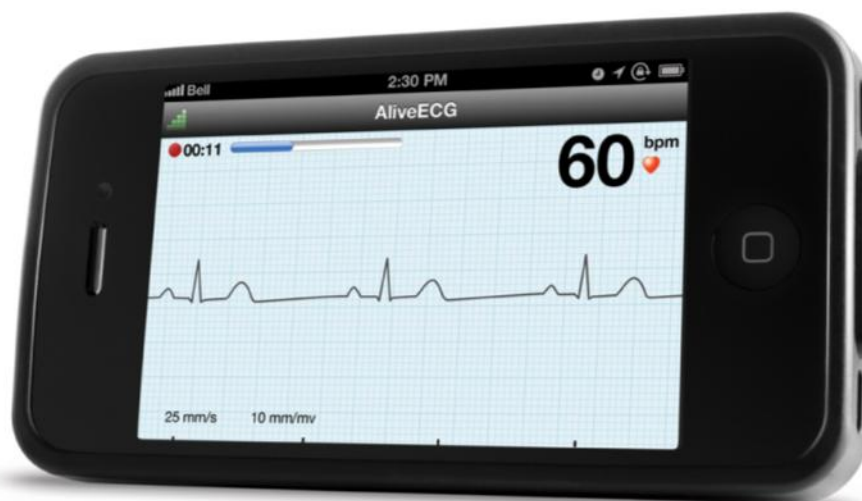


# ALIVECOR HEART MONITOR – MOBILE ECG



## BRIEF OVERVIEW

The proliferation of mHealth tools has produced several mobile applications available to health professionals and general users, such as glucose monitors that attach to an iPhone, as well as heart rate and sleep monitoring applications. Through iteration, more advanced and easier to use products are entering the market. One such product is a low cost, clinical-grade mobile heart monitor, or electrocardiogram (ECG) monitor, that fits over the back of a smartphone.

Wireless technologies have enabled the transmission of high quality ECG recordings without the need for a conventional 12-Lead ECG. AliveCor's Heart Monitor device is compatible with the iPhone, allowing for wireless recording of 30-second Lead I single channel rhythm strips. Physicians and patients can record, display, store, and transfer ECG recordings from the iPhone.

In 2012, the AliveCor Heart Monitor was FDA cleared for the US and CE marked for the EU, allowing for clinical use to screen and monitor heart rhythms. Plans are under way for registration and commercialization worldwide. AliveCor will also be expanding the Heart Monitor to additional smartphone devices

## ABOUT ALIVECOR

AliveCor's ECG monitor comes with two electrodes embedded in a wireless case that snaps onto the back of an iPhone. The device is launched via the free AliveECG app, which allows a reading by either placing the sensors directly over the chest or from the finger tips. Recorded rhythm strips can be of any duration, and are stored in the app and securely in the cloud in PDF format for reviewing, analysis, and printing through AliveCor's website.

## EVALUATION AND RESULTS

AliveCor's Heart Monitor has been used in several clinical trials and undergone rigorous testing through numerous medical professionals and in many ongoing studies at various institutions. Abstracts were presented in 2012 at three major cardiology meetings, demonstrating usability, accuracy, and the ability to use the device for community screening.

One of the studies included an eight-week study at the University of Southern California. Without training, 53 subjects used the Heart Monitor to record ECGs on themselves, and 61% of them also used the device on others. Participants transmitted weekly 30-second readings to the cloud. Transmission interpretation included various data such as normal

sinus rhythm and abnormal electrical activity in the heart, or arrhythmias.

After using the device, 24% of subjects reached out to their private physicians for a consultation and 16% felt they had discovered a health condition previously unknown to them. Also, 78% wanted to continue using the device after the study had ended. Thirty-three percent felt they were more health conscious after participating and 88% thought it transmitted accurate information.

### LESSONS LEARNED

- Study participants found the device most conducive for use based on its form, portability, and ease of use
- The heart monitor can be adopted by patients as a non-continuous, patient-triggered event monitor
- Patients who are more familiar with technology, at least to the level of operating a bank ATM, are more likely to be successful at operating the device when they are symptomatic
- The device may be useful to record daily tracings of patients for post-procedure follow-ups who do not already have an implanted cardiac device
- While the device has several potential uses, it may not catch the initiation of an arrhythmia, which has diagnostic value, or be able to identify short arrhythmias

### CONCLUSION

A clinical quality, low cost heart monitor that can be easily and intuitively linked to a smartphone provides

health providers and users the chance to learn about and characterize heart rate and rhythms, and the ability to identify arrhythmias at any time. The technology and optimization of the device will improve public awareness of health metrics and early diagnosis, as well as increase the availability of advanced cardiac monitoring on a global scale.

#### GEOGRAPHIC COVERAGE

Currently United States, United Kingdom, and Ireland with worldwide expansion planned

#### IMPLEMENTATION PARTNERS

AliveCor

#### FUNDER

Burrill & Company, Khosla Ventures, Qualcomm Ventures, Oklahoma Life Science Fund

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