



# Ensign-AI

AI-Enabled ECG Insights for Cardiovascular Disease Diagnosis

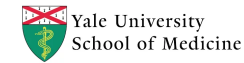
May 2023

# Founding Members



**Rohan Khera, MD, MS**

*Assistant Professor, Cardiovascular Medicine & Health Informatics  
Director, Cardiovascular Data Science Lab at Yale*



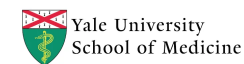
**Veer Sangha**

*Computer Science and Statistics & Data Science at Yale University  
Member of Yale Cardiovascular Data Science Lab*

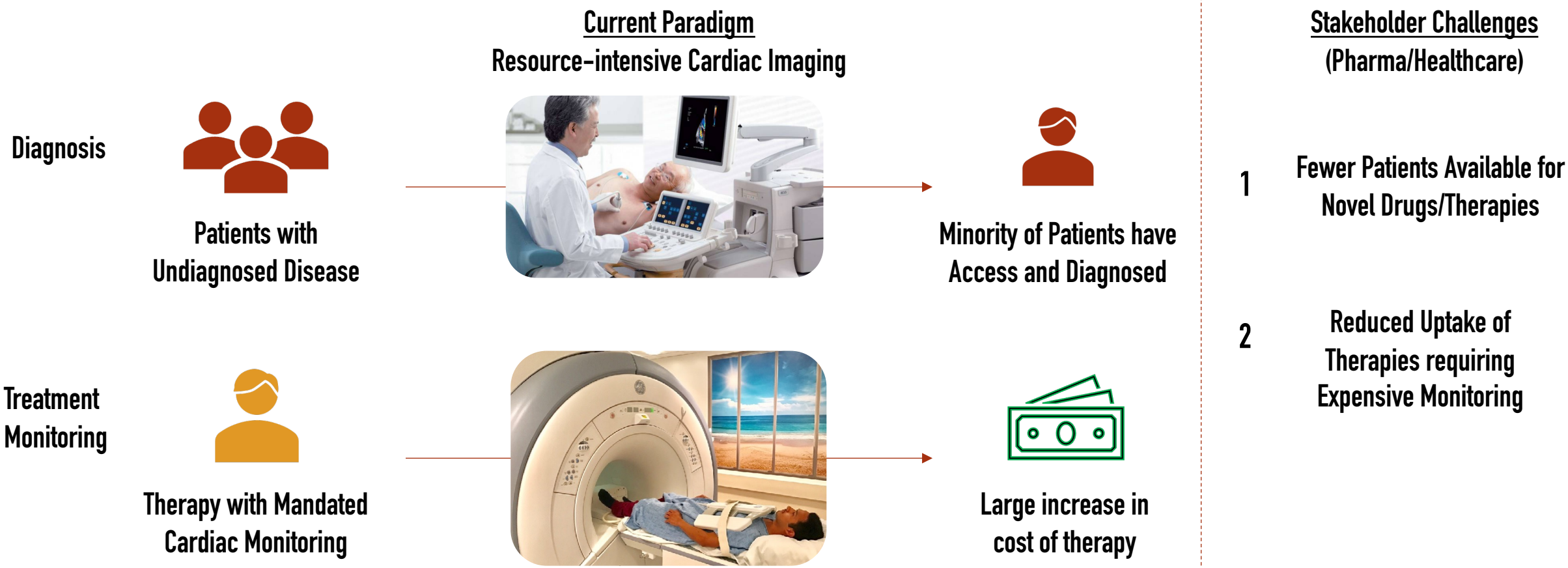


**Harlan Krumholz, MD, SM**

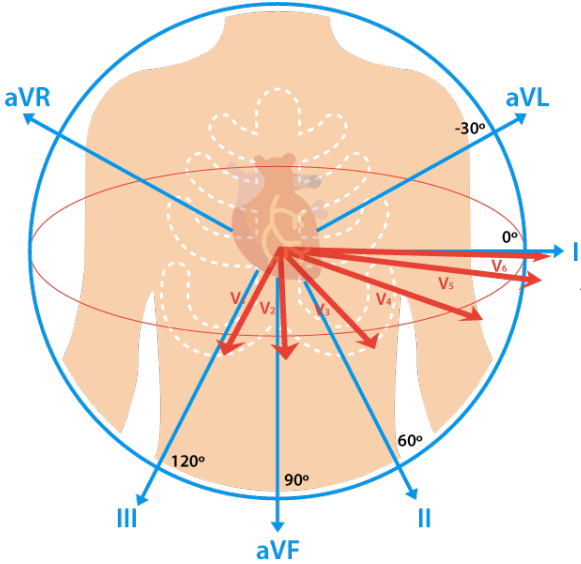
*Harold J Hines Professor of Medicine  
Founder and Director of Yale Center for Outcomes Research and Evaluation*



# The Need for Easier and Accessible Cardiovascular Diagnostics

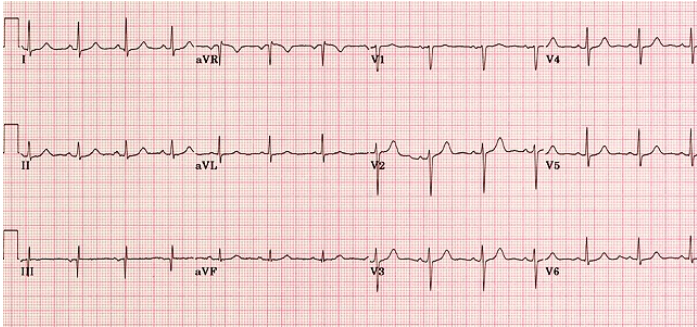


# ENSIGHT-AI: AI-enhanced detection of heart disease from ECG Images and wearables



Electrical conduction measurable in 3D

12-lead ECG

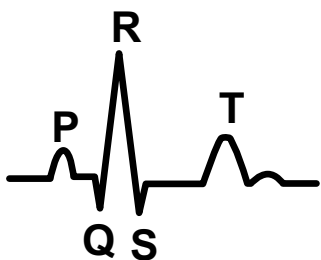
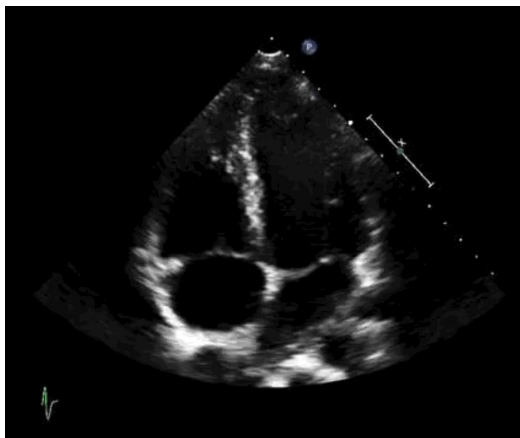


Wearable ECG

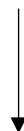


# Our Solution: Designing AI to Learn from ECGs What Previously Required Advanced Cardiac Imaging

Combined imaging and ECG data



Proprietary Deep Learning Algorithms



Learning Cardiac Imaging Signatures on ECG images & Signals

Identifies and localizes cardiac dysfunction\*



12-lead ECG Images



Wearable derived ECGs

# Benefits of an ECG Powered Solution

---

Electrocardiogram



**Low Cost**

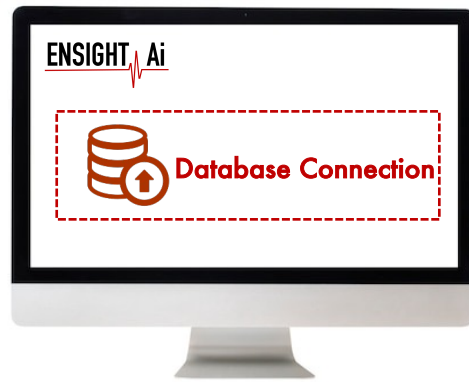
**Globally Available as Standard Images**

**Expanding Access with Wearables**

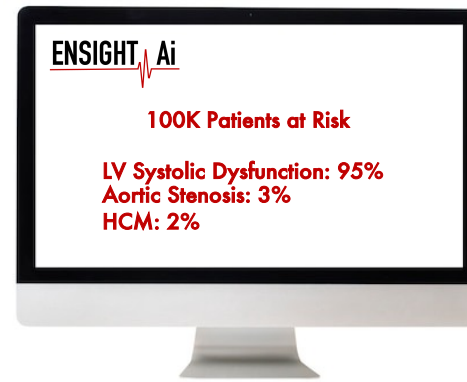
**Detecting Disease Not Discernable to Humans**

# Our Capacity: seamless workflow and broadly accessible approach to complex CVD diagnosis

## System-level Screening

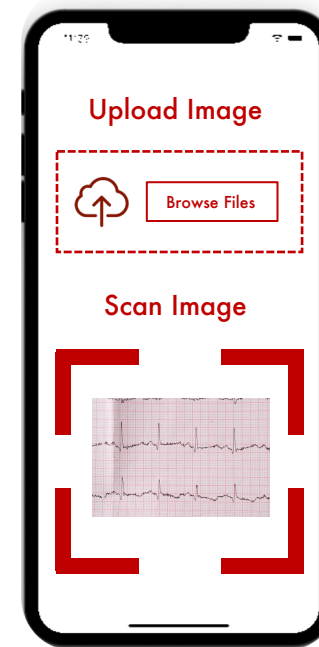


Connect to ECG  
Storage Repository

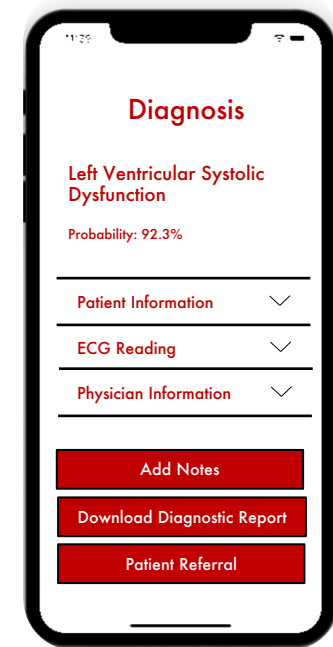


Identification of at-risk  
Patients at Scale

## Patient-level Screening



Upload or Scan  
ECG Image



Diagnostic Prediction  
for Patient

# Significant unmet medical need in highly prevalent disease category with active investment

---

Global CVD Therapeutics

Market by 2026

**\$64B**

Individuals with Disease in Active

Development Domains

**18.5 Million**

Percent of Participants without

Timely Diagnosis

**70%**

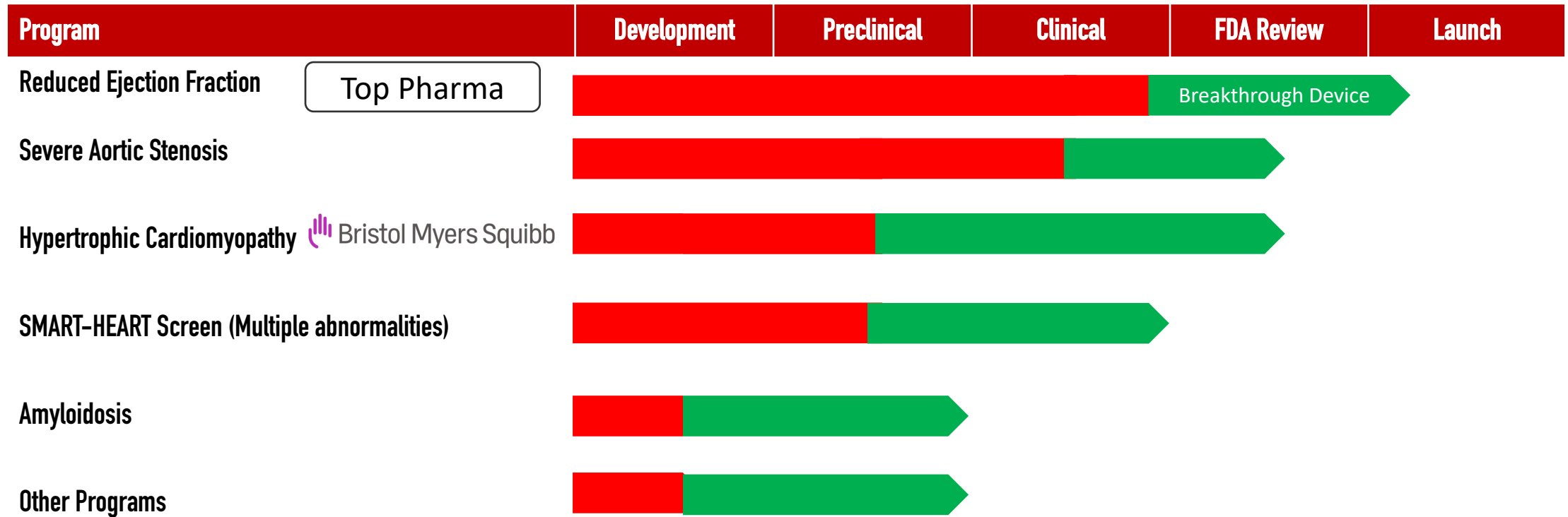
**Total Addressable Market is Anyone With**

(1) ECG in Health Setting

(2) Wearable with ECG

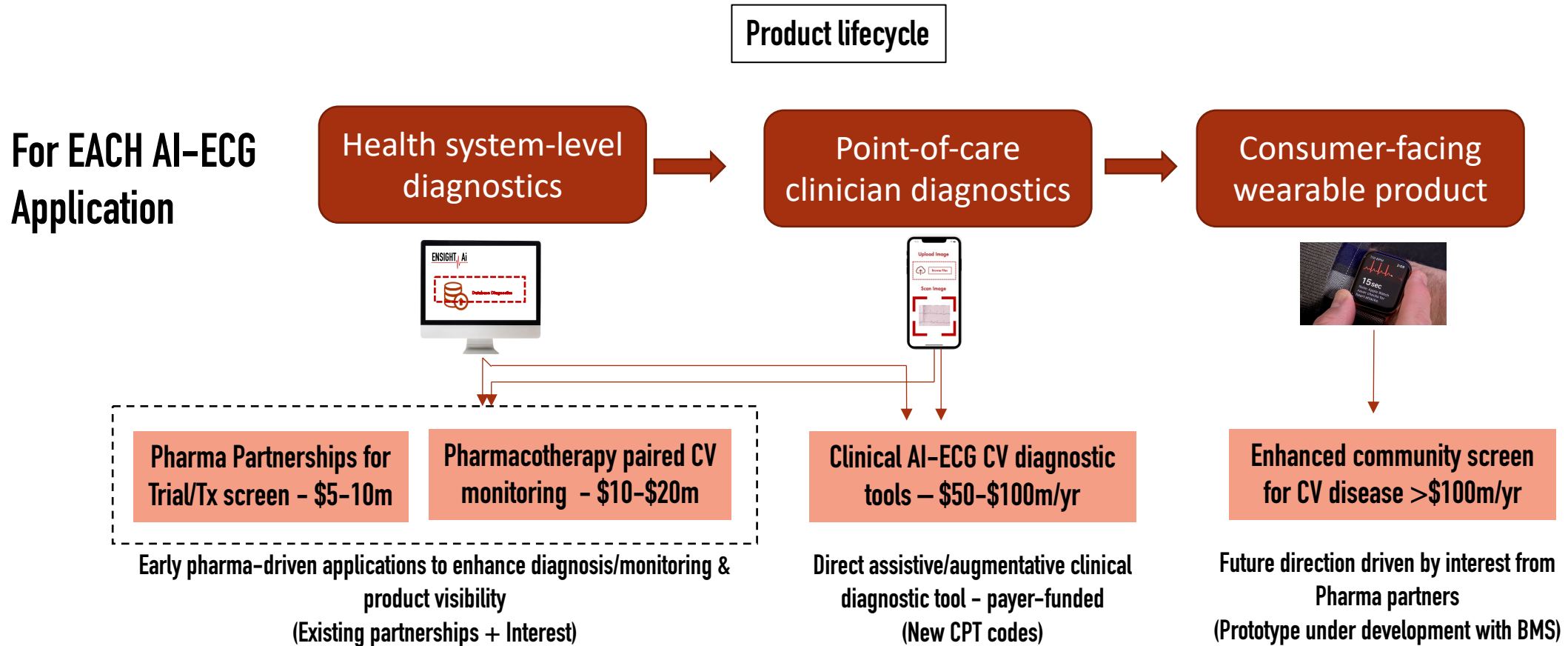


# 12-month Roadmap for Product Suite: Primed for Exponential Growth



 Robust IP portfolio will protect around image-based AI-ECG analysis as an approach

# Phased Go-To-Market approach encompasses Pharma partnerships and point-of-care applications for EACH PRODUCT



# Competitive Landscape: Overview of Key Competitors

---



**"TEMPUS**

# Our Distinguishing Features and Key Advantages

---

Direct *ECG-Image*  
based Inference\*

Broad suite of  
Individual Products  
*(at par or exceeds competition)*

Diverse patient  
populations

Clinically rigorous and  
robust models

Global interoperability • Infinitely scalable • Versatile deployment

Existing Relationship with Bristol-Myers Squibb

# Our current focus:

## A push to accelerate regulatory approval for SMART-LV product

---

### Target Product: SMART-LV\*

ECG Image-Based LV ejection fraction model

- 5% adult prevalence, 7 in 8 undiagnosed
- Active area of therapeutic development

**1**

Contract with  
Prominent Regulatory  
Consulting Team

**2**

Large Independent  
Validation Studies

**3**

Business plan with  
broader product  
strategy

\*Smartphone-adaptable Artificial Intelligence for PRediction and DeTection of Left Ventricular Systolic Dysfunction

---

# Awards and Successes

---

## Elizabeth-Barrett Connor Award

*National award for Scientific Excellence*



**American  
Heart  
Association.**

## Blavatnik Award

*\$300K in non-dilutive capital from Yale*



Yale Innovation

## Rita Wilson Prize

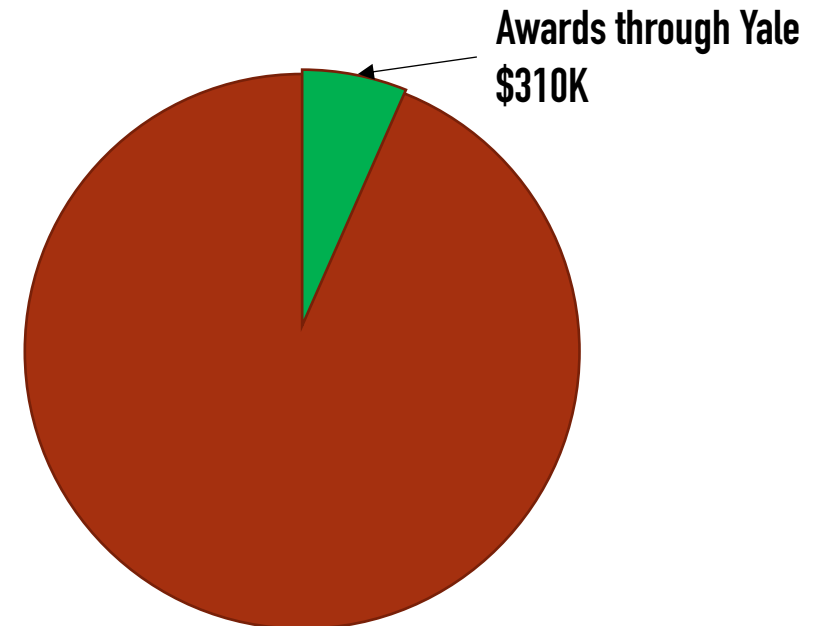
*\$10K Award from Yale*

**YALE  
VENTURES**

# Our Ask

- **Partnership**: Investors & partners with strong interest in transformative health technology
- **Resources**: Roadmap for multiple products to market in the next 12 months. Following needed in 12-18 months:
  - Regulatory team
  - Executive and business team
  - Software team

Resources needed: \$4-5m



# Thank you

**ENSIGHT Ai**

*The Future of Cardiovascular Diagnostics*

[contact@ensight-ai.com](mailto:contact@ensight-ai.com)

(573) 818-4471

**SMART-LV**  
(Fully functional demo)

