

Accelerated National Innovation Adoption (ANIA)

Post IDA Brief

March 2025

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Background to ANIA

The ANIA pathway, led by the Centre for Sustainable Delivery, in partnership with NHS National Services Scotland, Healthcare Improvement Scotland, Public Health Scotland, and NHS Education for Scotland, has been established to:

- identify innovations that should be considered for national adoption within the NHS
- produce robust value cases to assess their clinical and financial impact
- lead the national adoption of approved technologies at pace

The ANIA pathway is governed by the Innovation Design Authority (IDA), which brings together senior Scottish Government and NHS leadership. The IDA enables improved partnership working, system leadership and collective decision making relating to which technologies should progress through the ANIA stage gates (further detail on these stage gates is provided on the next page and on the ANIA [website](#)).

Decisions / key updates from 20 February 2025 IDA meeting

- The IDA approved the Pharamacogenetics Value Case which will move to implementation subject to Scottish Government funding
- Digital Type 2 Diabetes Prevention Value Case will be presented to the IDA in June
- Chest X-Ray AI Value Case will be presented to the IDA in October for final approval

Substantive items requiring decision at the 22 April 2025 IDA meeting

- Decisions on innovations presented during Q4 Horizon Scanning report
- Whether AI-Assisted Endoscopy moves from Strategic Case to Value Case

Current Technologies within the ANIA Pathway

The technologies that are currently being assessed for adoption via the ANIA Stage Gates, or are being deployed nationally following approval, are outlined over the following pages.

Innovation Adoption Process – End to End

ZERO Horizon Scan	ONE Strategic Case	TWO Value Case	THREE Implementation	FOUR Benefits Realisation
Prioritisation	Evaluation	Approval	Monitoring	Outcome
At quarterly intervals IDA to receive a horizon scan report on innovations which meet ANIA entry criteria. Innovations within this report which are being recommended for ANIA should have an accompanying Initial Assessment (IA) setting out: • Need for change • High level benefits arising from change • Contribution to NHS Scotland priorities / policy	Within 8-12 weeks of IDA approval, set out Strategic Case (SC), covering: • The innovation and its provenance • The research evidence supporting the proposed change including likely clinical effectiveness and cost effectiveness if nationally adopted • Compliance with regulatory requirements • Indicative costs and affordability • Initial stakeholder (e.g. clinical) views • Proposed KPI • Project governance for final value case development	Within 6 months of SC approval, a final value case that is proportionate to the level of investment being sought and with chapters setting out: 1. Executive Summary 2. Strategic Case: Updated case for change 3. Public Value Proposition: Anticipated impact against status quo if nationally adopted covering clinical, economic, health inequalities, carbon emissions, service provision and workforce. 4. Adoption Design: National adoption model covering procurement, assurance, digital design and clinical pathway. 5. Affordability: Financial model, evidence of support from stakeholders (e.g. SG budget holder & BCE) and statement on affordability (e.g. IDA budget and Board view on BAU) 6. Delivery: Full implementation plan (e.g. PID) with delivery milestones, governance, assessment of key challenges and plans for transition to BAU.	1-3 year period with project monitoring throughout tracking delivery against • Programme milestones, • Finance / Cost (budget), and • Mitigation of Risk. The arrangements for each project would operate to best practice project management principles and methodology. Any material changes to scope, programme or cost should be agreed with IDA through the agreed change control process.	Formal post implementation benefits review: • Achievement of agreed outcomes • Have stakeholder expectations been realised • Impact of service change • Improvement delivered. Informing learning for future adoptions projects

Innovations Being Assessed at Strategic Case

Strategic cases provide an early view of evidence, clinical acceptance and cost benefit for specific technologies that have been approved by the IDA. This takes between 8 and 12 weeks.

1. AI-Assisted Endoscopy for Gastrointestinal (GI) Cancer



Lower GI cancer is the general name for cancer of the colon, rectum or anus. It is the fourth most common cancer with approximately 43,000 diagnoses annually in the UK. The five-year survival rate is approximately 60%, with around 16,800

annual deaths in the UK, accounting for 10% of all cancer deaths. The cost of GI cancer to the UK was estimated to be more than £1.7 billion in 2018.

The condition typically starts with slow progression and is characterised by pre-cancerous polyps. People with suspected lower GI cancer are normally offered examination with an endoscope to allow for the detection, removal or sampling of tissue showing signs of cancer. AI-assisted endoscopy uses a form of AI to assist the endoscopist in identifying possible cancer. This type of AI is known as 'computer aided detection'. During the examination, areas of concern are flagged by the technology and the endoscopist makes the final decision on whether to test the identified area. It is proposed that the use of AI in this context will facilitate earlier detection of lower-GI cancer.

Health Technology Wales (HTW) recommends the routine use of computer aided detection colonoscopy for people undergoing investigation for suspected lower GI cancer. HTW reported the use of the technology led to improvements in the

detection of cancerous tissue compared to standard care. The HTW economic model concluded the technology was cost effective.

Innovations Being Assessed at Value Case

Value cases are an adapted treasury five case business model with detailed implementation plan (up to six months).

1. Chest X-Ray AI



Around 5,500 people are diagnosed with lung cancer in Scotland each year. Approximately half of those are diagnosed with cancer at its latest stage. The earlier cancer is diagnosed the more treatable it is. Therefore, it is important that high risk patients are identified as quickly as possible and progress through the pathway. Approximately 6 in 10 patients

will survive lung cancer for 5 or more years if cancer is diagnosed at its earliest stage. This falls to just 1 in 10 patients surviving for 5 or more years if lung cancer is diagnosed at its latest stage.

Around 249,580 Chest X-Rays (CXR) following GP referral are undertaken each year in Scotland. This is the first step in the process for identifying lung cancer; however, a more detailed CT scan is required to confirm the diagnosis. With no way of prioritising urgent cases, patients can face an anxious wait for the follow-on CT scan and to find out if they have lung cancer. Artificial Intelligence (AI) is a tool which can make the CXR review process more efficient, but it does not replace the role of the doctor. When AI is used as part of the CXR, it flags certain features which may indicate cancer so it can be prioritised for review and enable faster access to CT scans. CXR AI technology has been trialled in NHS Grampian and NHS Greater Glasgow and Clyde (NHS GG&C) to support the prioritisation of Radiologists' workload. The NHS Grampian Service Evaluation demonstrated patients receive a CT scan six days sooner following a CXR report

(statistically significant). Cancer doubling time can be very short, in some cases a matter of a few weeks, therefore a six-day reduction in receiving a CT scan has the potential to make a positive difference to high risk patients.



This Value Case proposes an enhancement of the lung cancer diagnostic pathway, utilising AI technology to risk stratify CXRs requiring urgent radiology review and diagnostic Computed Tomography (CT) scans. The project provides a unique opportunity to be the first UK nation to implement an AI-enabled pathway enhancement at a national level. The learnings from this project will pave the way for the adoption of AI in other clinical pathways such as stroke or breast screening.

The project will commence a six-month period of intensive implementation planning (March – August 2025) which will focus on the following key areas:

- Digital Design and Procurement, including partnership working with the Scottish Government Digital Health and Care Directorate and the national Picture Archiving and Communications System (PACS) Reprovisioning Programme, as well as contract management and supplier selection planning
- Pathfinder Implementation of the new national clinical pathway for CXR AI in NHS GG&C and NHS Grampian
- National AI Governance and Service Management outlining a plan for managing a nationally deployed AI product in business-as-usual arrangements
- Implementation Planning of the timelines and deployment methods for component workstreams
- Evidence and Final Value Report including review of newly published evidence and plan for a national service evaluation

Following the completion of the planning period the Value Case will progress through the ANIA approval route during September, including to the NHS Executive Leadership Group, before being presented to the IDA in October 2025 for a final decision.

2. Digital Type 2 Diabetes Prevention



There are currently over 287,000 people with type 2 diabetes (T2D) in Scotland, which is predicted to increase to 480,000 over the next decade. It is estimated that up to a third of the Scottish adult population is living with its precursor condition: prediabetes. Between 5-

10% of those with prediabetes will progress to T2D every year, with rates of progression higher for younger patients, those with a high BMI and those who live in deprived communities. Treating T2D is estimated to cost NHS Scotland in excess of £1 billion per annum.

Progression from prediabetes to T2D can be prevented or delayed by an intensive 9 month behaviour change programme that delivers weight reduction, with research demonstrating that this programme can prevent the progression to T2D by nearly 70%. A national digital programme is already deployed across NHS England which offers the programme to 100,000 patients per year. NHS England has estimated that this programme has led to 18,000 fewer people living with T2D over the last four years within England.

3. Ambulatory ECG Patch Monitors

It is estimated that 2.6% of the Scottish population (about 143,000 people) have Atrial Fibrillation (AF), a condition where the heart beats irregularly. This is important as AF is a major risk factor for both stroke and heart attacks, which is a major source of demand for NHS Scotland. The positive news is that AF can be effectively treated via medication in primary care once a diagnosis is confirmed. To diagnose the condition, patients currently have to wait months, or even years, to get access to a limited number of NHS Holter Electrocardiogram (ECG) monitors. This is a major issue as patients may have a serious

cardiac event whilst waiting. Holter systems also have several drawbacks as patients must make repeat trips to a hospital to have the device fitted and they can generally only be worn for up to five days, meaning less frequent arrhythmias can be missed.



Adhesive single lead devices (patches) offer an improved method of ECG remote monitoring which are more effective at diagnosing AF, whilst also reducing waiting times across Scotland, which in some Boards can be up to 2 years. There is the opportunity to develop a national remote diagnosis service for AF, using ECG patch technology. This

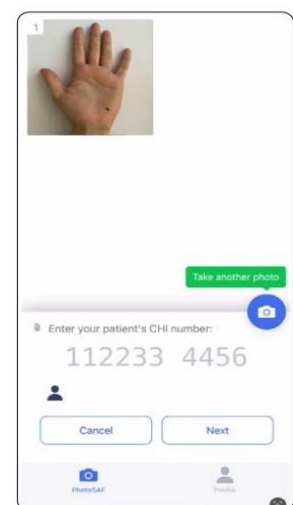
could reduce diagnostic waiting times, reduce demand on NHS Scotland and prevent significant numbers of strokes and heart attacks across Scotland.

Innovations in Delivery

Technologies which have been approved for national implementation by both Scottish Government and NHS Scotland Health Boards.

1. Digital Dermatology

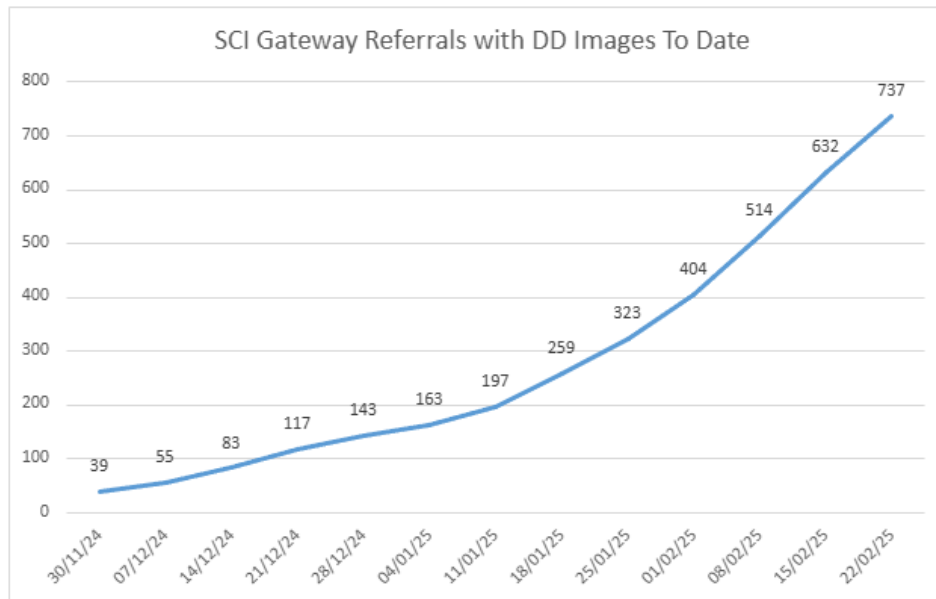
As of 30th September 2024, over 63,000 patients were waiting for a first Dermatology outpatient appointment. Approximately 36% of referrals across Scotland from primary care currently include a digital image. Increasing this to 90% through the development of a national image capture, transfer and triage process, could deliver a 50% reduction in demand for outpatient appointments and allow some patients to be directly scheduled for surgery.



The process will involve capturing quality digital images of a patient's skin concern when they visit their GP or primary care provider. This will allow, where clinically appropriate, a senior Dermatologist to triage, diagnose and assess some skin conditions without the need for patients to attend an appointment. People will then either be treated by their GP with advice, directed to a more suitable service for their skin concern for example an acne clinic, or be offered a face-to-face appointment at a Dermatology clinic, with those who need it directly scheduled for treatment or surgery.

Delivery Milestones - Key Highlights

- As of Monday 17th February, there were a total of 5 Health Boards live with access to Digital Dermatology equating to 430 practices (48.5% of all GP practices across Scotland).
 - NHS D&G
 - NHS GG&C
 - NHS Lothian
 - NHS Forth Valley
 - NHS Orkney
- Ongoing work with last cohort of Health Boards ahead of their implementation in March which will mean that the technology is deployed across all Boards in Scotland
- Planning for BAU service model and transition post implementation underway
- At close of business on 22nd February, there has been a total of 737 SCI Gateway referrals with images captured via the application
- Extension of the national programme team agreed to optimise primary care usage of the new technology and to support embedding image led ACRT in secondary care



2. Pharmacogenetics

This Value Case covers two genetic tests:

1.1 A genetic test to identify patients who are resistant to Clopidogrel



Stroke is one of Scotland's biggest killers and leading causes of disability with treatment costing in the range of £13,000 - £24,000 in the first year alone. In 2023, 10,803 people were diagnosed with a stroke, of which 9,182 (85%) were ischaemic strokes. Clinical guidelines recommend that patients who suffer a non-cardioembolic ischaemic stroke or

TIA are prescribed the antiplatelet medicine clopidogrel. However, in approximately 30% of the population, clopidogrel has reduced effectiveness due to the presence of variants of the CYP2C19 gene.

National adoption of the CYP2C19 Genotype Testing pathway will allow all newly presenting patients with a non-cardioembolic ischemic stroke or a transient ischemic attack (TIA) to undergo testing to determine their level of resistance to Clopidogrel. It is anticipated that national adoption of the test would prevent 943 strokes over a 5 year period by testing 100,000 stroke patients, whilst delivering a net cost saving of £17.9 million to the NHS. A further exploratory analysis anticipates a broader saving of £30.6 million across social care during this time period, made up from savings in formal and informal social care and lost economic productivity. It is also anticipated that 21 fewer hospital beds per day will be required by year 5 of implementing the test.

NICE recommends using CYP2C19 genotype testing to identify patients who carry these variants so they can be prescribed effective alternative antiplatelet medicines¹. CYP2C19 genotype testing is currently only available in NHS Tayside in Scotland and it is understood NHS England intends to implement the test for stroke/TIA patients in 2025.

1.2 A genetic test for neonates to prevent the permanent hearing loss caused by gentamicin-induced ototoxicity

Gentamicin is an aminoglycoside antibiotic used widely within secondary care to treat patients. If babies are at risk of a neonatal bacterial infection, doctors and midwives would routinely give the antibiotic gentamicin. However, the use of gentamicin carries the risk of hearing loss if the baby has the m.1555A>G genetic variant. The gene variant, which affects an estimated 1 in 500 infants, has been identified as a contributor to aminoglycoside ototoxicity. Ototoxicity can lead to permanent deafness, significantly impacting a baby's speech, language, and social development. Other alternative antibiotics are available but cannot be more widely used because they are associated with an increased risk of antimicrobial resistance.

¹ [Overview | CYP2C19 genotype testing to guide clopidogrel use after ischaemic stroke or transient ischaemic attack | Guidance | NICE](#)



A Point of Care Test that identifies the M.1555A>G gene variant, can be carried out at the cot side in just 26 minutes, allowing an informed decision to be made as to whether to use gentamicin or an alternative drug that does not cause deafness. This test is recommended by the National Institute for Health and Care Excellence (NICE)² via an Early

Value Assessment and follows a successful pilot in Manchester University NHS Foundation Trust.

National adoption of this technology is anticipated to prevent 31 babies going deaf over a 5 year period by testing 15,000 neonates, who are currently not tested, before they receive gentamicin. Rolling out this technology would also deliver a net cost saving of approximately £200k over 5 years to NHS Scotland as babies would not have to undergo cochlear implant operations. A further exploratory analysis anticipates a further £14.5 million could be saved in broader social care costs, made up from cost avoidance in additional education costs and lifetime disability payments.

The Pharmacogenetics has been approved by the Innovation Design Authority and the NHS Executive Leadership Group. Implementation will immediately follow funding allocation for this programme.

3. Digital Diabetes Remission

² [Overview | Genedrive MT-RNR1 ID Kit for detecting a genetic variant to guide antibiotic use and prevent hearing loss in babies: early value assessment | Guidance | NICE](#)

Digital diabetes remission programme is to support people living with type 2 diabetes to reduce their weight and achieve remission. There were 297,504 people living with type 2 diabetes in Scotland at the end of 2022, with 22,545 new cases that year.



Being diagnosed with type 2 diabetes is likely to reduce life expectancy by 6-7 years, with significant risks of complications such as heart attacks and strokes, as well as problems with eyes, kidneys, and feet. Treatment of diabetes costs NHS Scotland c.£1.6bn per year. The proportions of people of 35-84 years of age with a diagnosis of type 2 diabetes in Scotland were approximately twice as high among people in the most deprived quintile compared with those in the least deprived.

The current implementation request is for £4.6 million over three years to replicate service provision levels in England. This is required to be approved by the Scottish Government. An alternate implementation pathway with a reduced budget is currently in development.

Patient benefit: 1000 people per year for 3 years with newly diagnosed type 2 diabetes enter into an intensive weight management programme led by specialist dietitians and health coaches delivered via a fully remote digital healthcare platform. Research indicates that 46% of patients completing the programme will achieve remission of their type 2 diabetes at 1 year, with all patients benefiting from clinically significant average weight loss of 10% and reductions in blood pressure, all contributing to reduced cardiovascular disease risk and reduction in polypharmacy.

Cost benefit: £8.7m (£2.5m cashable savings and £6.2m health care cost avoidance) over a 5 year period post implementation. Delivery Milestones: Diabetes Remission is awaiting funding confirmation.

ANIA programmes that have moved to BAU arrangements following successful implementation

Closed Loop Systems National Onboarding Team



The ANIA Closed Loop Systems (CLS) Value Case was approved by the Innovation Design Authority, leading to the setting up of the CLS National Onboarding team, which delivers an education and support service to patients to provide them with the skills and confidence to

use their new CLS device, working in close partnership with referring Boards. The establishment of the national team was a key enabler of the recent investment by the Scottish Government in additional CLS devices. The service has now successfully migrated to BAU arrangements where it continues to support the deployment of this life-changing technology for patients across Scotland.