



Day Zero Diagnostics Delivers Technology Overview to the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria

With its innovative diagnostic powered by whole-genome sequencing and machine learning, the company is poised to help modernize the fight against antibiotic resistance

Boston—July 10, 2019—[Day Zero Diagnostics, Inc.](#), an infectious disease diagnostics company using genome sequencing and machine learning to combat the rise of antibiotic-resistant infections, today announced it presented an overview of its innovative technologies to the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB) during the thirteenth meeting of the council.

PACCARB, established in 2014, is a U.S. Department of Health and Human Services (HHS) advisory committee that provides advice, information, and recommendations regarding programs and policies intended to support and evaluate the implementation of U.S. government activities related to combating antibiotic-resistant bacteria. The council meets at least two times per year in Washington, D.C. Meetings typically cover the most recent and pressing topics surrounding antibiotic-resistance in the United States.

In the presentation “Whole Genome Sequencing and Machine Learning to Modernize AMR Diagnostics,” Jong Lee, CEO of Day Zero Diagnostics, discussed how the company’s novel technologies are intended to help physicians quickly and accurately diagnose and treat life-threatening bacterial infections.

[Click here to watch a recording of the presentation.](#)

Antibiotic resistance is an ongoing crisis that causes at least 700,000 global deaths annually.¹ By 2050, this figure is expected to grow to 10 million.¹ The growth of severe, drug-resistant infections can be particularly challenging for conditions like sepsis—a life-threatening, unregulated immune response to severe bloodstream infections. Today, preventing septic shock relies on broad-spectrum antibiotics because culture-based diagnostics are too slow to provide the information necessary to use a targeted antibiotic since a patient’s risk of death increases 8% for each hour an infection goes without appropriate treatment.² This practice of aggressive broad-spectrum antibiotic treatment can be toxic to patients and contributes to the growth of antibiotic-resistant organisms. Without innovative diagnostic approaches that bypass the need for time-consuming cultures, the world’s ability to address the growing threat of antibiotic resistance will be severely limited.

Day Zero is developing a diagnostic system that holds promise to help patients with severe infections receive the most effective antibiotic treatment on the first day they are admitted to the hospital—day zero—rather than being treated with multiple days of toxic broad-spectrum antibiotics.

Day Zero is currently developing a collection of core technologies that will power its diagnostic system, including Blood2Bac™, a proprietary sample preparation technology for ultra-high enrichment of bacterial DNA from blood without the need for a time-consuming culture and Keynome®, a machine learning algorithm for species identification and antibiotic resistance profiling. MicrohmDB® is a proprietary large-scale database combining pathogen genomic sequences with their known antibiotic resistance and susceptibility profiles.

About Day Zero Diagnostics

[Day Zero Diagnostics, Inc.](http://www.dayzerodiagnostics.com), based in Boston, is pioneering a new class of infectious disease diagnostics using whole-genome sequencing and machine learning to revolutionize how the world fights the growing threat of antibiotic resistance. The company's mission is to change the way infectious diseases are diagnosed and treated by rapidly identifying both the species and the antibiotic resistance profile of severe infections without the need for a culture. By using sequencing, Day Zero also enables big data approaches for managing healthcare-associated infection outbreaks. Day Zero Diagnostics was founded in 2016 by a team of clinicians and scientists from Harvard University and Massachusetts General Hospital. The company has been recognized as a leading innovator by MedTech Innovator, TedMed Hive, Xconomy, HealthTech Arkansas, and MassChallenge HealthTech. For more information visit www.dayzerodiagnostics.com or follow us on Twitter at [@dayzerodx](https://twitter.com/dayzerodx).

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¹ https://www.who.int/antimicrobial-resistance/interagency-coordination-group/IACG_final_report_EN.pdf?ua=1

² <https://www.ncbi.nlm.nih.gov/pubmed/16625125>