Health Innovation East Midlands

CVD Prevention Innovation Exchange

Thursday 13th March

Introduction to the session

Health Innovation East Midlands

- Today's session will last 90 minutes
- Please keep your microphone off until the Q&A session at the end
- We will record the session to share with anyone who could not make it today
- We'll share our digital event pack with more information on the innovators in our follow-up comms

An innovation ‘docking station’

Health Innovation East Midlands

- HIEM is one of 15 Health Innovation Networks (HINs) – commissioned by the NHS to operate as the innovation arms for our ICSs and partners.
- We tackle national problems, with local understanding.
- And local problems, with national expertise.
- Each health innovation network is fully-embedded in their local health and research ecosystem.
- This drives economic prosperity and growth in all parts of the country, and ensures that everyone benefits from innovation.

What is an Innovation Exchange?

Health Innovation East Midlands

- We engage with our local health and care partners to establish common challenges, based on the region's health priorities.
- We work with key local stakeholders to define clear challenge statements that describe the needs to be addressed.
- We source a range of innovations that directly address these challenge statements and present these in a showcase event, with a local health and care audience.

Stakeholder engagement

Health Innovation East Midlands

We engaged a number of NHS and Social Care stakeholders before this event to identify their top challenges which digital solutions may be able to solve. This enabled us to create a list of common challenge statements.

All innovators presenting today will present innovations that tackle one or more of the following:

- Communication, mobilising and empowering patients and communities to access data and information that help understand, control, maintain and potentially improve outcomes post-diagnosis of any CVD condition.
- Improvement in patient lifestyle and behaviour change aligned to improving outcomes post-diagnosis of any CVD condition.
- Identification and treatment of hypertension.

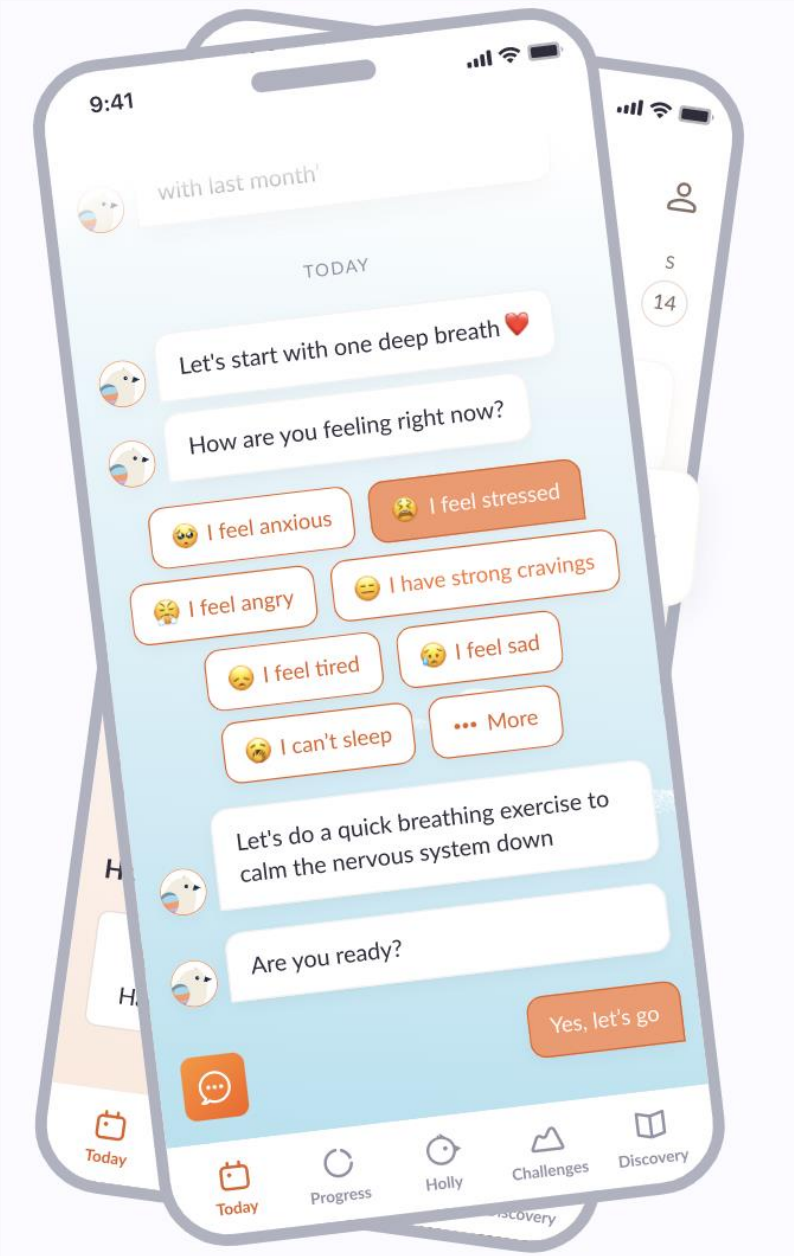
Health Innovation East Midlands

Innovator Pitches

Round 1

Holly Health

Digital health coaching, with intelligence.
Enabling population scale outcomes for chronic conditions & day-to-day health

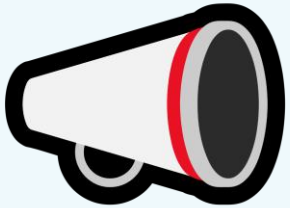


grace@hollyhealth.io

The challenges in changing lifestyle behaviours on your own.

Hard to know where to begin (nutrition, exercise, sleep, mental health etc)

It’s common to try to do too much too fast (then give up)



Support needs to cut through the noise of modern life

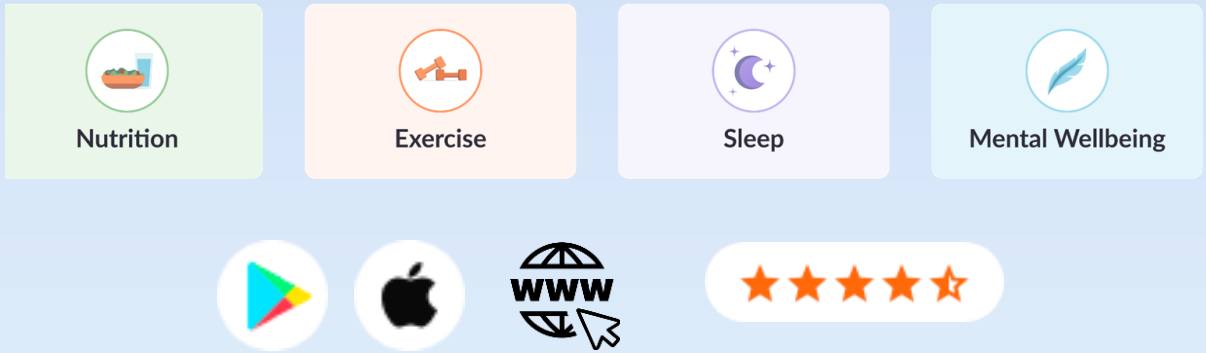
Holly Health user experience.

User Journey:

- Invitation to use Holly (via GP/community/local authority)
- ‘Online wellbeing check’
- Health snapshot chart
- Personalised habit setup
- Daily nudging, compassionate coaching, gamified habit tracking
- Health outcomes tracking (mood, blood pressure, energy, stress, weight etc)

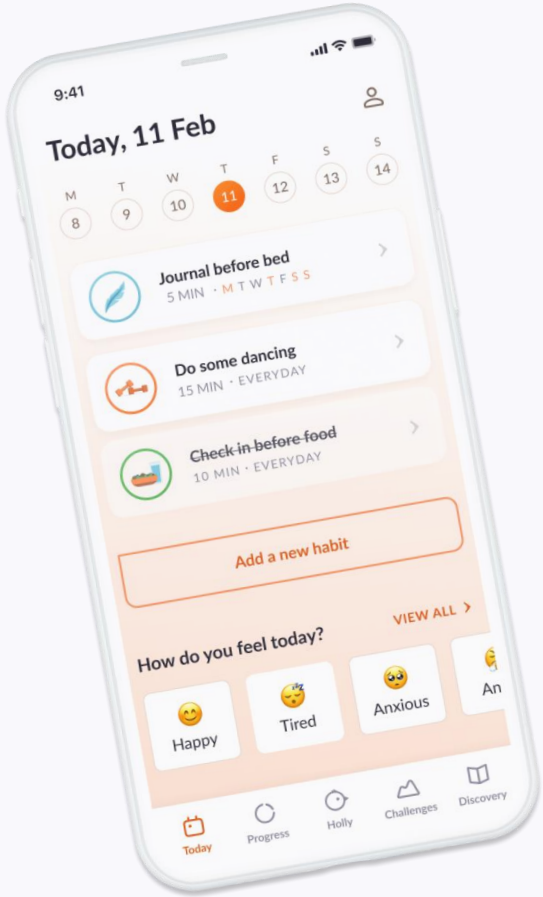
Onboarding/behavioural health check is available in any language.

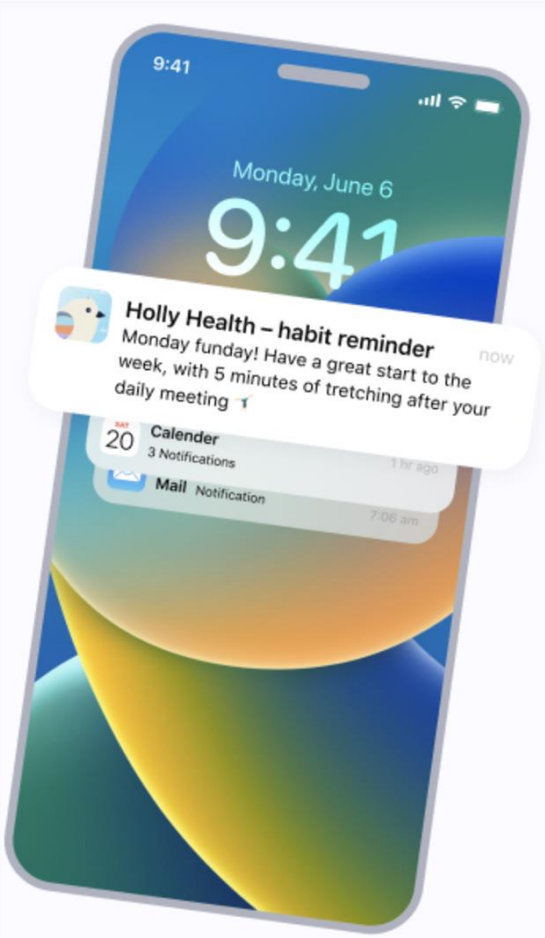
Support also provided for people who do not have a smartphone

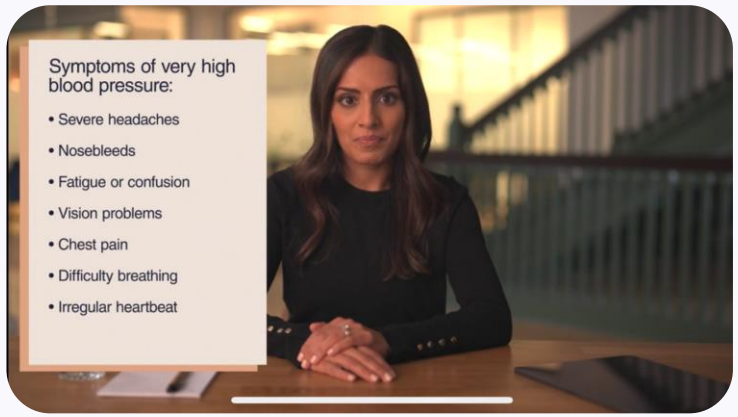


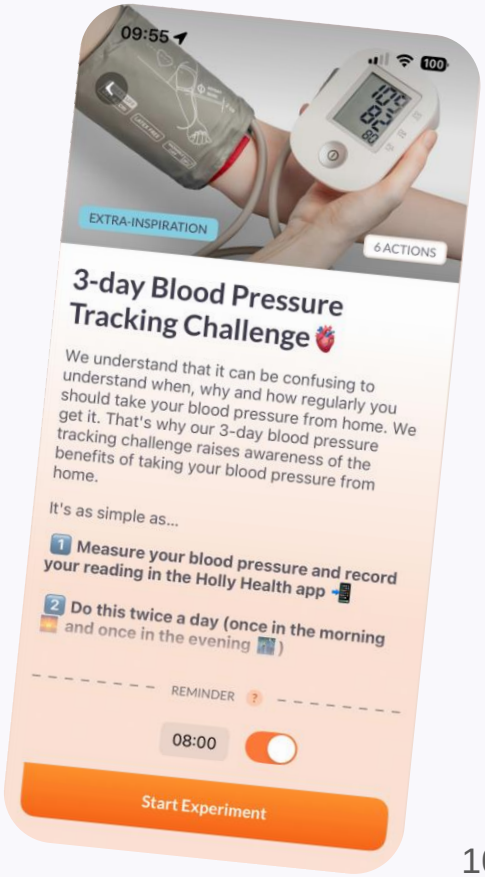
Key features for success.

- Daily habit reminders & coaching
- Interactive heart health education
- Quick mood, energy & stress check-ins
- BP & weight tracking
- Blood Pressure check process over multiple days
- PDF data exports, to share with clinicians
- Journaling related to medication and other areas









Average outcomes (hypertension cohort).

Equivalent to (or even better than) human-delivered services

+40mins
Average weekly exercise increase

+20%
Improvement to Energy Levels

+17%
Improvement to Fruit/Veg intake

9
Fewer annual GP appointments in high service users

+26%
Improvement to Mental Wellbeing (ONS-4)

4.2mmHg
Reduction in Systolic BP

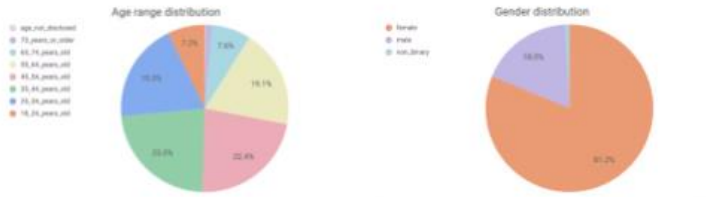
4%
Weight loss

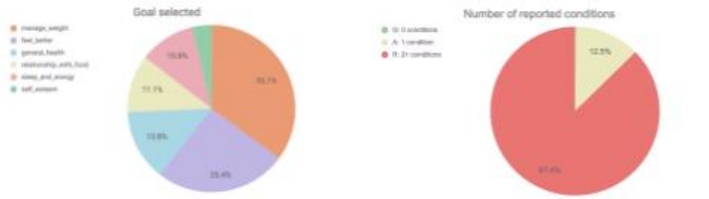
"Less stress means less illness so don't need to see GP as often. Also have new resources so don't need to bother GP /nurse for info and referrals"

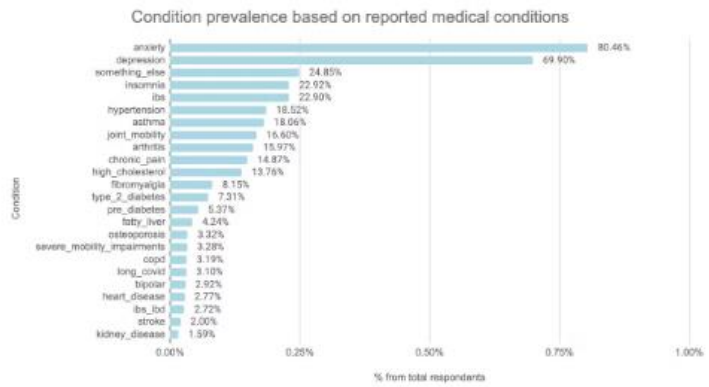
"The app, which I have used every day now for months, keeps me focused and motivated . Thank you"

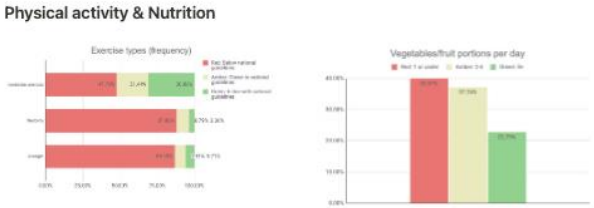
Health data aggregations.

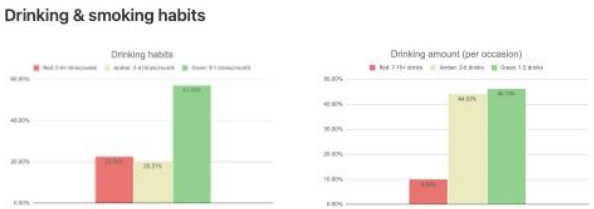
Baseline *(how does the local population baseline health look, compared with UK)*

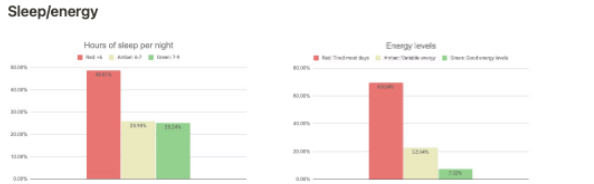


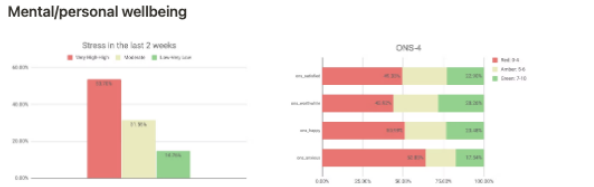




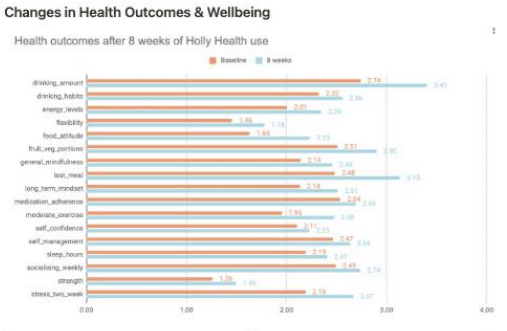


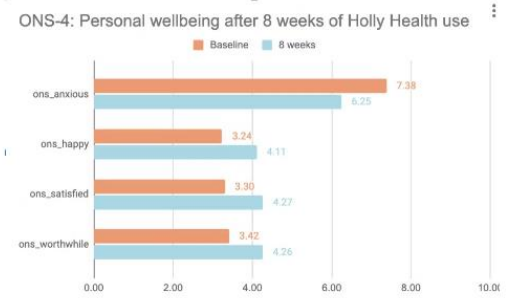


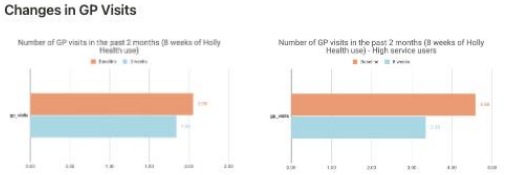




Outcomes







Additional benefits to partners

- **Low service cost** (from £4 per user per year)
- **High uptake across diverse user demographics**
- Ability to **surface local content/signposting** to local users
- **Integration with NHS App** and medical records via Patients Know Best
- **Trusted** by NHS Innovation Accelerator, Innovate UK, SBRI, ORCHA 90% score, DTAC approved
- **Partnerships with BP device organisations** such as OMRON
- **PDF data exports**, easy send to clinicians
- **PCN ROI of over 5x, ICS ROI of over 15x**

Join us in bringing accessible self management support, to thousands of people who are currently on their own

Holly HEALTH

Your Journey So Far

31/10/2023

Health Snapshot Chart

Baseline health chart

Most recent health chart

Report Medical Conditions

High blood pressure, Severe mobility impairments, Pre-diabetes, Osteoporosis

Main Goal

I want to reach and sustain a healthy weight

Health Snapshot Changes

Evaluated area	Area of health	Starting answer	Date of signup	Most recent answer	Date of Last Reading	Positive Impact
Energy	Sleep	It varies quite a lot	20/10/2023	It varies quite a lot	20/10/2023	
Sleep hours	Sleep	6-7 hours	20/10/2023	6-7 hours	20/10/2023	
Moderate Cardiovascular Exercise	Physical Health	Less than 1 hour	20/10/2023	Less than 1 hour	20/10/2023	
Fruit/Veg intake	Nutrition	3-4	20/10/2023	5+	20/10/2023	✅
Stress	Mental Health	Moderate	20/10/2023	Moderate	20/10/2023	
Life Satisfaction *Scored out of 10 - 10 is best*	Mental Health	5	20/10/2023	5	20/10/2023	
Life Worthwhile *Scored out of 10 - 10 is best*	Mental Health	4	20/10/2023	4	20/10/2023	
Happy yesterday *Scored out of 10 - 10 is best*	Mental Health	4	20/10/2023	4	20/10/2023	

Holly HEALTH

Thanks!

Email: grace@hollyhealth.io

hello@hollyhealth.io

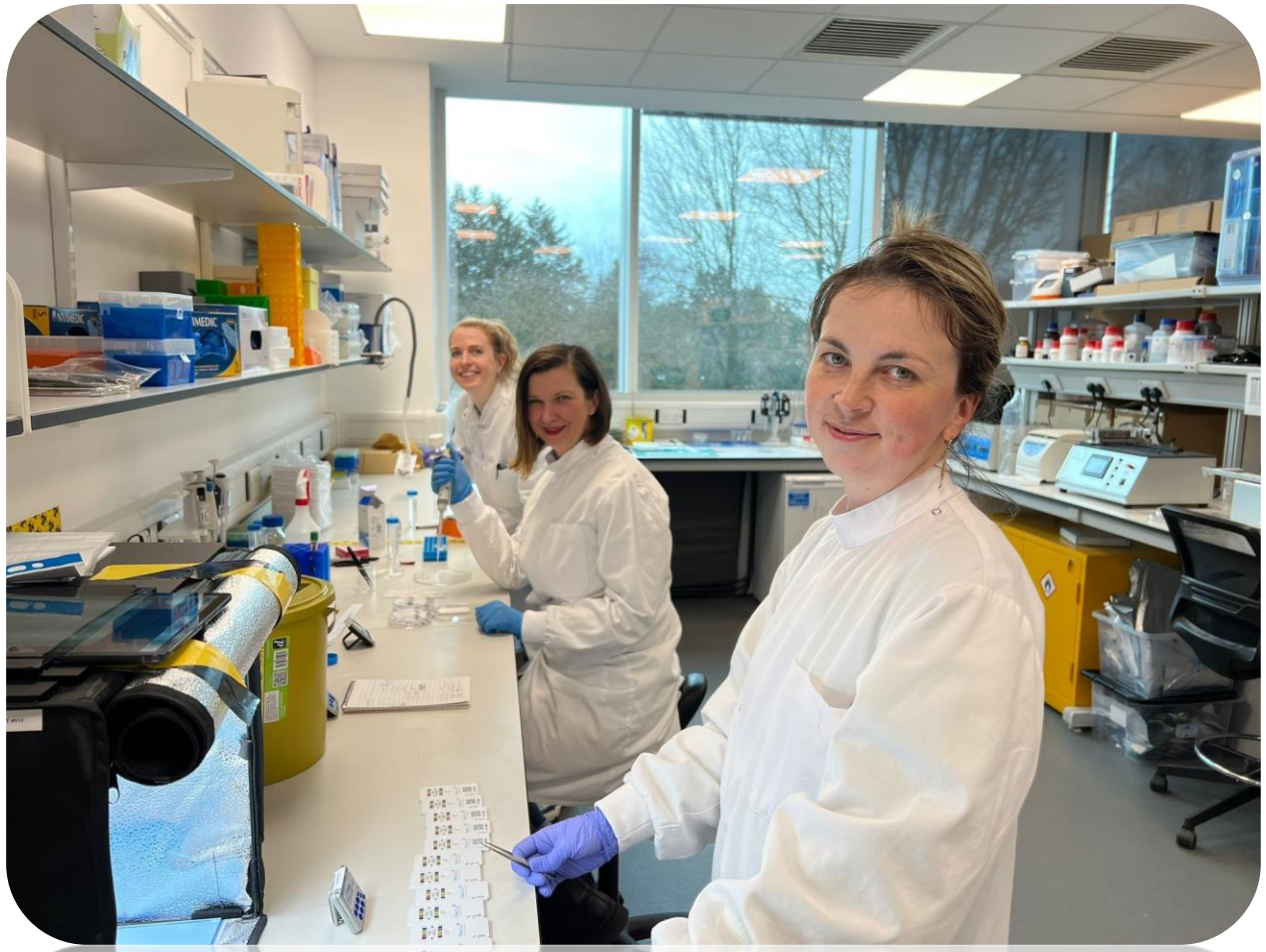
www.hollyhealth.io

PocDoc

PocDoc & Health Innovation NENC

Reducing Health Inequalities Across North East and North Cumbria

The PocDoc Manufacturing Team creating tests for NENC!



The opportunity to Support NENC:

Within the NENC region, where **479,000** adults are deemed "at risk" of CVD without prior cholesterol testing or CVD screenings, only **49%** of individuals with a likely QRISK score exceeding 10% have a recorded CVD screening.

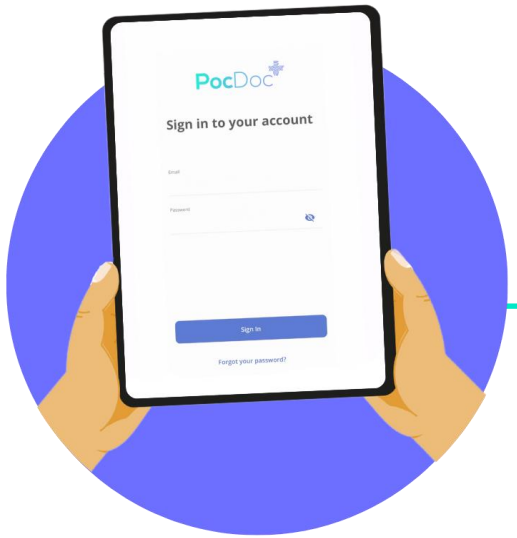
Furthermore, up to **75%** of the 129,000 individuals on the coronary heart disease register in NENC have gone **>12 months** without a lipid test.

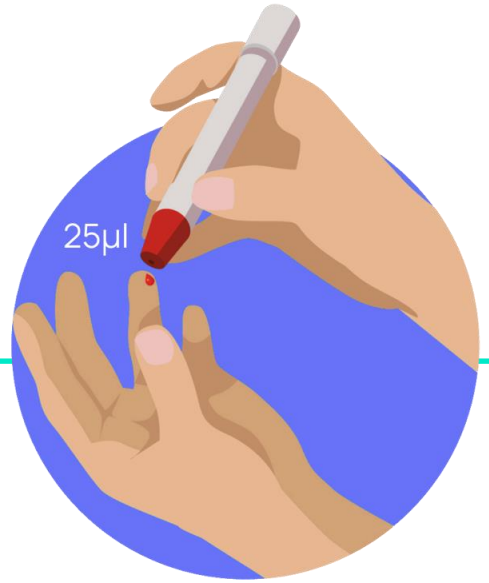
PocDoc

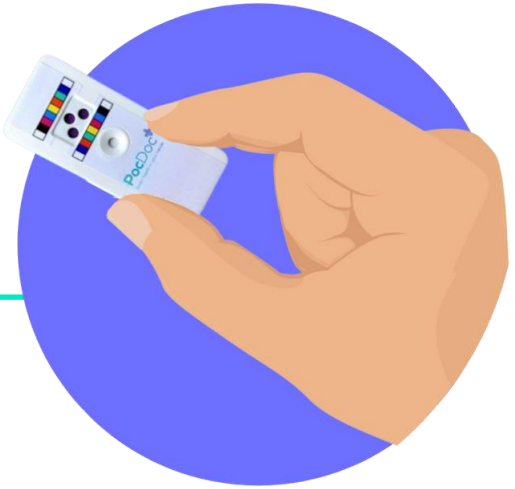
What is PocDoc?

Testing at home, in-practice, or in-community!

Performing a PocDoc Healthy Heart Check







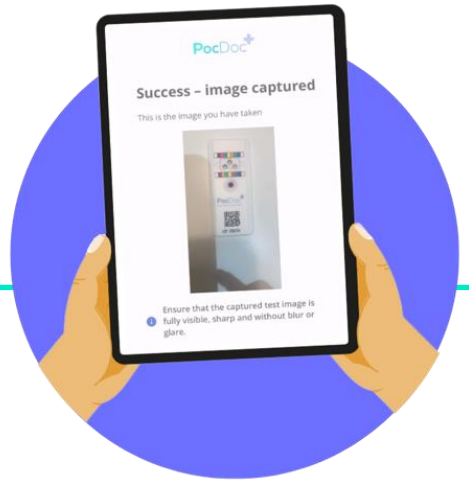
1. **Preparing for the Test:** The user logs into the PocDoc App and enters their health and contact information

2. **Blood Sample Collection**: The PocDoc App guides a user to make a small prick on a finger using a lancet and collect 30µL of blood via a glass capillary.

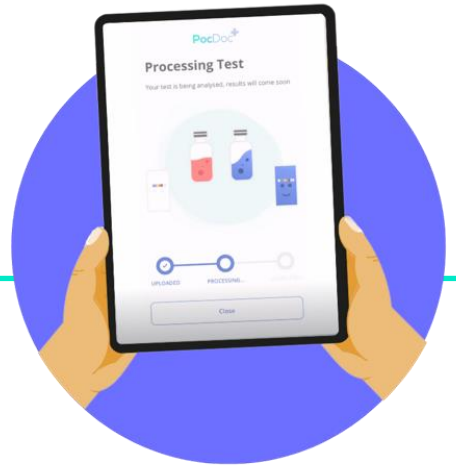
3. **Blood Processing**: The user is then guided through applying a blood sample to the PocDoc test

Processing the PocDoc test in 7 minutes!

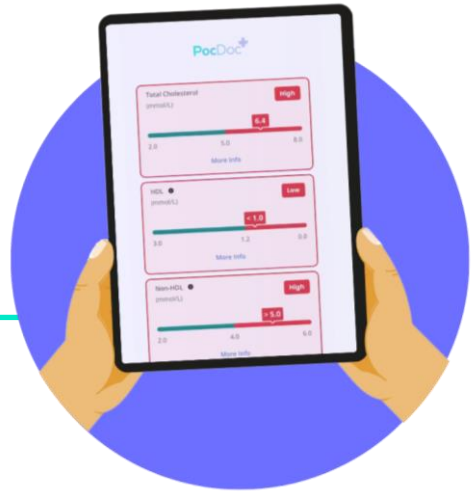
4. **Colour Change**: Assay reactants, including dyes, on the test site react quickly with the lipids in the plasma, causing a colour change.



5. **Image Upload:** After 7 minutes the PocDoc App indicates it is time to take a picture using a phone or tablet's camera.



6. **Image Processing:** PocDoc's software adjusts the uploaded image for different lighting conditions and uses inbuilt calibration to quantify the results.

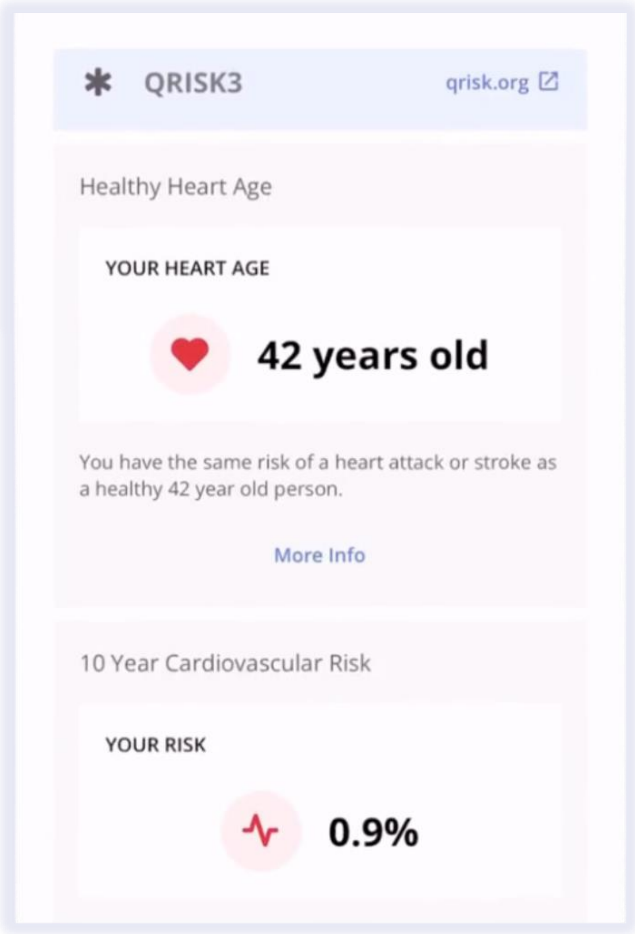


7. **Results:** The test results are displayed on the PocDoc Results Dashboard, next to the results of the health assessment.

PocDoc Results Dashboard + Report

Lipid results from the PocDoc Lipid Test are displayed next to the NHS recommended values – clickable with added info

BMI, displayed next to NHS recommended values



Your heart age gives a clear indication of overall health

Healthy person risk is the expected risk of a healthy person with the same age, sex and ethnicity as you

10-year Cardiovascular Risk is your QRISK 3 Score, calculated using the QRISK algorithm

Report automatically emailed to the person right after screening!

The PocDoc clinical value proposition

By providing a fully-integrated digital Healthy Heart screen, complete with a rapid 6-marker lipid panel test, PocDoc is **identifying** patients at high risk of cardiovascular disease in workplaces, deep-end practices, community and home settings across hard-to-reach communities, such as NENC

By **connecting** these individuals with their own data, professional support and the right clinical pathways, patients are **empowered** to make positive lifestyle changes and are adopting healthier habits and / or medications.

Testing in communities has proven to be convenient and accessible!

DXS

ExpertCare

- Clinical decision support to primary care
- 17 years of NHS experience
- Novel algorithm driven solution for Hypertension
- James Findlay Clinical Director
- Team of pharmacists & developers

HM Government G-Cloud Supplier

NHS Digital

NHS GP IT futures

DTAC

Medicines & Healthcare products Regulatory Agency

About Us

HYPERTENSION

Controlled blood pressure	2024 = 66%	NHSE = 80%
NICE estimates …	**Prevented**	**Savings**
Heart attacks	7,073	£52.8m
Strokes	10,556	£146.8m
Kidney failure	Reduced	
Vascular dementia	Reduced	
Deaths	5, 658	

The Opportunity

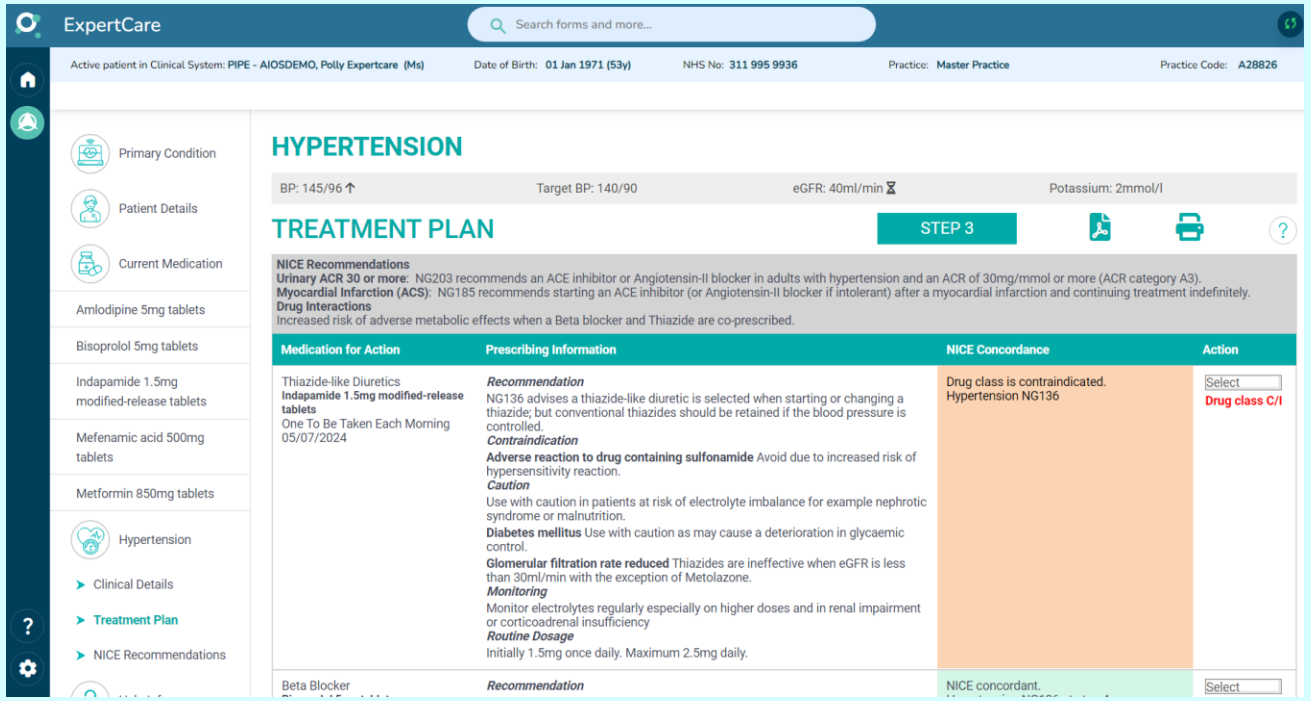
HYPERTENSION

1. Highly prevalent (17%)
2. 340 consultations per 1000 registered patients per annum
3. Never achieved 80% control in NHS history
4. During pandemic below 50% … labile target
5. White coat hypertension
6. Therapeutic inertia
7. GP shortage

The Problem

EXPERTCARE

- Analyses the GP practice coded record (in seconds)
- Recommends drug treatment based on national guidance
- Identifies drug related adverse events
- Manages comorbidity
- Optimizes prescribing
- Saves to GP record



The Offer

INNOVATE OUTCOMES

	Traditional	Innovate Project
Setting	Face-to-face by default	Virtual-by-default
Clinician	GP centric	Pharmacist & technician
Review	Medication focused	Hypertension focused
Time/patient	33 mins	15mins

	50K PCN/INT	BP reduction
Hours saved	1,682	Systolic BP reduced by 7 points
Cost reduction	£58,600	% uncontrolled halved = 85% target

THE FUTURE

1. Optimises contribution of pharmacists to long term care
2. Overcomes the uncertainty caused by ‘white coat syndrome’
3. National target achieved by focusing on medicines management
4. Health resource saving of 43% & contribution to net zero targets
5. Lipids and Diabetes coming soon
6. Take advantage of our PCN mentorship offer

Thank You

suvera

Suvera's Proactive Virtual Clinic: Transforming CVD Prevention

Dr Ivan Beckley, Co-Founder & CEO

suvera

A modern population health management solution

Suvera's virtual clinics help NHS Primary Care providers deliver better outcomes for patients with long-term conditions.

Partnered with 300+ GP Practices

100,000+ Patients under management

Commissioned in 20+ ICBs

Regulated by Care Quality Commission

Targeted Patient Outreach: Suvera's Proactive Virtual Clinic

Overseen by Practice Manager + GP Partner

ardens HEALTHCARE INFORMATICS

accuRx.

Operational oversight for co-ordinating recall

Digital Tools for managing recall

Admin Recall Team

Clinical Staff

In house | Outsourced

Supervision of clinical staff

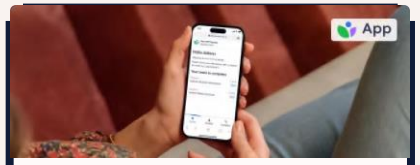
suvera

Regulated by Care Quality Commission

Provides a managed, end-to-end pathway

1. Identify

No more spreadsheets

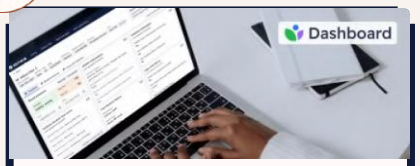


2. Engage

Holistic patient engagement

4. Management

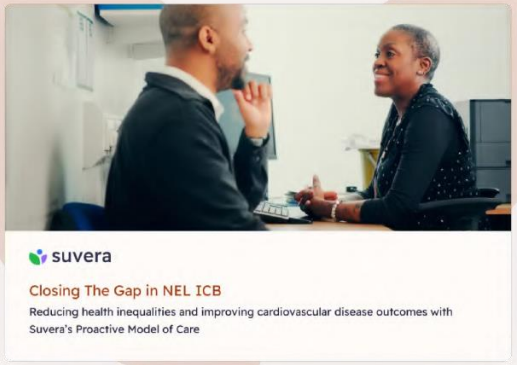
No tasks back to practice



3. Automate

More patients, fewer appts

WINNER!
HEALTH TECH AWARDS 2024
BEST VIRTUAL CARE PROJECT



NEL ICB - CVD virtual clinic

Improving blood pressure management at scale

Link to full evaluation here

No.1 most deprived ICB in London

No.10 most deprived ICB in the UK

SEL ICB - CVD virtual clinic

Improving blood pressure management at scale

Link to full evaluation here

No.3 most deprived ICB in London

No.15 most deprived ICB in the UK

Health Innovation East Midlands

Break

Health Innovation East Midlands

Innovator Pitches

Round 2

KiActiv®

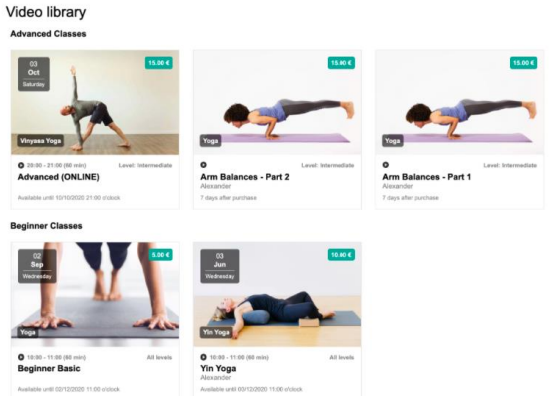
Making Everyday Movement an Accessible, Personalised Medicine

March 2025

Physical Activity is Vital to CVD Prevention

But current approaches are failing those most in need

- **20 million UK adults** are physically inactive
- Costing upwards of **£1.2 billion** per year
- Current solutions are failing



Inaccessible
Unappealing
Ineffective

Health Innovation Network
NHS England
NHS Innovation Accelerator
KiActiv®

Every Move You Make Matters

Building Simple, Small, Sustainable Movement Habits

Expanding the Therapy Window

We optimise movement across the entire ~112 hour waking week

Health Innovation Network
NHS England
NHS Innovation Accelerator

KiActiv®

Every Move You Make Matters

Building Simple, Small, Sustainable Movement Habits

Service Components:

- Proprietary Wearable Technology
- Patented Online Dashboard
- Human Mentor Support

Health Innovation Network
NHS England
NHS Innovation Accelerator

KiActiv®

Every Move You Make Matters

Building Simple, Small, Sustainable Movement Habits

Accessible & Appealing

Disease agnostic + effective for older adults, overweight, rural & deprived

Health Innovation Network
NHS England
NHS Innovation Accelerator

Activ®

Everyday Movement is a Scalable Personalised Medicine

Real patient impact data across >8,000 people in the NHS

2x Fitness Improvements

RCT data highlighting greater clinical impact compared to exercise-based care

76% Reduction in Readmissions

Delivering significant cost-saving potential compared to exercise-based care

>572,000
Days of Personalised Physical Activity Data

>823 million
Minutes of Accurate Physical Activity Data

>36,000
Daily Symptom Tracking & Behavioural Reports

>8,000
Hours of Mentor Calls with Individual Patient Insights

Health Innovation Network
NHS England
NHS Innovation Accelerator

KiActiv®

How We Can Help You

Improving Patient Outcomes & Reducing Healthcare Costs

Proactively Reach Audience

Proven, accessible alternative to exercise-based care

Measurable Benefits:

We provide clinical evidence of health improvement

Demonstrable Cost-Savings

Calculation of real return-on-investment, in-year

Let's Talk

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Health Innovation Network NHS England

NHS Innovation Accelerator

KiActiv®

avid

Activating proactive health action,

to engage early, reduce risk and transform outcomes at scale.

- World-class user experience: **NPS 87, Retention 91%**
- **CQC registered** clinical service and workforce
- **First pharma partner** and live NHS sites
- Proven clinical outcomes (e.g. **-7.3% weight loss** in 12w)
- Human clincal teams augmented with **AI avatar** tech

Meet Andy.

Obesity

Hypertension

High cholesterol

Pre-diabetic

10% chance he'll have a heart attack or stroke in the next 10 years.

HEALTHCARE IS BROKEN

40% of all chronic conditions are preventable.

TOTAL NHS SPEND PER YEAR ON CHRONIC CONDITIONS: 40% (£28bn) FULLY PREVENTABLE
YET NO HIGHLY SCALABLE, OUTCOMES-FOCUSED SOLUTIONS EXIST

COMBINED WITH INCREASING PRESSURES:

↑Increasing multi-morbidity and ↑demand

Workforce challenges unable to scale

↑Increasing waiting lists, with ↓capacity,

THE TIME IS NOW

Policy shifts for ↑prevention, ↑digital

AI tools: engagement, prediction and scale

↑Data, diagnostics, devices, medications

↑Consumerisation of health with ↑demand

THE ACTION STEP

Avid activates a new layer of proactive healthcare, that engages early, reduces risk and continually proves clinical value.

THE TEAM

Our clinical founding team with a track record of selling, building and scaling healthcare.

Tom Allen, CEO

20+ years business dev and commercial roles in health.
Prev AWS NHS Lead (4y), BD Director at Optum (5y)

aws Optum UnitedHealthcare

Dr Laura Tan, COO

Medical doctor, developer and clinical product leader.
NHS Clinical Academic, and NHS Clinical Entrepreneur

NHS NHS CLINICAL ENTREPRENEUR PROGRAMME

Dr Jean Nehme, Chair

Highly successful founder, surgeon and healthtech leader
Prev founder/CEO of Digital Surgery aquired by Medtronic

Medtronic Digital Surgery™

ADVISORS

Jeremy Schwarz & Malia Lewin

Sales & Commercial (US & Pharma) | Bluebuck Ventures

Dr Dominic King

VP Health Microsoft
Prev United Health Group,
Prev Google Health/Deep Mind

Mat Nuckowski

Senior Software Engineer (Mobile), UX/UI Designer

Nishadh Shrestha

Senior Software Engineer (Full Stack), AI/ML Engineer

Dr Alice McGee

Clinical Research Fellow, Clinical Safety Officer, AI Specialist

Moira Newiss

Registered Nutritionist & Wellbeing Coach

THE SOLUTION

Avid's pipeline of engaging clinical pathways.

PROGRAM PIPELINE

- Obesity
- Type 2 Diabetes
- Healthy heart
- Autoimmune
- Cancer
- Menopause

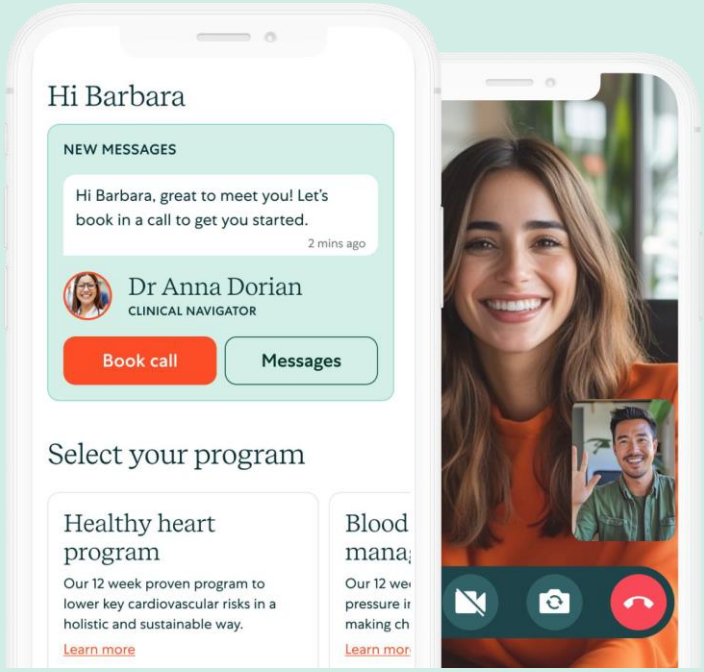
End-to-end clinical care to activate proactive health action.

USER JOURNEY

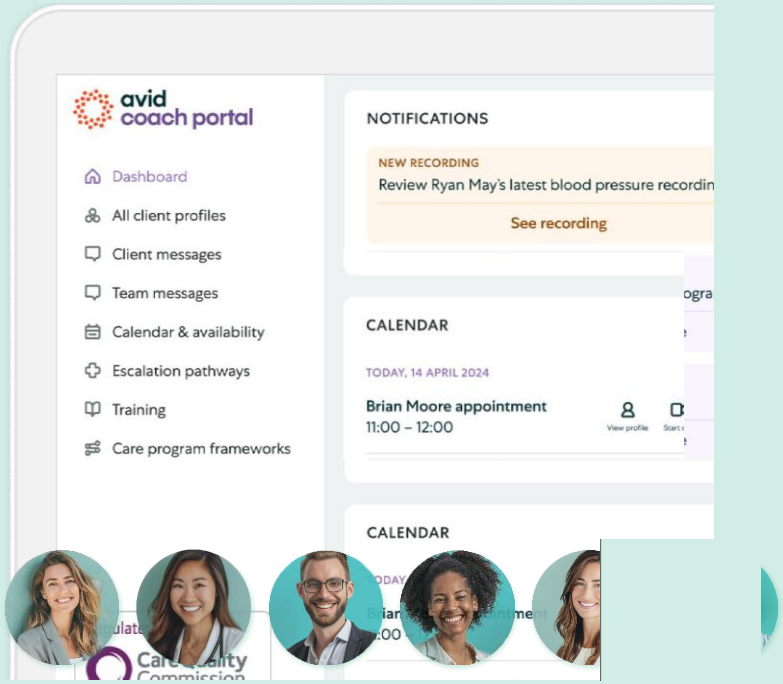
Avid is a registered clinical care provider with end-to-end testing and prescribing services

Delivered via our digital platform and clinical service, augmented by Avid AI.

ENGAGING, GAMIFIED APP + CLINICAL RIGOUR



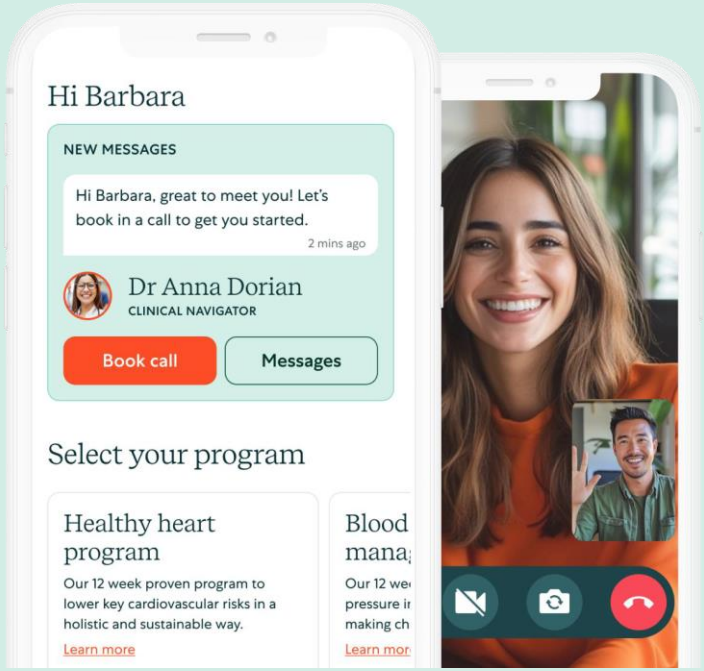
STANDARDISED PROTOCOLS + PERSONALISATION



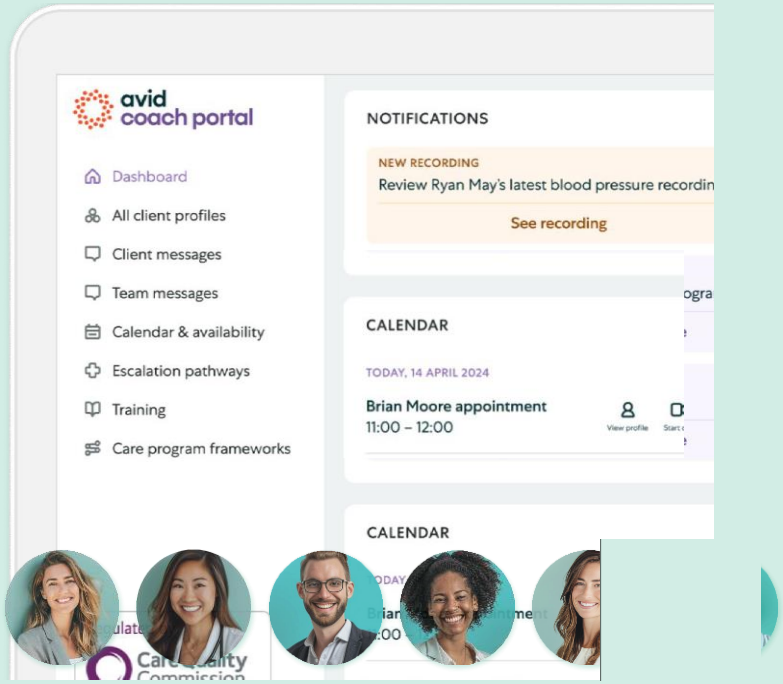
THE PRODUCT

Delivered via our digital platform and clinical service, augmented by Avid AI.

ENGAGING, GAMIFIED APP + CLINICAL RIGOUR



STANDARDISED PROTOCOLS + PERSONALISATION



HUMAN HEALTH COACHING + AI AUGMENT

GO TO MARKET

Traction

HEALTH SYSTEMS

- Solution for ↑prevention to solve ↑burden and ↑multimorbidity

- Proactive risk reduction
- Cost and capacity savings

✅ First live NHS site partner

✅ Secured x10 ICB systems with intention, now aligning funds

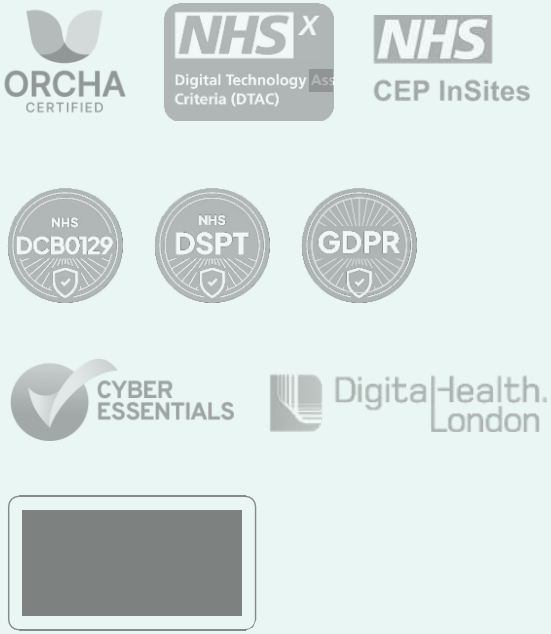
✅ Also opportunities to +Pharma

PHARMA

- Wrap-around digital program to reach unmanaged users

- ↑Adherence, ↑outcomes and mitigated side effects
- Enhance relationship between consumer and pharma

✅ First Pharma deal:
- £150k upfront. Line of sight to £2m end of Year 1, £15m end of Year 5



Meet Andy.

↓BMI 37 to 33

↓BP, off medication

↓Cholesterol

↓HbA1c

57% reduction in risk of heart attack/stroke (↓4.2%)

12 year improvement on heart health age 63 → 51

my mhealth

myHeart

Digital Support for the management of

Cardiovascular Disease

Jane Stokes

Head of Customer Success

The impact of CVD in the UK

- Cardiovascular disease (CVD) is a major public health challenge in the UK.
- Approx 7.6 million people live with heart and circulatory disease in the UK
- CVD is a leading cause of death accounting for 26% of all deaths
- Total annual health care cost approx. 12 billion
- 80% of people with CVD have at least one other health condition

An estimated 80% of CVD is preventable

'Improving care for people with long-term conditions must involve a shift away from a reactive, disease-focused, fragmented model of care towards one that is more proactive, holistic and preventive, in which people with long-term conditions are **encouraged to play a central role in managing their own care**' (1)

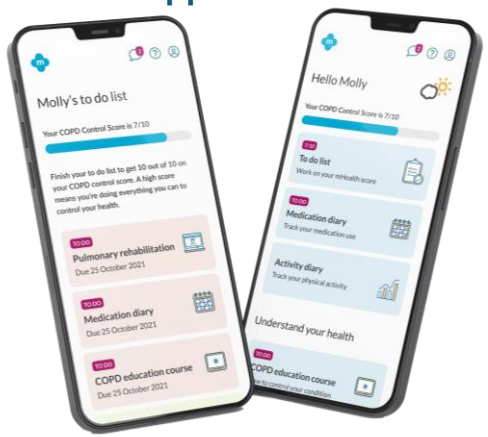
https://www.bhf.org.uk/what-we-do/our-research/heart-statistics

1. The Kings Fund 2013

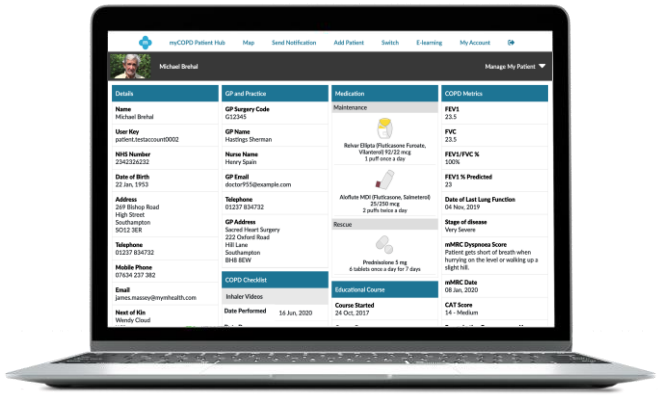
my mhealth Digital Hub:
One application, serving multiple long-term conditions.

80% of people with CVD have at least one other health condition

Patient self-management application



Population-health management dashboard



Four long-term conditions

myCOPD

myAsthma

myDiabetes

myHeart

Digitally enhanced long term condition management…….

"I hoped that the computer would help the doctor in the care of the patient.

And in the back of my mind was the idea that the computer might actually help patients to help themselves with their medical problems."

Dr Warner Slack 1970s

>16,000 UK myHeart users

Suitable for: Hypertension // Heart Failure // Angina // ACS // Valvular Heart Disease
Post PCI // Valve Replacement/Repair // CABG

Orcha

80% approval rating for both IOS and Android.

Self-management tools

Evidence based Rehabilitation and Activity diary

Comprehensive education course

Track and modify risk factors

ECHO report and ECG Storage

Medication optimisation

Connected devices

Symptom and QOL reporting

Series of CBT and mindfulness based resources

Real world evaluation of patient reported impact

90% found the apps easy to use

81% said the apps have helped them to learn more about their condition

81% felt more confident in managing their condition since using the app

76% felt there has been an improvement in symptom control since using the app

95% intend to continue using the app.

For further evidence please visit https://knowledgehub.mymhealth.com/evidence

Feedback

PATIENT *"I started using myHeart 5 months ago. I attended a half day educational session and got introduced to myHeart. It is a most useful tool. It has helped me manage my condition and it has kept me focussed.*

I use it every day, so I find it easy to navigate. I log in every day in the morning and record the medications I have taken. If I have forgotten I can add medications retrospectively for up to 5 days. I record cholesterol, BP and how long I have exercised for and number of steps, I do walking and swimming. I have lost half a stone already.

I take my i-Pad everywhere, even in holiday. myHeart has become part of my daily routine"

CLINICIAN *'Being able to use this app has allowed us to give additional support to patients with the correct information, which helps their recovery from their recent cardiac event and a reduced requirement for our service to support and educate our patients. We're able to monitor the patients daily heart failure symptoms, helping patients to self-manage and understand when to act upon these themselves, and when to contact their nurse/GP or Hospital '*

The value of digitally enhanced prevention

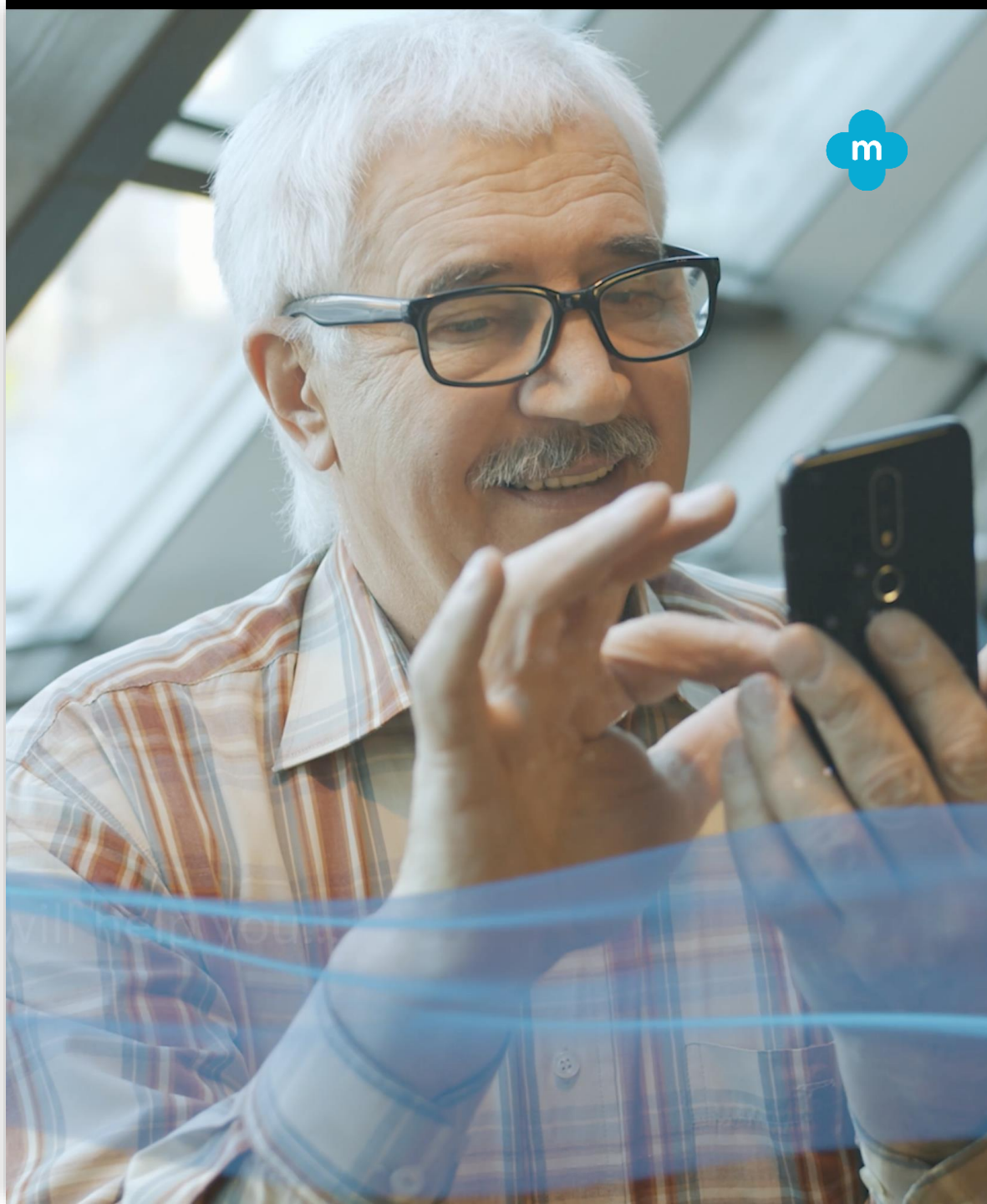
Leveraging digital tools to facilitate secondary prevention in CVD can support

- Improved health literacy
- Patient empowerment
- Improved symptom control
- Risk factor modification and lifestyle management

With the aim of achieving

- Reduced health inequalities
- Improved patient outcomes
- Reducing mortality and morbidity
- Reduced economic burden
- Sustainable healthcare

https://mymhealth.com/



SiSU HEALTH

Helping people Live a Healthy Life

CVD Prevention Innovation Exchange

The Problem

With increasing healthcare constraints and inequalities, many people are disengaged from healthcare and unaware of their health risks, leading to preventable illness, deaths and economic impacts. CVD costs the NHS ~£7bn a year, and ~£20bn of economical impact in the UK.

Around 500,000 fatal heart attacks and strokes could be avoided in the UK over the next 10 years.

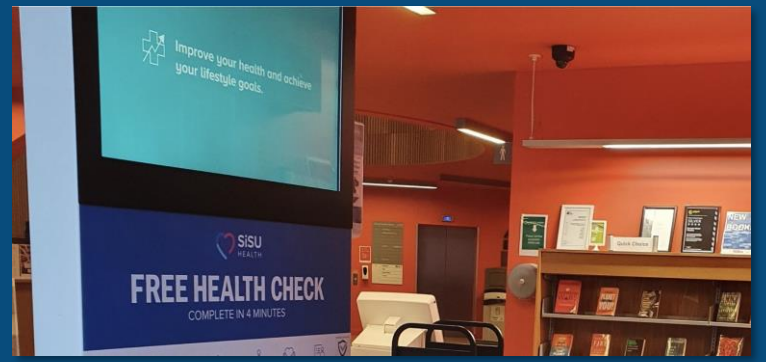
Solution: to help people live a healthier life.
Empowering. Motivating. Owning Health.

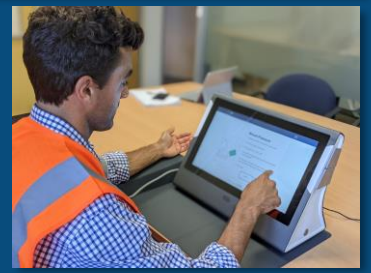
- **Highly accessible, in community network of SiSU Health Stations,** personalised digital health check machines designed to provide accessible, self-service health assessments targeting the hard to reach and those impacted by health inequalities.

- **Self-empowered health improvement** through increasing health literacy, recommendations for lifestyle improvement and a range of digital resources in the app for tracking and supporting health improvement

- **Early intervention and Pathways** through an eco-system of data, health providers and partners to facilitate early intervention and pathways to health products and services.

- **In-depth and near real time population health data and insights** to identify health trends, guide public health policies and tailor preventative care initiatives.





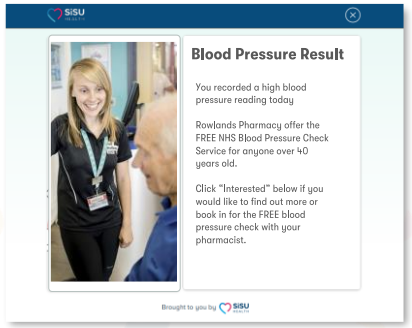
The SiSU Health Platform

SiSU Health Station™

A medical device health check machine delivering self-service health checks in 5 minutes with the ability to facilitate conditional pathways

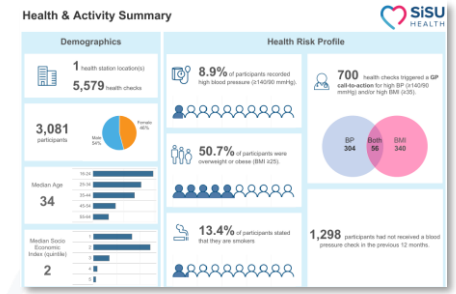
SiSU Health App and Web Portal

Highly rated App that allows tracking of health metrics and motivating further action.



Pathways & Data Integration

Integrated signposting to next step health services including Practitioner Portal allows referrals from the health check into local support services.



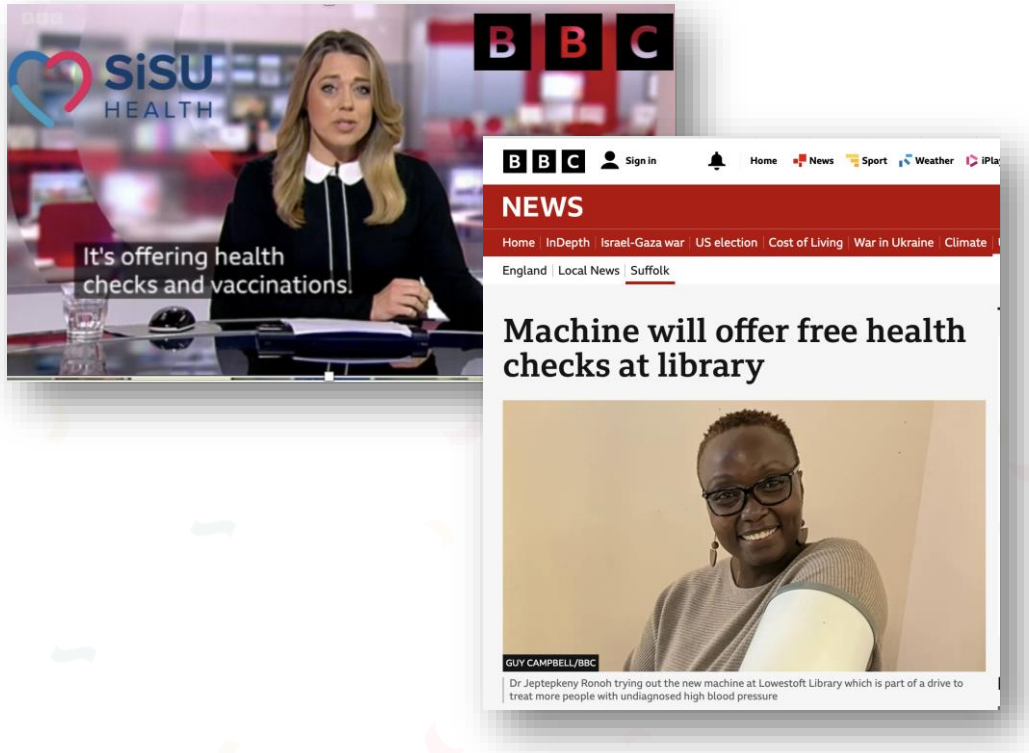
Data, Insights & Analysis Report

In depth insights on demographics, health risks, health change over time and productivity impacts and benchmarking

Our NHS Value Proposition

SiSU Health enables **preventative healthcare and early risk detection** at scale, reducing the burden on primary care services. The government's 10-year plan focuses on three 'shifts':

1. Analogue to **Digital**
2. Sickness to **Prevention**
3. Hospital to **Community**



>1m health checks

>460k Users

>70% motivated to improve

>98000 **Kg** weight lost

22% BP risk reduced

70 Net Promoter Score

".. saved me from having a heart attack or stroke"

Health Innovation East Midlands

Lincolnshire NHS overview

Ben Fawcett – Lincolnshire ICB – Programme Lead - CVD

Mo Bullen - Lipidology Nurse Specialist - Lincolnshire Community Health Services NHS Trust

Lowering Lincolnshire's Lipids

Improving Integration in Cholesterol Management

Project Details

- Aim: To enable more patients to meet their lipid targets (Secondary Prevention)

- Objectives:
  - To provide a better integrated approach to patient care
  - To provide an alternative to an outpatient referral to manage complex patients
  - To support GP education (and GP QOF achievement)
  - To support ULHT (supporting a reduction in demand and backlog)

- 2 year project (funded via NHSE EOI; Further & Faster programme)
- Provision of 1.8 WTE Lipidology Nurse Specialist roles, support by Consultant Endocrinologist & Senior Nurse Consultant in Cardiology
- Set up steering group supporting the development of:
  - Review of guidance and development of local pathway
  - GP Toolkit
  - Specialist nurse telephone / video clinics
  - Education and training for healthcare professionals
  - And improving patient activation

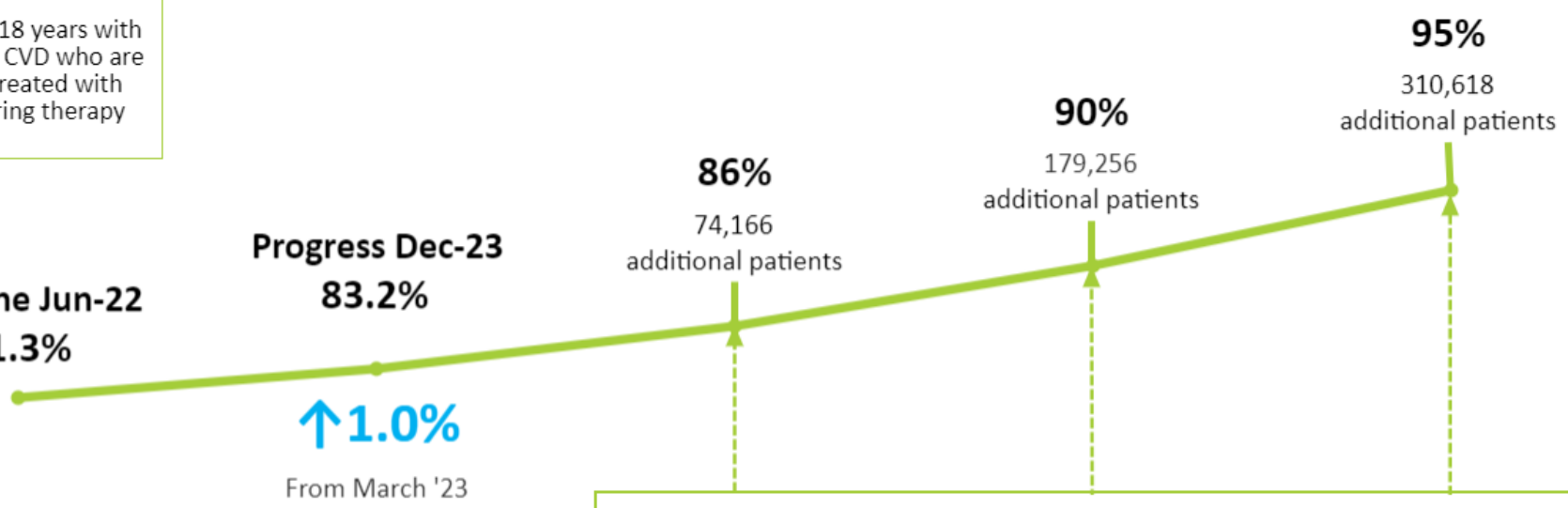
Background/ Why?

- 25 – 28% of CVD Death is due to Elevated Cholesterol, with mortality from CVD conditions being responsible for a quarter of deaths in the UK.
- From a Health Inequalities perspective CVD is the largest cause of premature mortality in deprived areas.
- This is the single biggest area where the NHS can save lives over the next 10 years
- The NHS long term plan (2019) aims to prevent up to 150,000 heart attacks, strokes and dementia cases over the next 10 years as well as improving access to genetic testing for Familia Hypercholesterolaemia from 7% to 25%.
- HIEM (East Midlands Academic Health Science Network) estimates by improving cholesterol management and optimising treatment, it could result in a 33% reduction in non-fatal CVD events, 22% reduction CVD mortality and save the NHS £1.06m per 10,000 patients annually.
- Cholesterol management for secondary prevention is a clinical priority for patients and the NHS, as recognised in QOF.
- Treatment: 1 mmol/L reduction in LDL-C is tied to a 22% reduction in major vascular events after 1 year.

Size of the Prize- England
Cholesterol Optimisation to Prevent Heart Attacks and Strokes at Scale

UCLPartners Health Innovation

% patients >18 years with GP recorded CVD who are currently treated with lipid lowering therapy



Ambition 1	Ambition 2	Ambition 3
Potential cardiovascular events and deaths prevented in 3 years[1,2,3]		
4,450 CV events	10,755 CV events	18,637 CV events
536 deaths	1,296 deaths	2,245 deaths

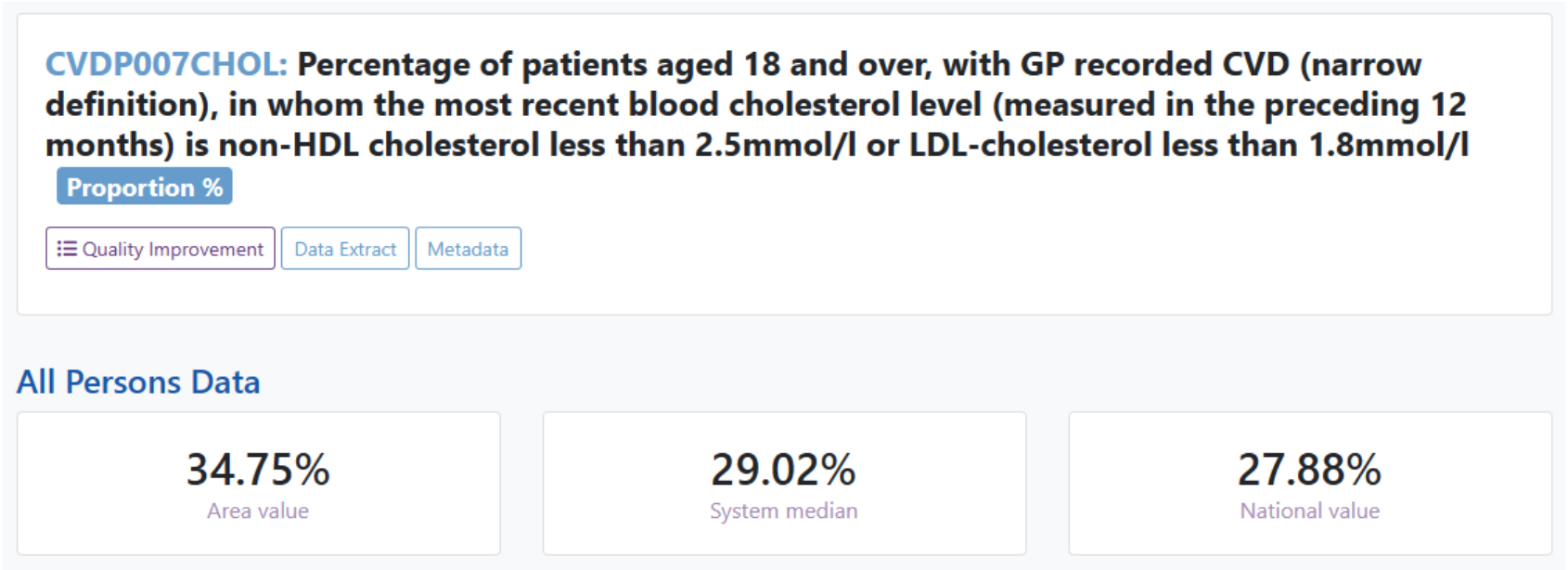
One hundred **strokes** = **£1,391,000** cost to the NHS
One hundred **strokes** = **£951,100** cost to social care*
One hundred **heart attacks** = **£746,600** cost to the NHS

References
1. Collin et al. (2016), Interpretation of the evidence for the efficacy and safety of statin therapy, *The Lancet*, 388, 2532-2561. DOI: https://doi.org/10.1016/S0140-6736(16)31357-5
2. Royal College of Physicians (2016). Sentinel Stroke National Audit Programme. Cost and Cost-effectiveness analysis.
3. Kerr, M (2012). Chronic Kidney disease in England: The human and financial cost

Modelling

Data source: CVDPrevent. Briefing note: CVDPrevent online methodology annex v1 December 2022

Potential events calculated with NNT (Collins, 2016). For patients with known CVD, lipid lowering medicines for five years to prevent cardiovascular events and death: 1 in 10 for cardiovascular events, 1 in 83 for mortality.
* Stroke costs to social care are given for the 1st year following stroke only.



Information from our Lincolnshire ICB and the % of patients meeting their cholesterol targets

Reference: CVDPREVENT. (n.d.). *CVDPREVENT*. [online] Available at: https://www.cvdprevent.nhs.uk/data-explorer?indicator=30&area=8005&period=7 [Accessed 21 Sept. 2023].

Statin monotherapy, even at high-intensity doses, will not be sufficient to decrease LDL-C to the recommended targets in most patients

Hypercholesterolemia is a multifactorial condition, and many patients will require combination therapy like hypertension or diabetes

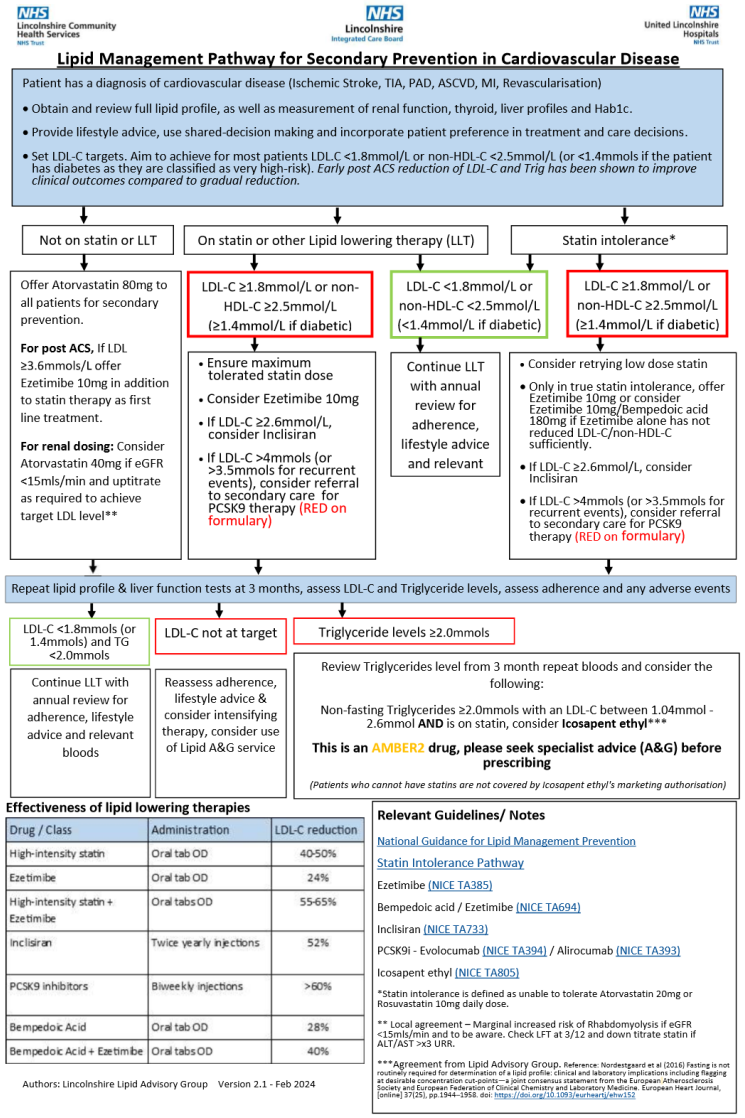
Barriers to preventing evidenced base and best practice in lipid lowering therapy

Physician	Healthcare system	Patient
Inadequate LLT prescription at discharge	Administrative barriers to drug prescription	Poor adherence to treatment
Lack of adherence to guideline recommendations	Cost of novel advanced LLT	Limited knowledge about secondary prevention goals
Lack of structured clinical pathway	Barriers to reimbursement	Lack of educational opportunities during hospital admission
Therapeutic inertia	Limited availability of cardiac rehabilitation programmes	Increased statin intolerance awareness
Knowledge gap between different levels of care	Poor coordination among healthcare stakeholders	Lack of trusted educational sources on the internet and misinformation

Reference: Krychtiuk, K.A., Ahrens, I., Drexel, H., Halvorsen, S., Hassager, C., Huber, K., Donata Kurpas, Niessner, A., Schiele, F., Anne Grete Semb, Alessandro Sionis, Claeys, M.J., José Barrabes, Montero, S., Sinnaeve, P., Pedretti, R. and Catapano, A. (2022). Acute LDL-C reduction post ACS: strike early and strike strong: from evidence to clinical practice. A clinical consensus statement of the Association for Acute CardioVascular Care (ACVC), in collaboration with the European Association of Preventive Cardiology (EAPC) and the European Society of Cardiology Working Group on Cardiovascular Pharmacotherapy. [online] 11(12), pp.939–949. doi:https://doi.org/10.1093/ehjacc/zuac123.

Specialist nurse service outline

- A pilot service has been commissioned within Lincolnshire Community Health Services under Community Cardiology but is integrated across primary and secondary care.
- Group Model – honorary contracts
- Set up steering group (including patients)
- We will be providing education and training on lipid management in various setting such as pharmacy prescribing forums, PCNs meetings, to services in LCHS (Stroke/ Diabetes). Participating community cardiology MDTs and clinical huddles
- Specialist nurse telephone / video clinics for patient from the cohort search, individual referrals or from in-house LCHS services.
- Once a week, we will conduct a clinic at ULHT to help reduce waiting times and improve our own clinical knowledge and governance. This will involve clinical supervision and MDTs.
- We make provision of telephone clinics for patients who are individually referred into the service to help optimise their lipid management.
- We have developed a GP and Patient Toolkit, to improve awareness, take specific action, and support decision making.



NHS Lincolnshire Community Health Services NHS Trust | NHS Lincolnshire Integrated Care Board | NHS United Lincolnshire Hospitals NHS Trust

Lipid Management Pathway for Secondary Prevention in Cardiovascular Disease

Patient has a diagnosis of cardiovascular disease (Ischemic Stroke, TIA, PAD, ASCVD, MI, Revascularisation)

- Obtain and review full lipid profile, as well as measurement of renal function, thyroid, liver profiles and Hab1c.
- Provide lifestyle advice, use shared-decision making and incorporate patient preference in treatment and care decisions.
- Set LDL-C targets. Aim to achieve for most patients LDL-C <1.8mmol/L or non-HDL-C <2.5mmol/L (or <1.4mmols if the patient has diabetes as they are classified as very high-risk). *Early post ACS reduction of LDL-C and Trig has been shown to improve clinical outcomes compared to gradual reduction.*

Not on statin or LLT	On statin or other Lipid lowering therapy (LLT)		Statin intolerance*
Offer Atorvastatin 80mg to all patients for secondary prevention. **For post ACS,** If LDL ≥3.6mmols/L offer Ezetimibe 10mg in addition to statin therapy as first line treatment. **For renal dosing:** Consider Atorvastatin 40mg if eGFR <15mls/min and uptitrate as required to achieve target LDL level**	LDL-C ≥1.8mmol/L or non-HDL-C ≥2.5mmol/L (≥1.4mmol/L if diabetic) • Ensure maximum tolerated statin dose • Consider Ezetimibe 10mg • If LDL-C ≥2.6mmol/L, consider Inclisiran • If LDL-C >4mmols (or >3.5mmols for recurrent events), consider referral to secondary care for PCSK9 therapy (RED on formulary)	LDL-C <1.8mmol/L or non-HDL-C <2.5mmol/L (<1.4mmol/L if diabetic) Continue LLT with annual review for adherence, lifestyle advice and relevant	LDL-C ≥1.8mmol/L or non-HDL-C ≥2.5mmol/L (≥1.4mmol/L if diabetic) • Consider retrying low dose statin • Only in true statin intolerance, offer Ezetimibe 10mg or consider Ezetimibe 10mg/Bempedoic acid 180mg if Ezetimibe alone has not reduced LDL-C/non-HDL-C sufficiently. • If LDL-C ≥2.6mmol/L, consider Inclisiran • If LDL-C >4mmols (or >3.5mmols for recurrent events), consider referral to secondary care for PCSK9 therapy (RED on formulary)

Repeat lipid profile & liver function tests at 3 months, assess LDL-C and Triglyceride levels, assess adherence and any adverse events

LDL-C <1.8mmols (or 1.4mmols) and TG <2.0mmols	LDL-C not at target	Triglyceride levels ≥2.0mmols
Continue LLT with annual review for adherence, lifestyle advice and relevant bloods	Reassess adherence, lifestyle advice & consider intensifying therapy, consider use of Lipid A&G service	Review Triglycerides level from 3 month repeat bloods and consider the following: Non-fasting Triglycerides ≥2.0mmols with an LDL-C between 1.04mmol - 2.6mmol **AND** is on statin, consider **Icosapent ethyl***** **This is an AMBER2 drug, please seek specialist advice (A&G) before prescribing** *(Patients who cannot have statins are not covered by Icosapent ethyl's marketing authorisation)*

Effectiveness of lipid lowering therapies

Drug / Class	Administration	LDL-C reduction
High-intensity statin	Oral tab OD	40-50%
Ezetimibe	Oral tab OD	24%
High-intensity statin + Ezetimibe	Oral tabs OD	55-65%
Inclisiran	Twice yearly injections	52%
PCSK9 inhibitors	Biweekly injections	>60%
Bempedoic Acid	Oral tab OD	28%
Bempedoic Acid + Ezetimibe	Oral tabs OD	40%

Relevant Guidelines/ Notes

National Guidance for Lipid Management Prevention

Statin Intolerance Pathway

Ezetimibe (NICE TA385)

Bempedoic acid / Ezetimibe (NICE TA694)

Inclisiran (NICE TA733)

PCSK9i - Evolocumab (NICE TA394) / Alirocumab (NICE TA393)

Icosapent ethyl (NICE TA805)

*Statin intolerance is defined as unable to tolerate Atorvastatin 20mg or Rosuvastatin 10mg daily dose.

** Local agreement – Marginal increased risk of Rhabdomyolysis if eGFR <15mls/min and to be aware. Check LFT at 3/12 and down titrate statin if ALT/AST >x3 URR.

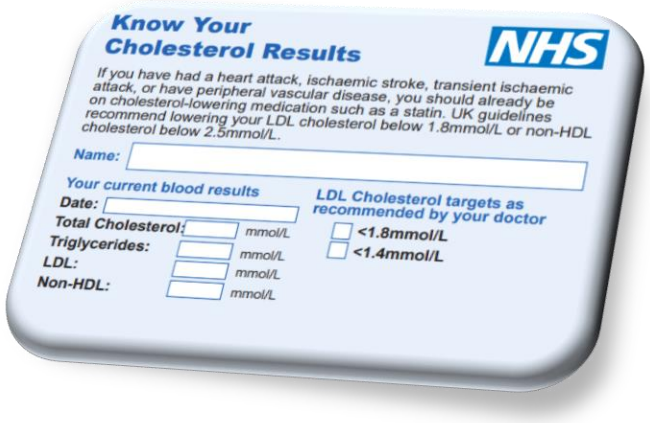
***Agreement from Lipid Advisory Group. Reference: Nordestgaard et al (2016) Fasting is not routinely required for determination of a lipid profile: clinical and laboratory implications including flagging at desirable concentration cut-points—a joint consensus statement from the European Atherosclerosis Society and European Federation of Clinical Chemistry and Laboratory Medicine. European Heart Journal, [online] 37(25), pp.1944–1958. doi: https://doi.org/10.1093/eurheartj/ehw152

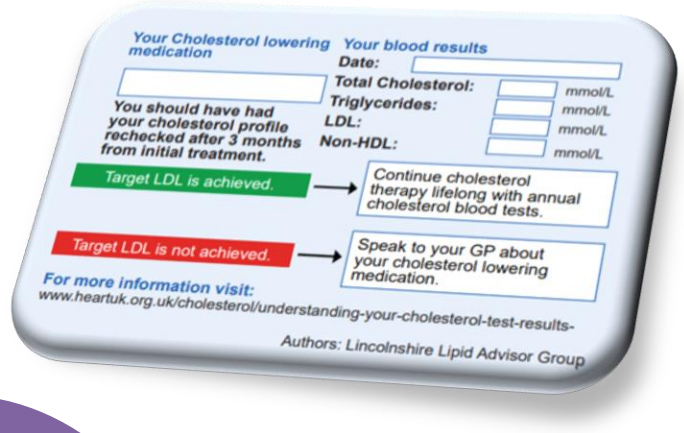
Authors: Lincolnshire Lipid Advisory Group Version 2.1 - Feb 2024

1. Developed a simple pathway

We have developed our own Lincolnshire secondary prevention guidelines for lipid management. Which hopefully is an easier guide for clinicians to follow.

We aim to develop further pathways for primary prevention, statin intolerance and hypertriglyceridaemia



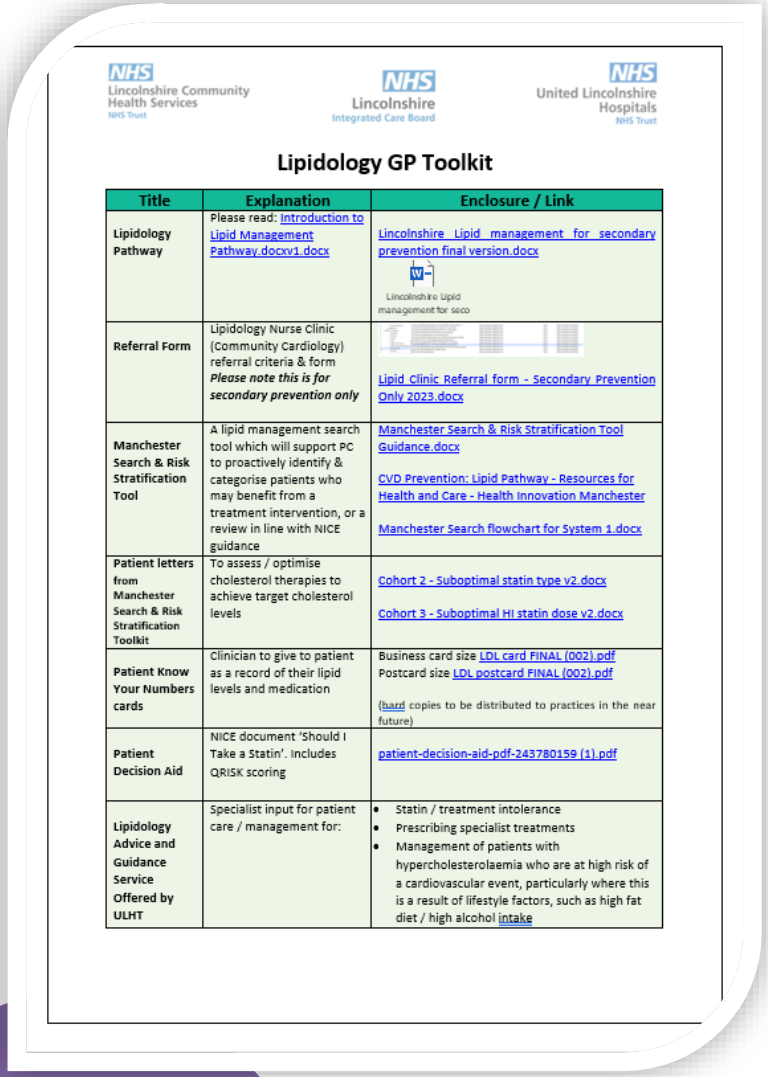


2. Created an LDL card ‘know your numbers’

The ‘LDL card’ is aimed at providing patients with more information about their cholesterol levels, so they are empowered to take control of their own management.

Two sizes available depending on patient preference:

- Credit card size
- Post card size



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NHS Lincolnshire Integrated Care Board
NHS United Lincolnshire Hospitals NHS Trust

Lipidology GP Toolkit

Title	Explanation	Enclosure / Link
Lipidology Pathway	Please read: Introduction to Lipid Management Pathway.docxv1.docx	Lincolnshire Lipid management for secondary prevention final version.docx Lincolnshire Lipid management for seco
Referral Form	Lipidology Nurse Clinic (Community Cardiology) referral criteria & form ***Please note this is for secondary prevention only***	Lipid Clinic Referral form - Secondary Prevention Only 2023.docx
Manchester Search & Risk Stratification Tool	A lipid management search tool which will support PC to proactively identify & categorise patients who may benefit from a treatment intervention, or a review in line with NICE guidance	Manchester Search & Risk Stratification Tool Guidance.docx CVD Prevention: Lipid Pathway - Resources for Health and Care - Health Innovation Manchester Manchester Search flowchart for System 1.docx
Patient letters from Manchester Search & Risk Stratification Toolkit	To assess / optimise cholesterol therapies to achieve target cholesterol levels	Cohort 2 - Suboptimal statin type v2.docx Cohort 3 - Suboptimal HI statin dose v2.docx
Patient Know Your Numbers cards	Clinician to give to patient as a record of their lipid levels and medication	Business card size LDL card FINAL (002).pdf Postcard size LDL postcard FINAL (002).pdf (hard copies to be distributed to practices in the near future)
Patient Decision Aid	NICE document 'Should I Take a Statin'. Includes QRISK scoring	patient-decision-aid-pdf-243780159 (1).pdf
Lipidology Advice and Guidance Service Offered by ULHT	Specialist input for patient care / management for:	• Statin / treatment intolerance • Prescribing specialist treatments • Management of patients with hypercholesterolaemia who are at high risk of a cardiovascular event, particularly where this is a result of lifestyle factors, such as high fat diet / high alcohol intake

3. Integrated Lipid Toolkit

We have developed an integrated tool kit which aims to support lipid management in both secondary and primary care.

Within the tool kit, there is:

- Webinars from Dr De Silva discussing FH and statin intolerance
- Referral forms, pathways and clinician FAQs
- Information on the Manchester search tool which we have adapted as our risk stratification search tool
- Example letters for practices to send to patient who they are looking to optimize their medication.

4. Adopted the Manchester Cholesterol Search risk stratifications tool

We agreed in our steering group to use the Manchester tool search to identify patients who need further optimization of their lipid management.

We are helping practices with two different cohort's of patients (Cohort 1 and Cohort 4). As this is generating a lot of work, we are further stratifying practices in need of help using the CVD prevention data to focus of areas who are needing more support.

We have so far reviewed 1,315 patient notes and provide the practice with a plan for these patients or referred them into our service.

5. Supporting secondary care lipid clinic

Once a week we conduct a clinic at our secondary care hospital to provide support in their follow up clinic due to lengthy waiting times. RTT up from 18% to almost 92% (as of March 25).

Clinics commenced in August 2023 and we have provided a follow up appointment for in excess of 486 patients who have either been further optimized, discharged to GP or discharged to our community service, in line with a more optimal treatment pathway.

6. Community Clinic – Specialist Nurse

Patients can be individual referred from both secondary and primary care. Through our own LCHS system one, patients are referred via a task to our inbox, and we also take patients from the Manchester search tool.

- We have reviewed 744 patients through virtual telephone clinics
- 33% of patients identified as statin intolerant, went on to receive an initial low dose alternative
- 66% of patients discharged achieve targets (1.8mmol/L)
- 44% achieve significant reduction in CV risk

Case Study

42-year-old female

Referred By Dr Kong (Stroke consultant) to the lipid specialist nurse team for support with her lipid management as she has not achieved target reduction on current medication. Known Multi-territory ischaemic strokes occurring over a time period of 12 months between 2022 in 2023.

On 7 different types of oral medication resulting 10 tablets daily. Very reluctant to have more medication added. Anxious about risk of further strokes. Following shared decision-making discussion was very keen to have Inclisiran injections.

Blood test July 2022 no lipid lowering therapy.	Blood test on atorvastatin April 2023	Blood test on Inclisiran September 2023
LDL 5.1	LDL 3.6	LDL 1.3
Total 7.0	Total 5.5	Total 3.0

Long term the plan is to stay on Atorvastatin tablets and Inclisiran injections. No adverse effects reported from either.

Case Study 2

Patient Details	Original Medication	Initial Lipid Levels	LSN Treatment	Outcome
45 year old male	Atorvastatin 20mg since April 2019 Atorvastatin 80mg since March 2024 prescribed by Cardiology when presented with MI	Blood results October 21 Total Chol 6.3mmol/L LDL Chol 3.6mmol/L Non- HDL Chol 5.4mmol/L Triglycerides 3.6mmol/L	Continuation with Atorvastatin Referral to Vascepa trial Referral for genetic screening for Familial Hypercholesterolemia (FH)	Blood results July 24 Total Chol 4.0mmol/L LDL Chol 1.5mmol/L Non- HDL Chol 3.2mmol/L Triglycerides 3.7mmol/L Total LDL reduction 2.1
LN2 postcode				≤ 1.8 Target Met

Prior to Commencing Statin in 2018

Total Chol 7.7mmol/L

LDL Chol 5.8mmol/L

Non- HDL Chol 6.8mmol/L

Triglycerides 2.1mmol/L

Blood results October 2021

Total Chol 6.3mmol/L

LDL Chol 3.6mmol/L

Non- HDL Chol 5.4mmol/L

Triglycerides 3.6mmol/L

HbA1c 33

LFTs normal range

Blood results October 2021

Total Chol 6.3mmol/L

LDL Chol 3.6mmol/L

Non- HDL Chol 5.4mmol/L

Triglycerides 3.6mmol/L

HbA1c 33

LFTs normal range

Blood results July 2024 now on Atorvastatin 80mg

Total Chol 4.0mmol/L

LDL Chol 1.5mmol/L

Non- HDL Chol 3.2mmol/L

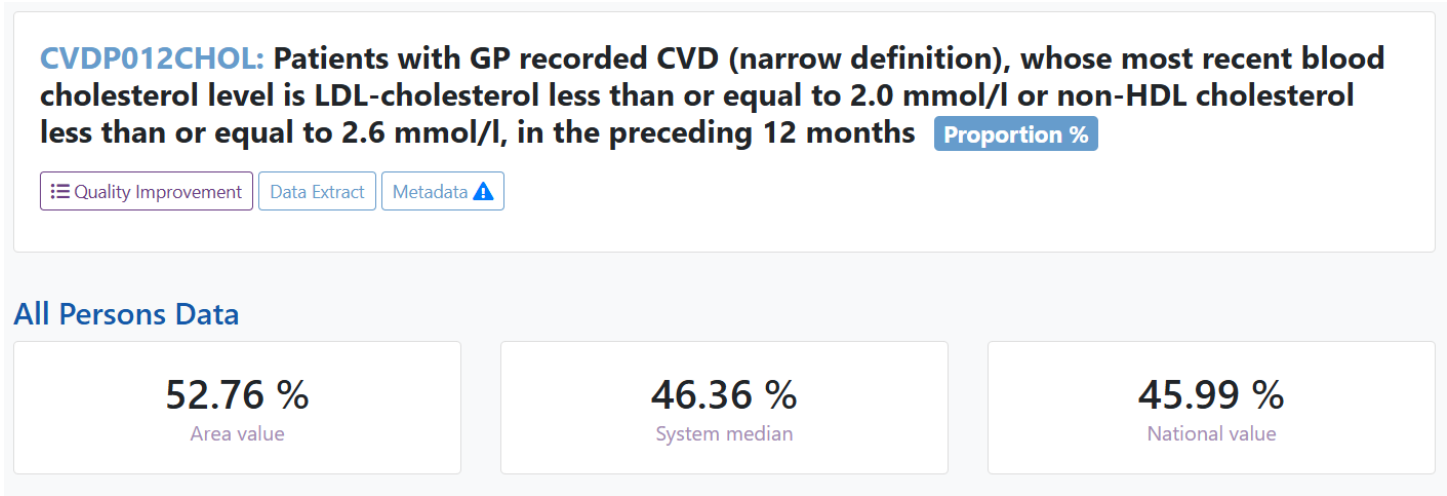
Triglycerides 3.7mmol/L

HbA1c 36

LFTs normal range

Benefits

- We have solidified relationships across the ICS between partners undertaking transformation. There is a general level of trust and confidence in parties to be able to deliver.
- Improved knowledge and expertise facilitated into the Primary Care, improving opportunities for learning and education, as well as providing faster access to specialist advice in relation to cholesterol management.
- Improved GP activation with practical support, limiting the burden of unnecessary admin, fostering good relationships, and making the subject matter interesting.
- Proving the concept of ‘the Group Model’ by integrating providers with rotational elements across Primary, Community and Secondary care.
- Provision of new and interesting career options, that develop our workforce.
- Approx 43 Strokes, 40 MI, 39 Revascularisation Procedures
- Business Case submitted to support further development with further anticipated benefits from increasing provision



Information from our Lincolnshire ICB and the % of patients meeting their cholesterol targets

Reference: CVDPREVENT. (n.d.). *CVDPREVENT*. [online] Available at: https://www.cvdprevent.nhs.uk/data-explorer?indicator=30&area=8005&period=7 [Accessed 07 March. 2025].

Any Questions?

Health Innovation East Midlands

Innovation Fund CVD Prevention

Dawn Plummer

Digital Health Innovation Lead and Deputy Head of Innovation Pipeline Development

Health Innovation East Midlands

What is the innovation fund?

Health Innovation East Midlands

- Up to £25k available to innovative projects on theme of CVD
- Must feature an existing MedTech or Digital innovation – the fund is not intended for the development of new products or solutions
- Must be novel to the organisation (i.e not an extension of an existing project)
- Applications should have an exec level sponsor within the bidding organisation
- There should be a plan for longer term sustainability
- There can be more than one application per ICS, each application is scored on its own merit
- Applications must be submitted by an East Midlands NHS organisation

CVD sub themes

Health Innovation East Midlands

- Solutions proven to communicate, mobilise and empower patients and communities to access data and information that help them to understand, control, maintain and potentially improve their outcomes post-diagnosis of any CVD condition.

- Solutions that aid improvement in patient lifestyle and behaviour change aligned to improving their outcomes post-diagnosis of any CVD condition.

- Solutions that improve the identification and treatment of hypertension.

Timeline

Health Innovation East Midlands

- Opens tomorrow! (14th March 2025)
- Organisations have until the COP on **11th April** to apply
- EOI initially for stage 1
- Detailed documentation for stage 2 will be requested for those who are accepted to proceed
- Interview stage to select final projects
- Projects to mobilise within 3 months
- Interested? Contact michael.ellis@nottingham.ac.uk

Tell us who you want to hear from

Health Innovation East Midlands

- Tell us who you would like to hear more from, we'll share a link in the chat. Completing this will take a couple of mins
- We can help to bring you together with an innovator
- Any questions?
- Thank you for joining today's session! We hope you've found it useful!

Health Innovation Academy

Register for our free on demand courses for all healthcare innovators

- Short courses covering the innovation pathway
- Innovator success stories
- Ask the Expert sessions

Health Innovation East Midlands

Further information

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