

## Top Deal: Self Screening to Keep Patients Out of the Hospital



### Key Deal Stats:

- Company: [Innamed](#)
- Raising Platform: Republic
- Valuation Cap: \$12M
- Discount: 0%
- Raise Type: Seed
- Security: Crowd SAFE
- Minimum Investment: \$60
- Raise Completion Date: August 1st, 2019
- At the time of publication, 5/14/19, InnaMed had raised \$238,625K

*The Innamed team has been selected as a “Deal To Watch” by KingsCrowd. This distinction is reserved for deals selected into the [top 10-20% of our due diligence funnel](#). If you have questions regarding our*

*deal diligence and selection methodology please reach out to [hello@kingscrowd.com](mailto:hello@kingscrowd.com).*

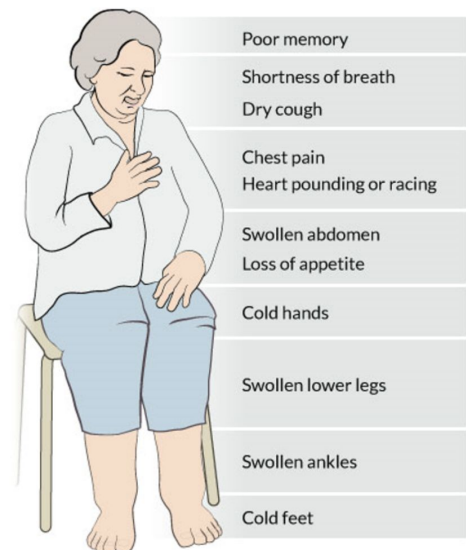
## **The Problem:**

Congestive Heart Failure (HF) is a chronic disorder where a patient's heart isn't pumping enough blood to provide the body with the nutrients it needs. It's most commonly found in people who are over 65, African American, overweight, and/or have endured a heart attack.

The complication causes chest pain, fatigue, coughing, shortness of breath, edema, and a myriad of other symptoms. Today, 6M people are suffering from HF, and it remains one of the leading causes of hospitalization for US patients over the age of 60.

The average hospital readmission rate for heart failure is [more than 20%](#) within a month of treatment, costing hospitals millions. Given the fact that hospitals make money by treating patents, not ensuring they are healthy, each readmission increases the bill for the patient. In response, insurance companies established penalties for hospitals that have high readmission rates, as this means that their care outcomes aren't successful in the long term.

Hospitals need a way to lower their readmission rates, while patients need better standard for care to stay healthy. As of now, some patients may be afraid of going to the hospital due to admission costs of nearly \$13K.



Other patients may rush to the ER at the onset of heart-attack-like symptoms, resulting in hospitals experiencing a Medicare penalty. There is a strong need for a solution.

Healthcare companies are now supporting technology that monitors patients' health in order to manage their disorders. Yet, the leading technological solutions are not only invasive, but also don't provide valuable enough information given their high cost.

### **The Solution:**

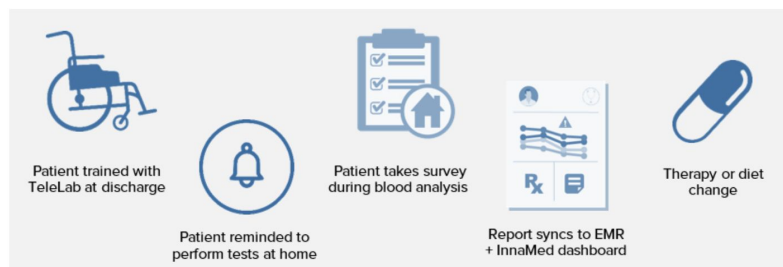
InnaMed is creating a blood testing device called the TeleLab that allows patients to painlessly take samples from home, send data to their doctor, and remotely receive clinical advice to treat their heart failure complications.

At the moment, very few blood tests can be performed at home-- primarily glucose testing for diabetic patients. For patients to get a blood test, they would have to schedule an appointment, travel to a hospital, wait for service, and follow up in the future.

It requires time, effort and money to do so. Considering more than 70% of clinical decisions need blood testing to form a diagnosis, the TeleLab is an efficient tool for at-home use.

By eliminating barriers to personal blood testing, InnaMed will improve patient well-being. The TeleLab records health data, and uses both algorithms and doctoral recommendations for treatment purposes.

The TeleLab will be able to use management protocols



to communicate with the patient remotely, provide new instructions, schedule an appointment, or adjust a dose. This is effective because heart failure treatment has a lot to do with a patient's day-to-day behavior, such as diet, exercise, and quantity drug ingestion.

In addition to the TeleLab, InnaMed is developing custom blood sample test cartridges for use with the machine. The TeleKidney test will measure creatine, blood urea nitrogen, sodium, and potassium levels to check the renal status of the heart failure patient.

Further, the TeleHeart cartridge will quantify NT-proBNP, hematocrit, hemoglobin, and other proteins. NT-proBNP levels increase when heart failure develops, and (among other measurements) will guide patient outcomes.

### **An Effective Business Model:**

In terms of logistics, doctors would train the patient with the TeleLab before leaving the hospital. The patient would get reminded to perform tests, which sync to the doctor. It is tough to replicate the low-cost nature of the platform and its ability to perform tests at clinical functionality. Currently, similar services do not exist over the counter.

Although InnaMed does not yet have products on the market, as they are in the R&D phase, they do possess licensed tech. The firm's Electrochemical Proximity Assay and Differential Potentiostat, the process by which they detect blood proteins and small molecules, is patented.

They have a license agreement with Auburn University to use their Nanostructure technology. InnaMed has also established their own method for reducing "noise" in electrochemical data for their at-home testing software.

Despite the lack of evidence for success, InnaMed currently has \$400K worth of contracts with US Government Agencies and is collaborating with “big pharma”. InnaMed relies on readily available materials purchased from large pharmaceutical suppliers (such as ThermoFisher), along with custom reagents obtained through relationships with other smaller suppliers.



The company’s goal is to sell products directly to hospitals, clinics, pharma companies, and other related facilities through a B2B model.

Pharma companies will use the product to collect patient data in clinical trials. For use within a doctor’s office, InnaMed will price the TeleLab and cartridges on a per unit and per cartage basis.

For patients, InnaMed will charge a subscription fee for the extent of time that the patient has the machine. InnaMed plans to work with insurance companies to make their product affordable to the masses and ensure the rapid adoption of the product.

### **Heart Health Industry:**

InnaMed’s initial goal is to target the heart failure market with their blood test cartridges. The initial cardiac diagnostics and patient monitoring market is valued at over \$3B. Congestive heart failure treatment devices will register a 5.7% CAGR in revenue, and reach a global market size of [\\$15.4B](#) by 2023 globally. Heart failure is a growing public health concern for the aging Baby Boomer population.

InnaMed defines their competitors as either market-based or technology-based.

In terms of market-based competition, this includes companies with patient monitoring technology, such as wearable wristbands and bluetooth weight scales.

For example, [Health Recovery Solutions](#) is developing a software to provide patients with “engagement kits” that essentially show disease-specific videos, display care plans, remind them of dosage, and collect data.

With respect to technology-based competition, which includes similar blood testing technology, there are a few other companies researching this solution. Yet, none of them have been approved by the FDA.

Strong competitor, [Cue Health](#), offers a similar self-serve test platform, which is powered by the patient’s mobile device. They have recently completed a \$45M Series B funding round, and announced a \$30M funding contract from the US Department of Health.

InnaMed claims to have more sensitive and specific technology than the market competitors, while also having a more affordable and quantitative solution than the tech-based competition. Regardless, there is a large market opportunity to pursue with room for more than one competitor.

### **The InnaMed Founders:**

CEO [Alan Jernigan](#) has experience running multiple other companies. He served as the CCO of One Lambda, Inc, a biotech company aimed at transplant diagnosis, which was acquired for \$950M. Also serving as the President & CEO of EZDiagnostix, the company was eventually acquired for \$80M.

After, Jernigan served as President and CEO for EDP Biotech Corporation, in which he promoted company growth aimed at efficiently diagnosing

cases of cancer throughout the world. EDP was acquired for \$100M. Jernigan has a strong background in effectively managing life science based firms, which directly translate to the success of InnaMed.

The Co-founder and CPO, [Eshwar Inapuri](#) is a graduate of the University of Pennsylvania, where he acquired a degree in Bioengineering. Inapuri worked in R&D for the University of Michigan Center for Arrhythmia research, where he programmed a model for laser propagation in heart tissue. Furthermore, Inapuri's R&D research for UPenn resulted in a smartphone-based assay for proteins and DNA analysis, which led to a private company ChipDx.

The other InnaMed Co-founder, Chief Science Officer [Anup Singh](#), has a master's degree in biophysics from UPenn, and a doctorate and bioengineering degree from UCLA. He had done research in the field of cancer diagnosis and brain injury trauma recovery. Singh has a variety of published works in peer-reviewed journals.

Finally, InnaMed's Chief Medical Officer [Kenneth Fang](#), received his medical doctorate from the UPenn School of Medicine. He served as the Head of Translational Research and Clinical Development at Modus BioMedicine, served as an Assistant Professor at UCSF, and was CMO of two biotech companies (Diadexus and Integrated Diagnostics).

### **Why We Like It:**

**Early Confidence:** InnaMed was founded in 2016 by UPenn students who developed the concept in school. The idea went to BoomTown Health Accelerator, and was later accepted into the acclaimed YCombinator accelerator program, where it made development progress and gained market research traction.

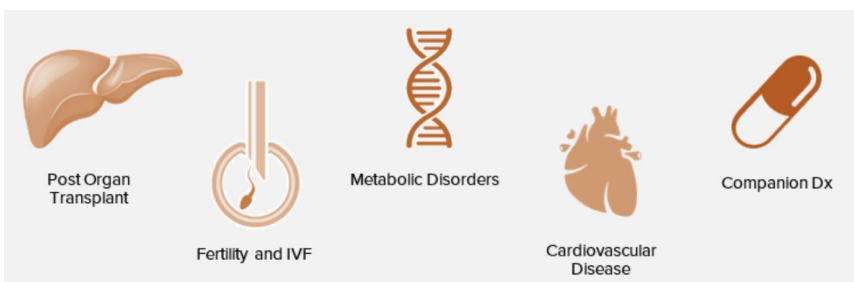
YCombinator is considered among the top US accelerators, investing in Dropbox, Airbnb, DoorDash, and Reddit. They have raised over \$1M from Silicon Valley investors.

**Vertically Integrated Vision for Success:** Considering most of the aspects of managing heart failure is performed manually in individual costly steps, including data collection, analysis, decision making, and communication, there is room for increased efficiency. Since the TeleLab covers all of these aspects, it works to simplify the process entirely, thus ensuring its value within the market.

**Flexible Business Plan:** InnaMed's business structure allows the company to easily expand into other markets, such as metabolic disorders or post-organ transplant care, with newly developed tech. After tackling the heart failure market,

they plan to grow towards the \$50B+ outpatient blood testing market, a huge market opportunity. Potential for market expansion

would simply revolve around developing new tests and cartridges that work with the existing TeleLab.



**A Plan for the Future:** InnaMed has a timeline of tasks in order to get TeleLab to market. They will first need to acquire clinical validation of their TeleHeart test. After, they will have a Series A funding round, beta test their product, put a quality system in place, launch the initial product, and finally get FDA clearance.

### **The Rating: Top Deal**

InnaMed is a Top Deal. On one side of things, the success of the product relies primarily on future human studies and getting FDA approval.



Moreover, the company's operations have resulted in a \$400K annual net loss over the past two years. This, however, is expected within the med-tech industry.

The company has a valuation of \$12M, and is providing securities at a minimum investment of \$60 (with a 0% discount). If maximum funding is reached, about 63% of funds will go towards technology development, and about 30% will go towards employee salaries.

With a strong founding team with multiple exists, significant backing from startup accelerators, and an innovative technological solution, InnaMed is likely to be a strong candidate for acquisition within the healthcare field at a large valuation well into the hundreds of millions.

Again this investment comes with heightened risk due to the nature of needing FDA approval and the challenges associated with developing innovative diagnostic testing tools like this. However, their experienced management team and proof points to date are enough to exhibit potential signs of significant market upside in the future.

For this reason, we at KingsCrowd think this is a Top Deal. If you're interested, check it out [HERE](#).