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Q1. What is the current state of the science underpinning personalised medicine – including genomics, AI-driven diagnostics, and advanced genomic therapies? What are the most significant near-term opportunities for patients to benefit in the NHS?

- An estimated 270,000 people in the UK have undiagnosed Atrial Fibrillation (AF), many at imminent risk of AF-related stroke.[1] Left untreated, AF can result in permanent disability, including loss of mobility or speech, loss of independence and increased social care needs, premature death, and significant emotional and financial strain on families and caregivers. These outcomes place avoidable pressure on NHS emergency, cardiology and stroke services.
- Currently, many symptomatic people (for example, those experiencing palpitations, breathlessness, or dizziness) are monitored using 24-48 hour Holter devices. Short-duration monitoring often misses intermittent arrhythmias, leading to inconclusive tests, repeat appointments, diagnostic delays, and, in some cases, preventable AF-related strokes.
- AI-enabled cardiac diagnostics - including the Zio extended-wear, non-invasive ECG monitor worn for up to 14 days - can detect arrhythmias (heart rhythm disorders such as AF) that short-term monitoring often miss. [2-4]
- Evidence demonstrates that these devices improve diagnostic accuracy, reduce the need for repeat testing, shorten time to diagnosis, and enhance patient experience and adherence.[5-7]
- This approach aligns with the NHS 10 Year Plan, supporting earlier diagnosis, fewer preventable admissions, and more efficient use of outpatient and community care pathways.[8]
- Since the Zio NICE guidance was published, six separate real-world evaluations across five large NHS Trusts have demonstrated whole pathway operational, workforce and patient benefits compared with standard ambulatory monitoring pathways using traditional Holter monitors. https://www.nice.org.uk/guidance/indevelopment/gid-mt591

Q5. Translating cutting-edge medical science into routine NHS treatment has long been recognised as a problem. Considering personalised medicine and AI as an example, what are the key systemic barriers (procurement, workforce, IT) that prevent or delay deployment of proven innovations across the NHS?

- Barriers to routine adoption are driven less by clinical uncertainty and more by system-level factors, including reimbursement and coding frameworks that have not kept pace with innovation; for example, the reimbursement for Zio is the same as a legacy 24hr Holter Monitor, which disincentivizes adoption.
- The value of the Zio, and other AI-enabled diagnostics, could be realised through aligned commissioning, updated reimbursement and coding structures, and more consistent integration into clinical pathways.

About the Zio Service by iRhythm

The Zio Service is a remote cardiac monitoring system that is recommended by NICE for the detection of cardiac arrhythmia. The Zio service is comprised of three components:

a) Zio XT monitor – an adhesive single-use patch which is attached to the skin of the upper left chest to continuously record a single-lead ambulatory electrocardiogram (ECG) for up to fourteen days. Patients are able to proceed with their usual daily activities without any need to remove the device, for the duration of the monitoring period.

b) Zio Data Analysis – The continuous ECG recording is analysed by the iRhythm clinical team of accredited cardiac physiologists.

c) Zio Report – A technical report is generated, which provides a clinically actionable summary of the recorded and analysed data.

Patients are typically prescribed monitoring with Zio when they require ECG monitoring for longer than 24 hours – normally because their symptoms are intermittent, therefore longer periods of monitoring are needed to diagnose (or rule out) clinically significant arrhythmia.

Patients are fitted with the Zio monitor, either by a healthcare professional in a clinic setting, or by themselves (or carer) at home. They

then wear the monitor for up to 14 days, after which the patient returns the monitor to iRhythm via freepost in the box provided. The recording is analysed by the iRhythm deep learned AI algorithm and curated by its clinical team. The prescribing health care professional receives the Zio technical report for that patient via a secure website. The clinician is then able to review, make a diagnosis (or rule out diagnosis) and determine a management plan.

References

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