



## **PROJECTS BRIEF Q1 2018**

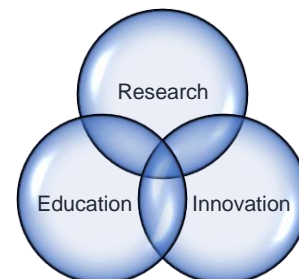


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## ABOUT US

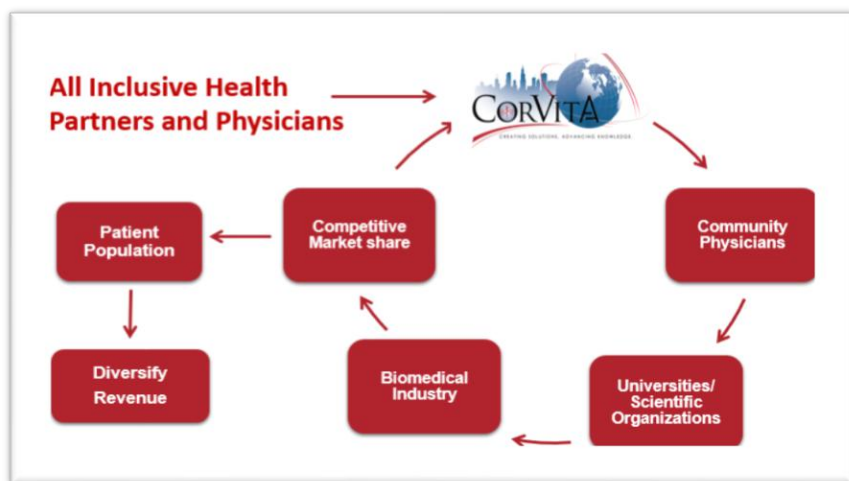
The CorVita Science Foundation (CSF) is a Chicago-based nonprofit (501(c)(3)) dedicated to the accessibility and advancement of cardiovascular clinical and translational science at home and abroad.

While the academic medical center is the traditional realm for clinical trials and partnerships, the CSF is devoted to fostering an opportunity that offers global cardiovascular research projects and collaboration without exclusivity. Our inclusive approach and focus for ongoing education, training and mentorship, is designed to improve care and outcomes, to heighten clinical knowledge and to expand a high quality, expert and experienced research infrastructure to realize clinical trial enrollment efficiencies but more importantly big data depositories of officiated



events/outcomes for machine learning.

CSF partnerships with the biomedicine industry will introduce a new and innovative clinical data process. CSF will provide the infrastructure, educational content and direction as well as clinical data oversight and adjudication to advance the efficiency and quality of a new paradigm of clinical research amongst our partners.



Device Industry	Pharma Industry	Engineering	Biomedical Startups	Global Tech
<ul style="list-style-type: none"> <li>Successfully performed and enrolled in 50 + clinical and animal trials/studies in last 10 years mostly IDE level</li> <li>Successfully navigated and passed IDE FDA audits</li> <li>25 year relationships with established industry leaders</li> </ul>	<ul style="list-style-type: none"> <li>Successfully performed and enrolled in 10 clinical trials in last 10 years</li> <li>Leaders in the Chicago area for CME events linking progressive care to colleagues, industry and partners</li> <li>Known experts in clinical science worldwide with access to projects</li> </ul>	<ul style="list-style-type: none"> <li>Link to Illinois Institute of Technology Pritzker Biomedical Engineering Center.</li> <li>Access MWU BSE/DO program and curriculum</li> <li>Adjunct faculty at University of Amsterdam</li> </ul>	<ul style="list-style-type: none"> <li>Consults with new medical startups on R&amp;D</li> <li>Identifies new tech ideas at various levels of funding and development in their research plans through Venture groups</li> <li>Provides access to outside US research labs to perform early stage feasibility data collection</li> </ul>	<ul style="list-style-type: none"> <li>Centers of excellence in education and machine learning links to a global tech network using internet, telephony and social media: <ul style="list-style-type: none"> <li>IBM</li> <li>Google</li> <li>Apple</li> <li>Amazon</li> <li>Facebook</li> <li>Microsoft</li> </ul> </li> </ul>

**Doctor/Patient Relationship**



**CorVita Science**



**Biomedicine Clinical Projects**



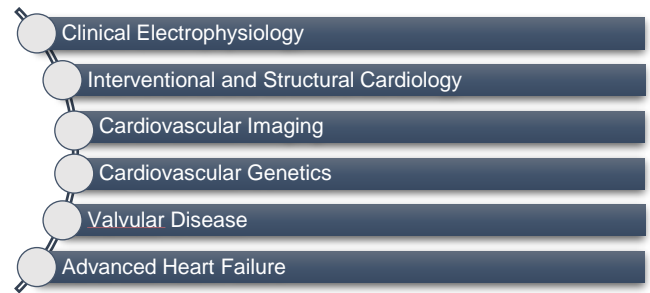
**ROI**

## CURRENT PARTNERS / AFFILIATIONS



## **COUNCIL LEADERSHIP**

Council leaders in CSF are responsible for motivating colleagues, building interest groups and networks of doctors and patients, finding and assigning resources for projects in data acquisition, and act as mentors and educators to students, residents and fellows.



## **DATA DEPOSITORIES**

A major CSF initiative has been to link our data collection and adjudication processes to super-computing centers at the University of Illinois and the University of Amsterdam. These big data hubs can process 200,000 events in six minutes using basic deep neural network learning algorithms. Powerful computing and cyber infrastructure combined with our clinical data depositories can determine the course and progression of a cardiovascular disease and will help identify ways for improving outcomes over a longer follow-up.

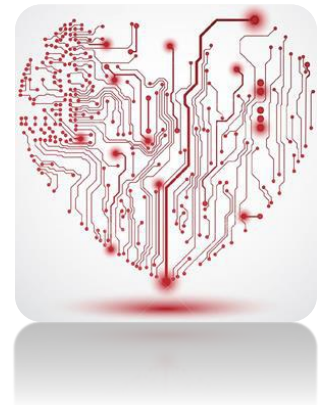
The depositories will gather patient information from physicians and clinics globally. The depositories will track treatment patterns (trends) and how they differ from physician to physician, hospital to hospital, medication to medication, patient to patient, and intervention to intervention. The depositories will be set up to match demographics and outcomes to very specific digital electrocardiography, imaging, and electro-anatomical mapping data.

The depositories will be managed through official intelligence using experts in the field to classify and bin the highly selective digital data to then be used by data hubs and machine learning algorithms. Machine learning algorithms can only learn using official intelligence that is collected and adjudicated en masse.

## **CENTER FOR MACHINE LEARNING**

CSF has developed a playground for experts and clinical care data scientists, computer scientists, engineers, and students to explore the value and power of machine learning in cardiovascular medicine.

The concept behind the Center is to concentrate on selecting from CSF's large data depositories the most focused and efficient way to deliver deep learning that improves patient outcomes.



## **GLOBAL MEDICAL EDUCATION**



symposia and workshops set the stage for global team building and asset development.

CSF will provide education, mentorship and “hands-on” research experience to all clinical personnel. Throughout the year, CSF provides live didactic symposia in order to progress patient care globally. In addition, CSF continues to host high level workshops that are more specific to initiatives and projects deemed important by the Councils. These



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