site, 24 hour WGS results to enable transmission detection and outbreak prevention. Now deployed, validated and in clinical use, this system has already proven to detect transmission, and, in partnership with hospital infection control teams to prevent outbreaks.

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