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## ACC Innovation Hub Toolkit

A Roadmap to Creating Your Own Local Innovation Hub in Cardiology



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**1. Mission Statement:**

Empowering ACC Health Care Innovation Section members to create and grow local Innovation Hubs that connect health visionaries into an organized community.

**2. Background:**

In 2017, the ACC [published a policy statement](#) to “...better understand the scope of the challenges in implementing new health care innovations. The chief goal was to identify the necessary actions for the ACC and members to support advances in these arenas, as well as foster multidisciplinary partnerships across the spectrum of health care stakeholders. An essential component for successfully navigating this Roadmap for Innovation relies on the collaboration and creation of new partnerships and projects. As a direct result of this policy statement, the ACC created a new Health Care Innovation Member Workgroup to promote career development and develop an interactive community centered around emerging technologies in cardiology. In an effort to reach and engage members beyond the traditional venues (e.g., annual scientific sessions, *ACC.org*, social media) and encourage face-to-face networking and education, the ACC Health Care Innovation Section created a toolkit to assist motivated members to create their own regional Innovation Hubs and help fulfill ACC’s initial Mile Markers for Success as outlined in the Roadmap for Innovation (Figure 1).

A local Innovation Hub can (Table 1).



**Figure 1:** Taking the First Step.



### 3. Innovation Hub Toolkit

A regional ACC Innovation Hub should prioritize education, engagement of members, scalability, networking and career development. ACC Innovation Hubs are not intended to serve as an accelerator or source of investment. Rather, the overarching goal is to establish a community of individuals who share a passion for innovation in cardiology, meeting locally with key stakeholders to learn from invited thought leaders and connect with regional resources (Table 1). A framework for initial deployment would be to organize quarterly events highlighting topics within innovation around a short presentation with audience interaction. These events could take the format of didactics, panel discussions or individual fireside Q&A sessions, speed networking sessions, design workshops, or others. If successful, the frequency of these events may increase. These hubs should serve as nexus to educate members on important topics surrounding innovation and create connections that can mature into collaborations for ideas and products. Continuation of this dialogue with further planning, research, development and commercialization can be pursued through established channels (e.g., accelerators, angel investment, innovation fund applications or grants). Each Innovation Hub operates independently as an extension of ACC's Health Care Innovation Section, helping to implement the Roadmap's Mile Markers of Success.

**Table 1**

Local Innovation Hub Description

What it is	What it is not
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Community of multi-disciplinary individuals focused on the impact of emerging technologies on cardiovascular medicine	Accelerator / Source of Investment
Flexible, customizable events-based gatherings to educate, network, create new working relationships, and meet thought-leaders within cardiovascular innovation	Biodesign or Design Thinking program

### 3.1 Key Stakeholders





**Figure 2:** Representation of The Key Stakeholders For an Innovation Hub

### **3.1.1 ACC Health Care Innovation Section Members**

Highly motivated ACC Health Care Innovation Section Members will be the primary drivers for organizing, establishing and maintaining the local innovation hubs. First, local members will need to connect and establish a core team to strategize and develop their Hub's overall mission statement and goals, which may vary based on geographic region and local interest. Discovery and recruitment of key stakeholders described below is a critical step for advancing beyond the planning stage.

Opportunities to establish initial contacts include the ACC state chapter, technology-focused local meetups, locally based startup and established companies, regional university or private innovation centers and accelerators, social media accounts such as LinkedIn and Twitter, regional and national conferences, and personal referrals through the ACC Health Care Innovation Section.

### **3.1.2 ACC Health Care Innovation Council and Workgroups**

The ACC Health Care Innovation Council and Workgroups can assist with efforts to launch, promote and provide educational content for local Innovation Hubs.

Thoughtful and important topics will be curated by the ACC Health Care Innovation Section, with the flexibility of local Hubs to select the most relevant topics (see Syllabus content 3.2). Support for establishing connections with other members and



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industry partners, as well as promotion for events for each Hub, will be provided via Section newsletters and social media platforms. Other resources to promote and recruit members include the ACC Member Hub, American Medical Association Physician Innovation Network, Society of Physician Entrepreneurs and platforms such as MeetUp. While the ACC Health Care Innovation Section does not have the capability to maintain a centralized Meetup account, local Hubs can create and customize their own account to facilitate communication with members about events beyond cardiology alone. This will also provide a platform to assess membership size, growth and attendance at events. Affiliation with the ACC will also provide brand recognition that will facilitate the ability for local section members to engage and recruit interested partners.

### **3.1.3 ACC State Chapters**

Engaging with a local ACC presence through the state chapters is an important component for creating an Innovation Hub. ACC state chapters already have an established membership base along with potential resources to assist with pilot funding and implementation. Buy-in and administrative support from the state chapter leadership is a critical component for success. Demonstrating value to ACC state members and aligning with the state chapter's goals and objectives will be essential to successfully engaging this important stakeholder.



### **3.1.4 Industry and Startup Partners**

Discovery and engagement of industry and startup partners is also of paramount importance, as the ability to form mutually beneficial relationships is one of the major goals of creating local Innovation Hubs. Finding interested parties, however, can be challenging, and we propose initially contacting potential partners by leveraging social media and LinkedIn, local and national conferences, and universities about co-hosting events in the early stages of development. Options to discover local startups and early stage companies include various channels such as AngelMD, Crunchbase or other stakeholders mentioned in this document (ACC Health Care Innovation Section, ACC state chapters, local accelerators, universities and medical centers).

### **3.1.5 Angel Investors, Venture Capital and Other Investors**

Investors who hold financial incentives to discover promising ideas, startups and talent are important supporters of innovation. Investors have been important drivers of connecting individuals through other established hubs, particularly on a larger scale that requires higher levels of funding. The [UCSF Health Hub](#) is one example highlighting this model.

### **3.1.6 Universities and Integrated Health Systems**



Partnering with universities or integrated health systems can be beneficial as well, as faculty can be invited speakers and events can be potentially co-hosted, which would provide additional support for securing a venue. A positive relationship also helps create a pipeline for students and faculty of nonclinical backgrounds (e.g., engineering, business, design, etc.) to meet clinical members. Integrated health systems can incorporate both Academic Medical Centers or other large health systems that manage a large population of patients (e.g., Kaiser Permanente, Ascension, HCA, Intermountain Healthcare, etc.).

### **3.1.7 Health Care Professionals**

Growth of the ACC Health Care Innovation Section membership will be an important metric of success, and reaching interested physicians and other health care team members who endorse interest in Innovation – whether out of intellectual curiosity or to build upon as a potential career path – will be essential to targeting success. Collaboration with established ACC Sections such as the Fellows in Training, Early Career or Women in Cardiology Sections may also increase membership interest and expanded reach.

### **3.1.8 Non-Health Care Professionals and Students**

Innovation requires collaboration with engineers, designers and professionals who understand the economics and market forces required to create, study and test



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products and new solutions. Linking these stakeholders with clinical members is a critical component for creation of a successful Innovation Hub. Universities and professionally agnostic platforms such as MeetUp are a great source to engage non-health care members interested in health technology.



## **3.2 Syllabus**

The ACC Health Care Innovation Section proposes standardizing a flexible curriculum of relevant topics that will be regularly updated and can be tailored and individualized for each regional Hub.

### **3.2.1 Proposed Topics**

#### **3.2.1.1 Advanced Health Care and Analytics**

- Artificial Intelligence (AI), Machine Learning and the Future of Health Care: Focus on Cardiovascular Disease. AI is a powerful tool that has the potential to streamline and automate many distinct areas within cardiology. Additional resources to familiarize and organize content in this section include the upcoming Advanced Analytics and AI Learning Center, currently in development through the ACC Health Care Innovation section.

#### **Suggested Topics:**

- Computer Vision and Deep Learning in Cardiology
- Natural Language Processing, Voice and Conversational AI in Medicine
- Blockchain and Health Care Data Security



- Navigating the Ocean of Digitized Medical Data (Cloud Based Infrastructure as a Service [IaaS], the Future of EHRs, etc.)

### **3.2.1.2 Digital Health, Devices and Virtual Care.**

- The FDA defines Digital Health as “... categories such as mobile health (mHealth), health information technology, wearable devices, telehealth and telemedicine, and personalized medicine.” These tools may alter the traditional models of patient care, increasing both the amount of actionable data generated by users and also facilitating interaction and communication between health care providers and patients.

#### **Suggested Topics**

- The Role of Telehealth and Virtual Visits in Cardiovascular Care
- The Implications of Direct-to-Consumer Cardiac Technology
- Virtual Reality and Augmented Reality in Cardiovascular Care
- Tools to Improve Health, Wellness and Behavioral Change

### **3.2.1.3 Precision Medicine**

- Also referred to as personalized medicine, precision medicine encompasses approaches aimed at finding a customized, individually tailored health care solution that uniquely benefits a patient.



**Suggested Topics:**

- AI, Drug Development and Cardiovascular Disease
- The Genomic Risk Score and Advancing Risk Prediction through a Big Data approach to genomics.
- Personalized Medical Therapy for Heart Failure, Myocardial Infarction, Arrhythmia

**3.2.1.4 Career Development and Entrepreneurship**

- Mentorship, networking and a spirit of entrepreneurship are skills and connections that need to be developed over time. Assembling a successful team requires working cross-functionality with great communication skills.

**Suggested Topics:**

- C.H.I.E.F. (Cardiovascular Health Care Innovation and Entrepreneurship Framework) – Getting Your Career in Innovation Started. Content available through the ACC Health Care Innovation Section
- Innovation Bootcamp/Hackathon
- Careers in Med-Tech, Finding Your Non-Traditional Career Pathway



- Navigating the Business of Health Care as a Startup
- Speed Networking Events and Pitch Competitions

### **3.2.1.5 Academia and Clinical Practice**

- Working with large entities such as universities or integrated medical centers to promote innovation carries distinct advantages and disadvantages.

#### **Suggested Topics:**

- Clinical Trials in Digital Health: Rethinking the traditional Pilot and RCT
- Scaling Digital Health Initiatives in Health Systems
- Data Overload - Successfully Evaluating and Integrating Emerging Technologies into Clinical Practice
- Creating Value as Digital Health Innovator in the Academic Setting
- Interoperability and the Electronic Health Record
- Transitioning from Academia/Clinical Practice to Industry



### **3.3 Event Planning and Administrative Tasks**

#### **3.3.1 Format and Frequency**

We recommend organizing events quarterly, with the format decided upon by each Hub. While in the planning stage, attending well-established meetup groups and speaking with their organizers will provide insight into membership engagement and growth, as well as partnerships for industry support.

Recommended formats include moderated panel discussions, fireside Q&A sessions, innovation bootcamps/hackathons, among others. These can be preceded by and followed by traditional or speed networking, pitch competitions, or a showcase of local start-ups, research projects, or collaborative projects. If engaging industry partners, demonstration of products could also occur during this time. Timing of these events near ACC state chapter meetings, conferences or co-hosted events with neighboring groups (Society of Physician Entrepreneurs, startups, integrated medical centers, universities, etc.) may help expand the reach and attendance of the Innovation Hub Events, as well as reduce barriers for a successful launch.

#### **3.3.2 Finding and Inviting Speakers**

As described earlier, locating and inviting speakers will require the ACC Health Care Innovation Section Members organizing the local Hub to reach out to key



stakeholders described in detail above based on topics that are felt to be most relevant to the local Hub.

### **3.3.3 Budgeting and Marketing**

Costs to consider in establishing and budgeting for a local Hub include the cost of securing a venue, audio/video equipment if necessary, and food and drink costs.

Overhead such as marketing can be minimized by creating a Meetup account to organize events and track attendance, promotion of events through the ACC Health Care Innovation Section page and email listserv, and social media.

Funding to help cover overhead costs can be obtained through donations, fundraising, ticket sales to events, sponsorships from local businesses, startups, industry and integrated medical centers. Depending on the size of attendance and venue, a conservative estimate of \$500 to \$1,000 per event may be considered a reasonable sum. In the early stages of launch, assistance with initial funding may be best offset through partnering with an ACC state chapter for a pilot series of events, or through co-hosting events with interested integrated medical centers or industry sponsors.

### **3.3.4 Venue**



Venue location is at the discretion of the local Hub. We recommend discussing with local stakeholders to assess if venues at office buildings, conference rooms or other suitable locations can be utilized to host the event and minimize costs. Other potential locations could include restaurants and bars or event spaces, which can be found using local business searches (Google, Yelp, Peerspace, etc.). Private areas which allow for adequate space for networking, use of audio and visual equipment, and environment without noisy acoustics are optimal settings.

### **3.4 Venue**

#### **3.4.1 Membership, Growth and Satisfaction**

Utilizing a Meetup account, each regional hub will be able to track membership within the Hub, attendance at events and growth rate of new membership. Member satisfaction for each event can be tracked through a standardized online survey such as SurveyMonkey, Qualtrics, Google Forms, etc. to provide feedback and opportunities for improvement at future events.



### **3.5 Case Study: ACC Health Care Innovation Section and ACC State Chapter (California and New York) Pilot Project**

In 2019, the ACC Health Care Innovation Section, in partnership with the ACC California and New York State Chapters, were awarded a \$10,000 grant to develop a pilot initiative aimed at building out local innovation hubs as outlined in this document. Each state received \$5,000 of the grant to develop the infrastructure of the Innovation Hub, while the ACC Health Care Innovation Section was tasked with the development of a toolkit to help develop content and serve as a roadmap for other state chapters and Section members.

The ACC California and New York State Chapters already had events for their state chapters, which had been previously planned for 2019. The grant money provided additional support to assist with building out a local Innovation hub. On Aug. 2, 2019, the ACC New York State Chapter hosted an Innovation Challenge at their annual meeting to support a pitch competition from several promising startups. On Oct. 29, 2019, the ACC California State Chapter planned and hosted a one-day event titled, “A Colloquium on Artificial Intelligence, Technology, Innovation and the Future of Cardiology.” The evening prior to the colloquium, a meetup was held at a hotel with a low-key talk to attendees by ACC California Technology Committee Chair **Irving K. Loh, MD, FACC**.



### What Worked Well

- Utilize existing events if possible to launch. Both state chapters already had events that were planned, providing an opportunity to engage several stakeholders from the beginning.
- ACC Health Care Innovation Section Members and ACC state members are hungry for Innovation. Workgroups and state members expressed significant interest in attending not only the events above, but others as well if locally available. Feedback from the New York and California events were overwhelmingly positive.
- Overall objective was met. The events helped connect multidisciplinary individuals focused on the impact of emerging technologies on cardiovascular medicine, and a toolkit for use by Section and state members was created. Focusing on growing and expanding these events at a smaller, more local scale will be the next goal.

### Areas For Improvement/Lessons Learned

- Assemble small, geographically local teams. It can be difficult to try and collaborate across a large geographic area (Northern vs. Southern California, Upstate vs. Downstate New York).
- Don not try to launch too big initially, and do not be discouraged by attendance if low initially. Set realistic goals and timelines to build and sustain momentum.



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- Ensure clear communication among stakeholders. Establishing clear roles and responsibilities for team members early on in the process should minimize any miscommunication or delays.
- Stay focused. There are many problems to solve, pick one that is most relevant to your stakeholders. Find what resonates with your colleagues.