



Topic Exploration Report

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. The main objectives of this report are to:

1. Inform discussions on new topics received by HTW.
2. Determine the quantity and type of evidence available on a topic.
3. Assess the topic against HTW selection criteria.

Topic:	ECG and testing in the community
Topic exploration report number:	TER052
Referrer:	Jane Parkinson
Topic exploration undertaken by:	Health Technology Wales

Aim of Search

Health Technology Wales researchers searched for evidence on the use of remote electrocardiogram (ECG) interpretation consultancy services for the testing of people with suspected cardiovascular disease

Summary of Findings

Overview:

Remote electrocardiogram (ECG) interpretation consultancy services look to aid diagnosis and decision making in the primary care setting. Patients with suspected cardiovascular disease may be diagnosed in the primary care and avoid secondary care contact. Extending the range of diagnostic options to include ECG in primary care may offer a cheaper and more timely diagnosis. Patients may benefit from faster and more geographically available diagnoses.

Intervention:

The remote ECG service provides expert analysis of ECGs to support clinical decision making. Interpretation may take between 15 minutes and 2 days and avoids the need for the patient to attend a hospital appointment. The interpretation of ECG's requires a high level of knowledge and is currently not available in primary care. Currently, patients would be offered the secondary care based 12 lead ECG where they fit the guidelines for suspected atrial fibrillation, experienced a blackout or in certain instances if they had recent onset chest pain. Other types of ECG are currently offered.

Clinical outcomes:

4 pilot studies were assessed in the identified NICE Medtech innovation briefing (MIB152). There is no direct comparison undertaken between the intervention and the comparator. There is no published evidence to suggest that the intervention care pathway offers improved clinical outcomes.

Economic findings:

The standard care costs for consultant lead outpatient contacts with cardiology (£142) and accident and emergency (£137) according to the national reference costs 2017/18. The range of remote ECG interpretation suppliers offered a variety of intervention variations, these ranged from £3 to £195.

Conclusions

Current evidence is insufficiently developed to identify whether the technology is a cost-effective use of NHS resources. The Medtech innovation briefing [MIB152] published in July 2018 summarises the evidence regarding the benefits as ‘not yet clear and there is a lack of evidence for clinical outcomes’. Searches focused on literature published following the evidence collection period of the NICE MIB. There were no subsequent publications offering evidence which altered the findings from MIB152. More supporting evidence is required in order to develop the value proposition.

Areas of Uncertainty

Further research would require identifying whether there are any studies currently in the planning phase which intend to evaluate the clinical and cost effectiveness of remote ECG interpretation.

Feasibility of Technology Assessment

There is unlikely to be sufficient published evidence upon which to base a technology assessment. Remote ECG interpretation may offer improved clinical outcomes, but the 2018 MIB152 identified variation in provision and it is unknown whether this extends to either current day or within Wales.

Similarly, the intervention may offer possible cost saving changes to the care pathway, but this is unclear from the current evidence.

More data is required for both clinical outcomes and cost effectiveness.

HTW’s Assessment Group concluded not to progress this topic further.

Brief literature search results

Resource	Results
HTA organisations	
Healthcare Improvement Scotland:	No results relevant to remote ECG interpretation
Health Technology Assessment Group	No results relevant to remote ECG interpretation
Health Information and Quality Authority	No results relevant to remote ECG interpretation
UK guidelines and guidance	
SIGN	No results relevant to remote ECG interpretation
NICE	<ul style="list-style-type: none"> Remote ECG interpretation consultancy services for cardiovascular disease: Medtech innovation briefing [MIB152] Published date: July 2018
Secondary literature and economic evaluations	
EUnetHTA	No results relevant to remote ECG interpretation
ECRI	No results relevant to remote ECG interpretation
Cochrane library	No results relevant to remote ECG interpretation
Medline	No results relevant to remote ECG interpretation
Primary studies	
Medline	No results relevant to remote ECG interpretation
Cochrane library	No results relevant to remote ECG interpretation
Ongoing secondary research	
EUnetHTA Planned & Ongoing Projects database	No results relevant to remote ECG interpretation
PROSPERO database	No results relevant to remote ECG interpretation
Ongoing research	
Clinicaltrials.gov	<p>1 cancelled trial:</p> <ul style="list-style-type: none"> A Study of Pre-hospital Treatment of Acute Myocardial Infarction Based on Diagnosis by Interpretation of Remotely Acquired ECG and Thrombolysis With Accelerated Alteplase (Actilyse®) (PHARAOH)
Other	
Evidence identified by topic proposer	<ul style="list-style-type: none"> Paynter M. Evaluating use of telemedicine within a minor injury unit. Nursing times. 2008;104(42):30-1. Albouaini K, Jones A, Rowe M, Shtrosberg S, Egred M. The use of telemedicine for ECG interpretation in primary care. Weatherburn G, Ward S, Johnston G, Chisholm S. Off-site expert support for nurses undertaking ECGs in primary care. British Journal of Nursing. 2009 May 14;18(9):551-4.

Date of search:	21 May 2019
Concepts used:	remote electrocardiogram (ECG) interpretation