

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



Development of a rapid point of care (POC) diagnostic device for N-terminal pro-B-type natriuretic peptides (NT-proBNP) aiding with heart failure monitoring

## PROJECT FAST FACTS

**RECIPIENT:** CardiAI Inc.

**AWARD:** \$300,000

**AWARD DATE:** June 8, 2023

**PROJECT DURATION:** 24 months

## THE PROBLEM

There are around 550 million people living with heart and circulatory diseases across the world. This number has been rising due to changing lifestyles, an aging and growing population, and improved survival rates from heart attacks and strokes – and will continue to rise if these trends continue. Currently 750,000 Canadians live with heart failure (HF), with 100,000 people diagnosed annually. Challenges faced by HF population include: 1) the complexity of HF and requirement of advanced diagnostic procedures; 2) most patients with HF having multiple comorbidities like diabetes, hypertension, atrial fibrillation, kidney problems or chronic obstructive pulmonary diseases and so are sometimes not identified for HF in testing; 3) current tests for cardiac markers require a trained nurse and are performed in batches; and 4) current point-of-care devices are chemiluminescence-based with a larger device and a high price point.

## THE SOLUTION

CardiAI's current product comprises of a lateral flow assay (LFA) strip and a colorimetric reader. The LFA provides a low-cost, fast, easy and reliable way to detect cardiac biomarkers, such as NT-proBNP, in a person's blood, plasma or other body fluids. Lateral flow tests – which are also known as rapid tests – are the perfect point-of-care diagnostic tools that do not require costly equipment but are counted as qualitative tools on their own. CardiAI's device has three components: lateral flow assay strips, a colorimetric reader and a mobile app.

## PROJECT OBJECTIVES

*CardiAI is working to reach the following objectives:*

- 1) To complete medical device single audit program (MDSAP) certification (performance characteristics, cross-reactivity and interference studies).*
- 2) To complete product regulatory submissions.*
- 3) To complete mobile app prototype, validation/testing and app improvement.*
- 4) To improve the business development and commercialization pathway for an efficient transition to market access.*

## 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*

**albertainnovates.ca**