



## Topic Exploration Report

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. This report was prepared by Health Technology Wales on behalf of the Bevan Commission. It summarises the existing evidence on the technology of interest to support a Bevan health technology exemplar application.

Topic:	AliveCor smart ECG monitors for detection of atrial fibrillation
Topic exploration report number:	TER026
Referrer:	Gethin Morgan
Topic exploration undertaken by:	Health Technology Wales

### Aim of Search

Health Technology Wales researchers searched for evidence on the use of the AliveCor Kardia mobile device for detecting atrial fibrillation and reducing stroke incidence in “at-risk” populations in the primary care setting.

### Summary of Findings

The National Institute of Health and Care Excellence published a Medtech innovation briefing on the AliveCor Kardia mobile device, which includes a review of the evidence up to 2015. We identified a small number of published and ongoing trials conducted subsequent to this date.

### Key sources of evidence

- National Institute of Health and Care Excellence. Medtech innovation briefing [MIB35]. AliveCor Heart Monitor and AliveECG app (Kardia Mobile) for detecting atrial fibrillation. August 2015. <https://www.nice.org.uk/advice/mib35>

### Areas of Uncertainty

NICE MIB 35 does not focus specifically on the use of the AliveCor Kardia mobile device in the primary care setting. Some of the more recent evidence identified did not study the AliveCor mobile device in people where atrial fibrillation was suspected, but in other circumstances such as management of diagnosed AF or as part of wider screening programmes. It is therefore not clear whether all the evidence identified is of direct relevance to the population and setting of interest.

## Brief literature search results

Resource	Results
<b>Guidelines and guidance</b>	
<p><a href="#">NICE</a></p> <p><i>We searched for guidelines, technology appraisals, diagnostics, interventional procedures, and medical technologies guidance.</i></p>	<p>Medtech innovation briefing [MIB35]. AliveCor Heart Monitor and AliveECG app (Kardia Mobile) for detecting atrial fibrillation. August 2015. <a href="https://www.nice.org.uk/advice/mib35">https://www.nice.org.uk/advice/mib35</a></p> <p>Atrial fibrillation: management. Clinical guideline [CG180]. June 2014. <a href="https://www.nice.org.uk/guidance/cg180">https://www.nice.org.uk/guidance/cg180</a></p>
<p><a href="#">Healthcare Improvement Scotland:</a></p> <p><i>We searched the HIS website for any relevant advice and hand-searched Scottish Health Technologies Group and Scottish Intercollegiate Guidelines Network publications.</i></p>	<p>We did not identify any guidelines or advice on the AliveCor Kardia mobile device or any other smart/mobile-based ECG monitors.</p>
<p><a href="#">Guidelines International Network</a></p>	<p>We did not identify any guidelines or advice on the AliveCor Kardia mobile device or any other smart/mobile-based ECG monitors.</p>
<b>Secondary literature and economic evaluations</b>	
<p><a href="#">Cochrane library</a></p> <p><i>We searched for relevant Cochrane Reviews.</i></p>	<p>We did not identify any Cochrane Reviews studying the AliveCor Kardia mobile device.</p>
<p><a href="#">Medline</a></p> <p><i>We searched the Medline database for systematic reviews, meta-analyses, economic evaluations only.</i></p>	<p>We did not identify any systematic reviews, meta-analyses, or economic evaluations studying the AliveCor Kardia mobile device.</p>
<b>Primary studies</b>	
<p><a href="#">Medline</a></p> <p><i>We searched the Medline database for studies of any design.</i></p>	<p>Chan PH, Wong CK, Pun L, Wong YF, Wong MM, Chu DW, et al. Head-to-Head Comparison of the AliveCor Heart Monitor and Microlife WatchBP Office AFIB for Atrial Fibrillation Screening in a Primary Care Setting. <i>Circulation</i>. 2017;135(1):110-2.</p>
<p><a href="#">Cochrane library</a></p> <p><i>We searched the Cochrane Trials database for studies of any design.</i></p>	<p>Halcox JPJ, Wareham K, Cardew A, Gilmore M, Barry JP, Phillips C, et al. Assessment of Remote Heart Rhythm Sampling Using the AliveCor Heart Monitor to Screen for Atrial Fibrillation: the REHEARSE-AF Study. <i>Circulation</i>. 2017;136(19):1784-94.</p> <p>Mirwais M, Hooker J, Kardokus J, Mirwais S, Stavrakis S. Validity of the alivecor software in detecting paroxysmal atrial fibrillation: a sub study of the intermittent vs continuous anticoagulation therapy in patients with atrial fibrillation (iCARE-AF) pilot study. <i>Journal of investigative medicine Conference: midwestern regional meeting 2018 United states</i>. 2018;66(4):792.</p>

Ongoing research

[Clinicaltrials.gov](https://clinicaltrials.gov)

Hickey KT, Hauser NR, Valente LE, Riga TC, Frulla AP, Creber RM, et al. A single-center randomized, controlled trial investigating the efficacy of a mHealth ECG technology intervention to improve the detection of atrial fibrillation: the iHEART study protocol. BMC cardiovascular disorders. 2016;16(1).

Lown M, Yue A, Lewith G, Little P, Moore M. Screening for Atrial Fibrillation using Economical and accurate Technology (SAFETY)-a pilot study. BMJ open. 2017;7(1).

Date of search:

September 2018

Concepts used:

ECG (and synonyms); atrial fibrillation (and synonyms)