

TRAFFORD COUNCIL

Report to: Health Scrutiny
Report of: James Gray, Assistant Director
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Report Title

An update on the current model of delivery and utilisation of Electrocardiogram (ECG) provision within the Trafford locality

Purpose

To provide an update on the current ECG provision available to patients within the Trafford locality provided through primary care.

Next Steps / Recommendations

Trafford's Health Scrutiny Committee are asked to note the contents of this report and developments of ECG provision within Trafford.

Contact person for access to background papers and further information:

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1.0 Introduction

- 1.1 This paper provides an update to the Trafford Health Scrutiny Committee in relation to the provision of Electrocardiogram (ECG) checks for patients within the locality. An ECG is a common test that is used to evaluate the rhythm and electrical function of a person's heart. The test is fairly straight forward, simple to undertake and causes little discomfort to the patients with no side effects and usually takes around 10 minutes to complete.
- 1.2 The ECG is a test that records the heart's electrical signals, obtained by attaching electrodes in 10 standard positions on the limbs and the surface of the chest. The 12-lead ECG recording should be reported automatically, or if automated analysis is not available, by a healthcare professional competent in ECG interpretation and trained to identify specific potentially life-threatening abnormalities. This must be interpreted in the full context of the detailed history and clinical signs.
- 1.3 An ECG may be done for a number of reasons:
 - Check the heart's electrical activity.
 - Find the cause of unexplained chest pain, which could be caused by a heart attack, inflammation of the sac surrounding the heart (pericarditis), or angina.
 - Find the cause of symptoms of heart disease, such as shortness of breath, dizziness, fainting, or rapid, irregular heartbeats (palpitations).
 - Find out if the walls of the heart chambers are too thick (hypertrophied).
 - Check how well medicines are working and whether they are causing side effects that affect the heart.
 - Check how well mechanical devices that are implanted in the heart, such as pacemakers, are working to control a normal heartbeat.
 - Check the health of the heart when other diseases or conditions are present, such as high blood pressure, high cholesterol, cigarette smoking, diabetes, or a family history of early heart disease.
- 1.4 The 12-lead ECG is routinely used in NHS facilities, including emergency departments, primary care, and cardiology units. It is also employed in pre-operative assessments and during inpatient stays for monitoring high-risk patients.
 - **Emergency Care:** In cases of suspected myocardial infarction (MI), the 12-lead ECG is critical for rapid diagnosis and determining the need for thrombolysis or angioplasty. It is an essential part of the 'door-to-balloon' time metric for acute MI treatment.
 - **General Practice and Prevention:** General practitioners often use the 12-lead ECG to detect arrhythmias or to monitor patients with known heart disease. It is also used for baseline assessments in high-risk individuals.
 - **Outpatient Clinics:** Patients referred to cardiology for follow-up care frequently undergo 12-lead ECGs to assess the effectiveness of treatment or the progression of cardiac conditions.

2.0 Background

- 2.1 Although it is called a 12-lead ECG, it uses only 10 electrodes. Certain electrodes are part of two pairs and thus provide two leads. Electrodes typically are self-adhesive pads with a conducting gel in the centre. The electrodes snap onto the cables connected to the electrocardiograph or heart monitor.
- 2.2 Electrode placement for a 12-lead ECG is standard, with leads placed on the left and right arm and left and right leg. Another pair of electrodes is placed between the fourth and fifth ribs on the left and right side of the sternum. A single electrode is positioned between this pair of electrodes on the fourth intercostal space. An eighth electrode is placed between the fifth and sixth ribs at the mid-clavicular line, the imaginary reference line that extends down from the middle of the clavicle. The ninth electrode is positioned in line horizontally with the eighth electrode but in the anterior axillary line or the imaginary reference line running southward from the point where the collarbone and arm meet. A final electrode is placed on the same horizontal line as the eighth and ninth electrodes but oriented with the midaxillary line, the imaginary reference point straight down from the patient's armpit.
- 2.3 The 12-lead ECG offers several benefits to patient care, including:
- **Rapid Diagnosis:** The quick turnaround time for results allows clinicians to make informed decisions on urgent interventions, such as thrombolytic therapy in acute MI.
 - **Improved Clinical Outcomes:** Early detection of conditions such as ischemia or arrhythmias can reduce the risk of severe complications, including stroke, heart failure, or sudden cardiac death.
 - **Non-invasive and Cost-Effective:** Compared to other diagnostic modalities such as echocardiography or MRI, the 12-lead ECG is relatively inexpensive and non-invasive, making it an ideal first-line diagnostic tool.

3.0 Current Models and offers

- 3.1 At present there are two main models of delivery for patients in Trafford to access ECG provision via their GP in primary care or as part of an outpatient appointment within secondary care or whilst an inpatient.
- 3.2 Within Trafford the ICB commission an organisation called Broomwell who provide the interpretation of the ECG readings back to General Practice. Broomwell provides GP Practices with the 12 lead ECG machines and an ECG interpretation service which can be undertaken through the digital readouts from the machines or acoustically. Broomwell provides the

diagnostic service used by clinicians to manage patients with suspected cardiovascular problems.

- 3.3 The provision of the diagnostic tool supports primary care to manage patients with suspected cardiovascular problems within the practice, enabling a swift interpretation and if required, urgent next steps. The key service outcomes are:
- Provide immediate expert ECG interpretation.
 - Enable GPs to make immediate and better-informed diagnoses.
 - Reduce referrals to the secondary sector which results in financial savings.
 - Provide a convenient service for patients, close to home.
- 3.4 The Broomwell contract was consolidated in April 2022, combining 9 localities into one, with the aim to reduce the transactional burden on service providers currently holding multiple contracts.
- 3.5 Following engagement with all localities, the general consensus is that the service is needed within practices, with the interpretation being the most important element. Without the interpretations there would be a need for staff training, in particular for Practice Nurses and AHPs, who tend to be the health professionals carrying out the ECGs in practice, which would require further funding. Providing ECGs and interpretation within primary care offers a more streamlined patient pathway, closer to the patient's home and does not overburden secondary care unnecessarily.
- 3.6 Trafford undertakes between 350-400 ECGs via General Practice which is interpreted via Broomwell per month. In addition to the interpretation fees paid to Broomwell, NHS GM (Trafford) also pay practices a fee to undertake the ECGs. Over the last 12 months 22 of the 26 practices in Trafford have used Broomwell for the interpretation of their ECGs on a consistent basis. The Broomwell interpretation service is available to all practices within Trafford should they wish to utilise the service.
- 3.7 MFT provision is provided via a specific chest pain pathways that available for Trafford patients and ECGs are undertaken by clinicians within the Hospital setting. If an ECG performed did show an abnormal/concerning reading this would follow the appropriate pathway (i.e. to A&E or Rapid Access Chest clinic) without being returned to the GP for consideration. During 23/24 there were on average 297 ECGs undertaken per month as part of an outpatient/inpatient episode within a hospital setting for Trafford patients.
- 3.8 There is a risk that the volume of referrals to secondary care for ECG provision may increase as a result of the current Collective Action being undertaken within Primary Care. At present we have seen no impact on the volume of referrals for ECGs to secondary care. As part of ongoing Collective

Action oversight across GM and working with provider colleagues we will continue to review whether there is any change or impact.

- 3.9 MFT also provide an external education course which GP's can access so that they can interpret basic ECGs, further information is available on request from practices.
- 3.10 Broomwell monthly updates to the ICB provide:
- A monthly breakdown to the locality of the volume of interpretations undertaken
 - Between April 23 – March 24 for Trafford practices there were 4,988 interpretations undertaken
 - shows the time for interpretation including immediate, overnight or over the weekend
 - The recommendation of the interpretation is also available including GP review, Cardiology referral or urgent Cardiology referral etc.
- 3.11 Providing ECGs and interpretation within primary care offers a more streamlined patient pathway, closer to the patient's home and does not overburden secondary care unnecessarily. Whilst it is difficult to separate out the ECG activity from other clinical activity/procedures undertaken within secondary care and ECGs may be part of a wider suite of diagnostics undertaken for a patient within the acute setting as part of their investigations into particular conditions. The ECGs should be used to provide and inform clinicians and provide additional information within the context of the patients other presenting conditions/complaints.

4.0 Summary

- 4.1 The 12-lead ECG remains one of the most valuable diagnostic tools in the NHS, contributing to early diagnosis, informed clinical decision-making, and improved patient outcomes. However, its effectiveness can be limited by issues related to training, access to equipment, and integration with existing healthcare systems. By addressing these challenges and focusing on innovation, the NHS can continue to improve the delivery of cardiovascular care and ensure that patients receive timely, accurate, and high-quality treatment.
- 4.2 Despite its advantages, there are several challenges in the widespread and optimal use of 12-lead ECGs in the NHS:
- **Training and Expertise:** Interpreting 12-lead ECGs accurately requires specialized training. The increasing reliance on technology in clinical settings can sometimes result in misinterpretation or over-reliance on automated algorithms.
 - **Workforce Pressure:** The growing demand for 12-lead ECGs, particularly in busy emergency departments and GP practices, can

lead to delays in both the acquisition of the test and the interpretation of results.

- Access to Equipment: While most NHS hospitals and larger GP practices are equipped with ECG machines, there are still some disparities in smaller or more remote areas, leading to potential delays in diagnosis.
- Inconsistencies in financial compensation to undertake the ECG within primary care compared to other diagnostic requirements and inconsistencies between/across localities in terms of the offer available to patients.

4.3 Overall the information contained within this report outlines the frequency, availability and utilisation of ECG provision within the locality. Trafford patients have good levels of access to ECG provision both within GP practices and within secondary care where practices may not be in a position to undertake ECGs themselves.