

Applied Healthcare Innovation Consortium (AHIC) Statement

Health care transformation through ever-expanding technology-based innovation is a crucial step in the future of cardiovascular care. These technologies have tremendous operational and clinical applications; incorporating such innovative solutions in healthcare has the potential to improve health outcomes via enabling process improvement, increasing access to resources, and ultimately delivering quality healthcare to patients [1, 2]. The American College of Cardiology (ACC) has long anticipated the digital transformation in healthcare. The ACC has been dedicated to executing an innovation strategy for several years. During this time, it has become clear that there are three main drivers of the digital transformation that will impact care: 1) A migration towards virtual care, 2) Increases in remote monitoring of patients via wearables and telemedicine, and 3) AI-driven care, including image interpretation, risk prediction, and improved care decision making. The ACC and stakeholders recognize that the current COVID pandemic has been like a magnifying glass placed above the healthcare system in the US. As the world adapts to the challenges presented via self-isolation, reduction in hands-on medical care, and a variety of unknowns, the three drivers listed above have become leading ways forward to continued medical /CV care.

The ACC is not alone; many industry leaders, scientists, patient advocates, and clinicians are striving to address a long-existing, but currently highly relevant, need for this transformation in healthcare. Such a multi-faceted group of entities can have uniquely valuable and important perspectives. However, a collaborative partnership, or a unified voice, is more powerful than multiple organizations advocating independently on the same topic. Our premise is that we can move further faster to deliver trust in the form of evidence and standards if we collaborate cross-functionally as academic and industry researchers, clinician and medical professionals, patient advocates, technology developers, and start-up and regulatory leaders. In recognition of this power, the ACC has launched the Applied Health Innovation Consortium (AHIC) to unleash the potential of Artificial Intelligence (AI) and digital technology for the purpose of improved health outcomes.

The AHIC leads with a pragmatic and inclusive philosophy: all work is done in a *collaborative, multidisciplinary fashion* that includes practicing clinicians and patients from the very beginning. This ensures that the unique skills of data scientists – including medical informatics, computer science, applied math, biostatistics, and engineering specialists– remain focused on the tangible needs of patients and their caregivers. The AHIC is a community of **movers and shakers** in the AI and digital technology space that serves as a vehicle for dissemination. Led by researchers with strong publication and presentation backgrounds, the AHIC is a forum for shared learnings from different organizations. Most importantly, the AHIC is a catalyst in identifying priorities, accomplishing tasks, making progress in specific and practical ways to impact clinical care.

The first term in the title of the Consortium, “Applied”, is a deliberate emphasis on the group’s mission to take action. While it is imperative that a diverse group of stakeholders discuss and prioritize efforts, it is critical that the digital transformation of healthcare reaches clinicians and patients in a way that is impactful and useful. In a few short months, AHIC has already accomplished a number of key milestones in becoming an integral component to driving the digital transformation in CV care. The AHIC has identified highly motivated, diverse clinical leaders with varying areas and levels of expertise to provide guidance and insight to the way a digital transformation can be effective in the clinical setting. These cardiologists represent some of the leading cardiovascular research facilities in the country, such as the Cleveland Clinic and Houston Methodist. Several industry partners, patient and consumer advocates,

and scientists have committed to actively steer the priorities and shape the future of the AHIC. The consortium is planning the next engaging event aimed at finding potential solutions for optimizing virtual care – a topic that resonates with all of us during this pandemic.

The events of recent months have brought sweeping change to healthcare. “And it’s not just telemedicine. All sorts of new possibilities seem, well, actually possible” – Senior Executive Vice President, Brendan Mullen. Highlighting the power of partnership, the ACC, together with AHIC partners, is working with leaders in the field of standards develop – the Consumer Technology Association (CTA) to develop guidance documents and other publications on appropriate and clinically relevant AI and digital technology uses. In recent months, as the healthcare world has experienced a significant increase in telehealth utilization, many questions have come to light: Which conditions require in-person care? Which patients would be better served via a virtual visit? What technology and tools are most appropriate for a quality virtual visit? The AHIC is embracing these questions as mission directives and the topic of conversations during the upcoming Summit in October.

The full potential of AHIC will be realized via the activities that help all partners engage and implement virtual care, digital technology, artificial intelligence in very actionable ways. This group of partners is uniquely positioned to outline gaps in the current clinical and patient breadth and depth of knowledge regarding evolving technologies and the utility of workflow integration to improve efficiency; then, take the next steps to promote awareness through clinician and patient education and training and align with regulatory and reimbursement processes to improve patient outcomes. To help cope with the enormous volume of information on digital technology and AI in healthcare, the AHIC is also poised to evaluate and advise on such evidence. On a deeper level, the AHIC can bring disparate researchers together to explore and investigate data sets and available resources, to answer specific questions. Aligning the edges of patient advocacy, clinical practice, device and life sciences to study challenges and solutions for the implementation of the digital transformation results in a robust set of options, solutions, and conclusions which are primed for quicker uptake, meaningful impact to healthcare outcomes, precisely because each entity was involved in the process to get there. The AHIC partners are committed to making the AHIC vision an enduring endeavor to improve health outcomes.

At the end of 2019, key stakeholders asked the ACC to be a leader, to bring these a diverse group of perspectives together and facilitate action among innovators. The ACC heard the request. The ACC looks forward, with enthusiasm, to delivering upon this request entity to unleash the potential of AI and digital technology to improve health outcomes in collaboration with AHIC partners.

REFERENCES

1. Johnson, K.W., et al., *Artificial Intelligence in Cardiology*. J Am Coll Cardiol, 2018. **71**(23): p. 2668-2679.
2. Philine Warnke, K.C., Ulrich Schmoch, Lea Daniel, Fraunhofer ISI, *100 Radical Innovation Breakthroughs For The Future*. 2019.