Remote Cardiac Monitor Data and Artificial Intelligence: Transforming Clinical Applications for Heart Patients

Artificial intelligence has the potential to transform cardiology care, but only time will tell if machine learning’s capabilities will have a widespread impact on outcomes for patients. According to InfoBionic, AI may be very promising for the future of cardiac care, but the data must be complete.

WALTHAM, Mass. (PRWEB) June 19, 2019 -- Cardiovascular diseases remain the number one killer of people in the world, resulting in 31 percent of all global deaths (17.9 million per year), and are the most expensive condition to treat. However, AI and machine learning technologies are being developed to make care pathways, treatment and real-time visualization of cardiac anomalies and subsequent therapy more effective. Artificial intelligence (AI) and machine learning capabilities may provide numerous advantages over traditional analytics and clinical decision-making techniques, and cardiology is likely to benefit tremendously from these advancements as they mature. “As machine learning-based algorithms become more precise and accurate by interacting with data and programmed information, these technologies will allow care teams to gain unprecedented insights into diagnostics, care processes, treatment variability and patient outcomes, especially in regard to cardiac care,” said Stuart Long, CEO of InfoBionic, the leading digital health company that created the MoMe® Kardia remote cardiac monitoring platform.

“AI algorithm-based cardiac devices can procure tremendous amounts of data, providing for the ability to match up what physicians are seeing to long-term patterns and possibly detect subtle improvements that can impact care,” noted Long.

Leveraging AI for clinical decision support, risk scoring and early alerting is one of the most promising areas of development for this revolutionary approach to data analysis. Powering new tools and systems can help make clinicians more aware of nuances, more efficient when delivering care, and more likely to curb a patient’s developing health problems.[1]

AI is ushering in new clinical quality and breakthroughs in patient care. For example, at the Cleveland Clinic[2], a customized algorithm developed by clinicians analyzes data, including blood pressure, heart rate and oxygen saturation levels, to flag the patients that are at highest risk of deterioration. The ultimate goal is to provide front-line clinicians notice of serious cardiac events before they happen. Moreover, the precision now possible with cardiovascular imaging, combined with “big data” from the electronic health record and pathology, is likely to lead to tremendous cases of cardiac disease management and personalized therapy[3].

Healthcare consulting firm, Frost & Sullivan, projects a 40 percent growth rate[4] for AI in healthcare between 2016 and 2021, and said AI has the potential to improve outcomes by as much as 40 percent, while reducing the costs of treatment by as much as 50 percent.

According to Long, questions about the current use of AI in cardiology remain, but AI can lead to the collection of large amounts of data extracted from many patients. “However, unless that data from a large patient sampling is tracked by using full-disclosure data versus intermittent monitoring, the data may be incomplete,” he said. “That won’t offer the positive changes in cardiology that doctors want to see.”

AI-powered devices filled with incomplete cardiac data collected from traditional cardiac monitors mean the
data driving these AI devices is imperfect, Long argues. But, if an AI algorithm collects lots of accurate data from many patients, then real progress can be made. With its ability to provide full disclosure heartbeat monitoring, InfoBionic’s MoMe® Kardia can provide new insights and has potential to link to other technology in the future.

This is important because mobile cardiac telemetry (MCT) devices that provide real-time monitoring of a patient’s heart rhythm over a longer period of time are vital for AFib detection. Certain MCT devices are the only heart monitoring devices that provide complete arrhythmia detection and offer the highest diagnostic yield at 61 percent, compared to event monitors at 23 percent and Holter monitors at 24 percent[5]. If armed with complete heartbeat technology, AI-powered cardiac devices could potentially recognize signs of heart disease by studying scans and might be able to predict whether or not a patient is likely to go on to have a heart attack in the future, improving diagnostic accuracy and care tremendously[6]. “The key” notes Long “will be the efficacy of the heartbeat monitoring. Full disclosure is critical to the future.”

About InfoBionic
InfoBionic is a digital health company transforming the efficiency and economics of ambulatory remote patient monitoring processes by optimizing clinical and real-world utility for the users that need it most – physicians and their patients. The Massachusetts-based team of seasoned entrepreneurs have had successful careers in healthcare, IT, medical devices and mobile technology, and bring specific expertise in remote monitoring and cardiology. They have seen first-hand the complexities of traditional cardiac arrhythmia detection and monitoring processes and designed the transformative MoMe® Kardia platform to remove the roadblocks hindering faster, more effective diagnosis and decision-making. Frost & Sullivan bestowed the 2019 North American Remote Cardiac Monitoring Technology Leadership Award upon InfoBionic. For more information visit www.infobionic.com

About MoMe® Kardia
The company’s flagship product, the MoMe® Kardia 3-in1 monitor, is the first non-invasive remote cardiac monitor to offer truly full disclosure, heartbeat-to-heartbeat data over the Cloud, allowing doctors 24/7 real-time access to hospital telemetry-level data. With the MoMe® Kardia, doctors will be able to eliminate third-party monitoring data services and take full ownership of the cardiac monitoring process, empowering them to realize lucrative new revenue streams by billing globally for the monitoring service. MoMe® Kardia is not intended for use as an emergency medical response system. Call 911 if you feel you are having a medical emergency.

2. Casey Ross; “Hospitals look to computers to predict patient emergencies before they happen”; STAT; May 13, 2019; Web.
4. Lonny Reisman, M.D.; “Outlining How Artificial Intelligence May Help Adhere to Cardiac Care Guidelines”; DAIC; Dec. 6, 2018; Web.
5. U.S National Library of Medicine, National Institutes of Health; “Benefits of monitoring patients with mobile cardiac telemetry (MCT) compared with the Event or Holter monitors. Bayser Consulting; Dec 9, 2013; Web.
6. Waqaas Al-Siddiq; “The Internet of Things is a game changer for heart care”; Digital Commerce 360; May 23, 2019; Web.