

## Next Gen Diagnostics CEO Paul Rhodes Announces Plan to for NGD's subsidiary, Next Gen Diagnostics, Israel, Ltd., to Open Lab at Sheba Hospital in Tel Aviv

October 9, 2023 – Tel Aviv, Israel – FOR IMMEDIATE RELEASE

Next Gen Diagnostics announced that its Israeli subsidiary, Next Gen Diagnostics Israel, Ltd., will open a pathogen sequencing and bioinformatics laboratory in the Laboratory Wing of Sheba Medical Center, the largest medical complex in the Middle East, to provide all hospitals and researchers in Israel access to low cost bacterial whole genome sequencing (WGS) and pathogen bioinformatics, both to support the use of WGS to detect transmission of infection and for diagnostics and antimicrobial resistance (AMR) research.

By combining NGD's proprietary microfluidic sample preparation system with its automated pathogen bioinformatics pipeline NGD Israel will offer the level of rapid turnaround and low cost enabling, for the first time in Israel, the use of pathogen WGS to detect the transmission of drug resistant infection that can be so costly, in extended stays as well as lost lives. These technology advantages enable overnight WGS and automatic analysis to detect transmission, for less than the cost of PCR panels.

In addition to enabling a new and uniquely powerful means of infection control, bacterial WGS is increasingly recognized as the future of diagnostics, providing selection of effective antibiotic that is more accurate than the *in vitro* tests that are the standard of care. In a recent report [1] of its machine learning models, NGD's WGS-based diagnostic system determined the resistance of *E. coli* to cefepime more accurately than *in vitro* tests, including for highly drug resistant *E. coli* for which cefepime is most needed.

"NGD is proud to announce this expansion to Israel, and to offer its important service, to be based at centrally located Sheba hospital, to all hospitals in that country," said Paul A. Rhodes, Ph.D., founder and CEO. "We have the technology to offer this service to detect transmission on an overnight basis, at low cost, enabling existing infection control teams to rapidly intervene and curtail nascent outbreaks, at great savings whether measured in cost to the payer or in the case of AMR infection too often in the lives of patients. NGD has developed, validated [1,2,3] and put in use the field's most advanced, accurate and fully automated transmission detection and antibiotic resistance prediction systems," Rhodes continued, "with the entire array of information provided to users in an intuitive web-based interface that is automatically populated overnight with the information generated from each sequencing run."

NGD is able to offer a complete bacterial WGS service, including extraction, library preparation, sequencing and bioinformatics at a price below PCR panels because of the combined cost advantages of its fully automated pathogen bioinformatics and its proprietary microfluidic sample preparation system. This proprietary system enables library preparation for up to 48 distinct strains to be processed in a disposable the size of a single plate, in a fully automated fashion. An instrument the size of a desktop computer replaces the dining table-sized robots used to automate sample preparation in competing services, with microfluidic reaction

chambers less than a uL in volume enabling reduction in the consumption of costly reagents, greatly reducing sample preparation costs.

“NGD’s bioinformatic system was applied at Addenbrooke’s Hospital in Cambridge in tandem with prospective sequencing to detect transmission and guide intervention, where it was documented to have stopped an outbreak [2],” noted Dr. Rhodes. “Prospective sequencing is now, for the first time, practical as the new paradigm for the detection of transmission and prevention of outbreak in hospitals, where transmission of drug resistant infection is a source of enormous cost, both financial, to the payers, and human, measured in needless mortality.”

“We are excited to see NGD’s systems coming to Israel, where we know we have a great need for new technologies for infection control,” said Dr. Sharon Amit, Medical Director of the Clinical Microbiology Laboratory at Sheba Medical Center. “The availability of low cost and rapid sequencing along with automated bioinformatic tools will also open avenues for research into the drug resistant pathogens that are increasingly common in clinics here and worldwide.”

1 Reported in Humphries *et al*, *Journal of Clinical Microbiology*, 2023

2 Reported in Brown *et al*, *Journal of Clinical Microbiology* 2019

3 Reported in Raven *et al*, *mSphere* 2022

#### About Next Gen Diagnostics

NGD, founded by Dr. Paul A. Rhodes along with Sanger Institute group leaders in Cambridge, has built and validated world-leading automation of pathogen bioinformatics enabling high throughput low cost clinical use of WGS. In addition, NGD holds the exclusive rights to a unique microfluidic sample preparation system for clinical and commercial applications of pathogen WGS. NGD offers a high volume turn-key sequencing services to enable detection of transmission in hospitals, and is working with leading collaborators in the US, Europe and Israel to be among the first to bring WGS-based regulated diagnostics to patient care. NGD is based in the US, with subsidiaries based in Cambridge, UK and in Israel.

For press inquiries, please contact: [press@nextgen-dx.com](mailto:press@nextgen-dx.com)