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Launching the New American College of Cardiology Research Network:

Advancing High-Value Collaborative Research via "Innovative Networking"

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The landscape of research and academic medicine is changing significantly, especially for the early career professional (ECP) cardiologist. The recent viewpoint paper in the *Journal* detailing the challenges of the early career academic cardiologist crystallizes this complex situation (1). Although there is a clear desire to conduct research among those surveyed, there are major obstacles to achieving a successful research career. Two of the major challenges identified by ECPs are a lack of collaborators and a lack of research mentors to assist in generating the needed data to produce a competitive grant application. As identified by the survey, a lack of collaborators and mentors negatively affects one's ability to achieve viable research funding (1). The most vulnerable are cardiology fellows and junior investigators who are new to research, especially those with nontraditional research interests, who can struggle to find mentorship within their institutions. Those who are new to research must often rely on informal networking with speakers who are invited to give grand rounds within their institution or at national conferences. For a minority, these haphazard meetings may turn into successful long-term research collaborations, but for many, they unfortunately do not. Additionally, for ECPs already involved in research, there is inadequate access to new techniques and innovations as a direct result of the absence of comprehensive and collaborative research-oriented networks. For example, short-term access to expensive equipment or needed reagents may be the limiting factor in one's research endeavors. Indeed, as highlighted in a recent Leadership Page in the *Journal*, there is little national investment in research networks, leading to many inefficiencies and unnecessary delays (2).

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Declining federal research funding combined with an increasing applicant pool has created many challenges for academic cardiologists, especially ECPs (1). The lack of sustainable research funding threatens ECPs during the most vulnerable phase of their careers (1). Because of the decreasing funding opportunities, there is an increasing need to share limited research resources and form broad collaborations and partnerships between investigators and institutions (1,2). To be successful in a competitive funding environment, ECPs need timely access to research resources that may not be available at their immediate home institutions. These resources include methodologies, techniques, equipment, disease models, and patient databases.

Of ECPs recently surveyed, <15% believe that their home institutions possess sufficient resources to support their research, including necessary connections to collaborators (1). Funding organizations such as the National Institutes of Health (NIH) have now emphasized the importance of multilevel research collaborations between investigators at the basic science, clinical, and translational levels (3). Unfortunately, achieving this multilevel collaboration can be difficult for ECPs.

Currently, minimal resources exist for academic ECPs looking to work collaboratively or share resources for research. Although informal collaborations do exist among senior project investigators (PIs) within academic institutions, junior investigators seeking to work in a new research area have a harder time accessing these networks. Although the NIH and other large governmental funding organizations originally intended that tax payer–invested dollars would allow researchers to share knowledge and resources, in everyday practice this does not often occur.

As discussed in a recent Fellows-in-Training and Early Career Page in the *Journal* on the value of mentorship (4), the early career professionals section of the American College of Cardiology (ACC) has endeavored to build a College-wide mentorship database and system to address part of this need. Although this may help lead ECPs to a qualified mentor, access to regional expertise, equipment, and techniques is still significantly limited.

There are a few notable examples of resource sharing (Table 1), but most have significant limitations. One such example is the NIH/National Heart, Lung, and Blood Institute's BioLINCC, which allows the potential sharing of biologic specimens. However, this resource is limited in scope and only includes NIH-funded research. The ACC research and career development awards page only lists available awards and does not allow for any shared resources. The same is true of the American Heart Association's research resources. The recently launched American Heart Association's Professional Online Network provides a discussion forum and a basic directory of members without the ability to search for research projects or those actively seeking collaborators. The NIH RePORTER provides a description of NIH-funded grants only and resultant patents, publications, or other tangibles without the capability to interact or collaborate with investigators. Similarly, the Agency for Healthcare Research and Quality Grants On-Line Database also shares names of awardees and summaries of funded grants but does not provide a direct way to contact or collaborate with PIs. Finally, the ACC has partnered with InfoEd (Albany, New York) to provide

information on research funding and additional training opportunities without the ability to collaborate jointly.

In short, each of the above resources does not provide for the capability to regionally locate peers in one's field of research, contact them, share skills, share technology, or share equipment. Furthermore, the identified resources are limited in scope to specific funding agencies. Consequently, the ability for ECPs to quickly and easily use these existing resources to further their research through collaboration is currently very limited.

To begin to bridge this gap and as a potential solution to some of the current challenges facing ECPs, the Early Career Section Leadership Council's Academic Working Group, in collaboration with the Academic Cardiology Section, is implementing the ACC Research Network. The Research Network will serve as a data warehouse for researchers on the state, national, and international level. The intended purpose of the Research Network will be to facilitate the creation of wide-reaching collaborations and to allow researchers—whether they are clinical, translational, or basic-science oriented—to connect with others with similar interests and to access different research applications and techniques.

The ACC Research Network, a web-based database, will include both funded and unfunded research projects. PIs with available research projects and who are seeking collaborators will be able to provide a brief description of their project and needs. Additionally, ACC members who would like to collaborate on a new research project can search for available projects. Investigators can also exchange research techniques, equipment, reagents, or methodologies. Interested ACC members will be able to contact PIs directly to inquire further about available research opportunities. Table 2 provides a list of available research topics currently supported by the ACC Research Network.

In summary, because difficulties in obtaining research funding and increasing clinical requirements continue to remain challenges, especially for ECPs, we need to develop innovative ideas and capitalize on the broad reach of the ACC to help our profession. The creation of the ACC Research Network is in keeping with the ACC's mission and overall strategic plan focusing on "purposefully using education, data, and information" (5). The ACC Research Network will help facilitate the creation of new strategic partnerships with members across institutions and geographical areas to foster and advance new research that can help bridge the gap in many aspects of cardiovascular health care. Our hope is that the Research Network may be able to facilitate interactions between individuals and groups, both domestically and internationally. Through this type of innovation, we can move our field forward and support colleagues throughout the world.

Because all contributions to the Research Network are voluntary, we encourage active participation by all ACC members. The Research Network can be accessed at http://www.acc.org/researchnetwork. Member feedback is needed and can be sent to the authors at earlycareer@acc.org.

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TABLE 1

Examples of Current Research-Sharing Resources and Funding Opportunities Available Online

NIH
NIH/NHLBI BioLINCC: https://biolincc.nhlbi.nih.gov/home/
NIH RePORTER: http://projectreporter.nih.gov/reporter.cfm
ACC
ACC Research and Career Development Awards: http://www.acc.org/membership/member-benefits-and-resources/award-programs/research-and-career-development-awards?w_nav=S
ACC Research Funding Resources: http://www.acc.org/membership/member-benefits-and-resources/career-resources/research-funding-resources
AHA
AHA Research Funding Opportunities: http://my.americanheart.org/professional/Research/FundingOpportunities/Funding-Opportunities_UCM_316909_SubHomePage.jsp
AHA Professional Online Network: http://networking.americanheart.org/home
AHRQ
Grants On-Line Database: http://gold.ahrq.gov/projectsearch/index.jsp

ACC = American College of Cardiology; AHA = American Heart Association; AHRQ = Agency for Healthcare Research and Quality; BioLINCC = Biologic Specimen and Data Repository Information Coordinating Center; NHLBI = National Heart, Lung, and Blood Institute; NIH = National Institutes of Health; RePORTER = Research Portfolio Online Reporting Tools.

TABLE 2

List of Available Research Topics Currently Supported By the American College of Cardiology Research Network

Type of research
Basic
Clinical
Translational
Research topics
Congenital heart disease
Critical care
Echocardiography
Electrophysiology
Heart failure and transplant cardiology
Invasive/interventional (including structural heart disease)
Nuclear cardiology
Preventive cardiology
Vascular