

Accelerating Innovations into CarE – Validate Program (AICE-Validate)



Validation of BSIDx, a rapid diagnostic platform for bloodstream infections

PROJECT FAST FACTS

RECIPIENT: Rapid Infection Diagnostics Inc.

AWARD: \$300,000

AWARD DATE: July 11, 2023

PROJECT DURATION: 12 months

THE PROBLEM

Infections are caused by a wide variety of bacteria and yeast that respond to different classes of antibiotics. Matching each patient to the appropriate antibiotic is critical for ensuring that these infections do not progress into life-threatening conditions. In extreme cases, such as bloodstream infections (BSIs), every hour that elapses increases a patient's chance of dying. Even a relatively short, 24-hour delay in prescribing the correct antibiotic for BSIs increases mortality rates by up to 8%. Currently, it takes two to five days to complete the microbial diagnostic process. This multi-step process comprises two major diagnostic tasks: identifying the species of microbe that is causing an infection and measuring its antibiotic susceptibility profile. Completing these tasks requires multiple independent microbial culturing steps, sometimes taking days to complete. It is the incubation periods that limit the speed of the diagnostic workflow. Unfortunately, the incubation timelines are limited by how fast microbes can grow in culture, a fundamental limitation that existing technology cannot further accelerate.

THE SOLUTION

Rapid Infection Diagnostics (RID) has developed Hopper™ a transformative diagnostic platform that cuts the clinical microbiology testing timeline from days to hours. Hopper™ is built around a high-sensitivity mass spectrometry instrument which monitors changes in the nutritional composition of specially engineered microbial growth medium. Hopper™ was developed in coordination with BSIDx™ (bloodstream infection diagnostics), which is one of its flagship assays that diagnoses BSIs in minutes. It maps the most effective antibiotic to combat microbes in as little as 4 hours; 40 hours faster than existing methods. Its performance has been validated in blinded trials with more than 1,000 clinical samples.

PROJECT OBJECTIVES

RID's two primary objectives are:

- *Validate the BSIDx™ platform in a real-world perspective trial run by DynaLIFE staff in Edmonton.*
- *Generate the data needed to support a breakthrough regulatory application to the FDA.*

ABOUT THE AICE-VALIDATE PROGRAM

AICE-Validate is an opportunity for Alberta's health-tech innovators to accelerate commercialization of digital and data-enabled health technologies through the early validation phase. If you'd like to learn more, please check out [AICE Validate on the Alberta Innovates website](#).

Learn how

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