

2021/22

Impact+

review

Our purpose is to turn great ideas into positive health impact

Find out inside about our impact in the Eastern region and beyond



Eastern AHSN

Eastern AHSN

Part of
The AHSN Network



If you would like to have a chat with us or find out more about anything included in this review, please contact enquiries@eahsn.org

Funded by



Office for Life Sciences



Keep in touch with our work



[@EasternAHSN](https://twitter.com/EasternAHSN)



[Eastern AHSN](https://www.linkedin.com/company/eastern-ahsn/)



[EasternAHSN.org](https://www.easternahsn.org/)



You can also subscribe to our newsletter [here](#)

Welcome



We are delighted to present our annual *impact review* for 2021-22, which tells the story of the work we have done with our partners in the NHS and industry to bring about positive impact for patients, staff and the wider health and care community.

Looking back over the year, we are particularly proud that we have maintained our levels of partnership working with our colleagues in the NHS, despite the demands on them arising from the continuing pandemic, including the vaccine rollout and variant strains of the virus. We've also been closely involved in supporting the recovery of elective services and the NHS's

drive to provide care remotely through technology.

We've also been busy creating connections and supporting innovators and industry partners to help develop and embed proven innovations into services so they can benefit patients. We supported 849 companies across the UK and internationally, including more than 2,500 hours of support to innovators to help them turn their great ideas into positive health impact.

A core theme that runs through this review and our impact from this year is our work on real-world evaluation, building on our expertise in identifying promising solutions and convening the right partners to deliver transformation, while measuring its impact and learning lessons for more effective adoption and spread.

This involves sophisticated analysis and judgement, and we are seeing increasing demand for our services in this context. This can be seen in the programme we are delivering in partnership with the NIHR Applied Research Collaboration East of England (NIHR ARC EoE) to evaluate how remote monitoring can track a wide range of conditions at home, and whom it can help most. Our strong relationships with the NIHR ARC and other local partners have seen integration at a leadership level, with members of our senior management team in joint roles with the ARC.

Although this review focuses on our impact from 2021/22, it tells the story of an ongoing collaborative effort to build and sustain partnerships to deliver better outcomes for our patients. This includes a wider strategic emphasis on improving population health, addressing health inequalities and supporting the cultivation of an innovation culture within the developing integrated care systems.

These stories are largely told by the people we have worked with. We would like to thank all our partners for their continued efforts, engagement and commitment, without which we wouldn't be able to achieve our impact.

Whether you are a healthcare professional, an innovator, an academic, a citizen or a combination of the above, we hope that this *impact review* tells our story and evidences how we are convening the right people to turn great ideas into positive health impact.

“Innovation implies developing an invention to the point where it catches on because it is sufficiently practical, affordable, reliable and ubiquitous to be worth using”

Matt Ridley, *How innovation works*, 2020

Piers Ricketts
Chief Executive

Tracy Dowling
Chair

Keep up
to date with
Eastern AHSN
by subscribing to
our newsletter
here

Supporting the elective recovery



Piers Ricketts, Chief Executive at Eastern AHSN, explains how innovative tools could be the solution to easing pressure on elective services following the COVID-19 pandemic



Recent data showed that there were more than six million people awaiting a procedure on the NHS^{1,2}. This is the largest number since records began. The number may well be growing, as the millions of missing referrals arising as a result of the pandemic start to present and more people come forward for treatment. This continues to be a major area of concern due to its potential impact on the clinical outcomes for patients on the list. The concerns include increased patient anxiety and mental stress and potentially a risk of increased morbidity that could result in otherwise avoidable emergency admissions. Waiting for treatment can also prevent continued employment and will often produce an adverse impact on the patient's health and wellbeing more generally.

There are no easy answers here. Hospitals' ability to get through their wait lists continues to be hampered by the infection and control procedures needed to contain outbreaks of COVID-19. At the same time, significant numbers of staff continue to be absent from work because they are themselves infected with the virus. And all this comes at a time of record numbers of staff vacancies^{3,4}.

In the absence of wholesale solutions, there are nonetheless numerous smaller-scale initiatives which, taken together, can help our health and care systems to make the most of their finite resources while reducing the risk of physical and mental deterioration experienced by patients as they wait for their procedure. At Eastern AHSN, we are constantly looking for solutions that can support services in our region and across the wider NHS and are committed to testing and evaluating those with the most promise. In 2021/22, we have been working with integrated care systems and providers in our region to better understand where innovation could best support with managing capacity and minimising the consequences of long waiting lists. An example of this is our support of three

“We are constantly looking for solutions that can support services in our region and across the

innovations this year designed to improve the experience for one of the largest patient groups – those awaiting orthopaedic procedures.

C2-Ai's elective care *Patient Tracking List Triage* system uses an AI-driven decision support tool to assess each wait list patient's risk of deterioration by assessing their data against a proven risk index of surgical morbidity and mortality. The system enables clinicians to re-prioritise patients for treatment based on their individual risk of complication and deterioration. Early use suggests particular benefits in assessing the risk of patients waiting for vascular and laparoscopic colon surgery, and also identifying lower risk orthopaedic patients who could helpfully be transferred to elective surgery hubs. Other benefits may include improved capacity planning and the ability to support harm reviews.

Eastern AHSN supported the introduction of C2-Ai's patient risk stratification system at Colchester hospital in January 2022, with the expectation that the platform would also be rolled out to Ipswich hospital if successful. We have commissioned a formal evaluation of the system's effectiveness across different surgical specialties (general surgery, gynaecology, trauma and orthopaedics). It is hoped that the system will enable clinical teams to differentiate and prioritise patients to be treated in a sequence that minimises the risk of physical and mental deterioration while on the wait list, while also supporting lower-risk patients with prehabilitation and conditioning. We hope to have completed the evaluation by January 2023.

wider NHS
and committed
to testing and
evaluating those
with the most
promise”

Understanding patients' views on how we manage capacity in secondary care

We partnered with the local NHS and patient and public engagement forums in the East of England to conduct a survey that suggested that most citizens would be willing to travel further than their local hospital if their planned procedure could be performed earlier or if it would help the NHS. This challenges some previous assumptions and provides evidence that initiatives, including travel, should be considered as viable options for patients awaiting treatment on lengthy wait lists.



DASHclinic

We are also providing funding for a rapid evaluation of an innovation called *DASHclinic*, in use in the trauma and orthopaedics outpatients clinic at the Luton

and Dunstable Hospital. This is a clinic queue management tool designed to improve the healthcare workflow for patients and medical staff. The system defines the patient journey through the clinic, adding patients to sequential queues and gathering data on flow. It reduces stress by allowing patients to see their place in the queue and identifies potential bottlenecks to allow better scheduling of patients across the pathway. The innovator is a clinical entrepreneur who has designed the platform shaped by his own experience of working in clinics and whom we are supporting as the study progresses. The evaluation, which is being undertaken by Cranfield University, should be complete by autumn 2022.

Worthwhile Waiting

We are supporting *Worthwhile Waiting*, which enables some patients in Cambridgeshire to work with their health coach or social prescriber to identify appropriate physical and mental wellbeing support services during the period when they are waiting for surgical procedures. Initially focusing on patients with hip and knee pain, the aspiration is to expand the service to other conditions once the approach has been tested. Eastern AHSN is funding an evaluation to understand how the resource affects patient outcomes that will be available in September 2022.

Implementing solutions like these is complex in an NHS recovering from a pandemic and facing workforce shortages. But the early phases of COVID-19 demonstrated that the NHS was able to innovate at pace and scale, enabled by the urgency of the need and some of the cultural and organisational constraints being removed. While recognising that we are only a small part of the resources required by our health and care system as a whole, at Eastern AHSN, we are proud of our role in identifying appropriate solutions and supporting them to be understood and implemented.



Share this article



● Get involved

If you would like help finding innovations to support health and care services, **get in touch**.

[Return to the contents page](#)

Up next: Read how we are supporting integrated care systems to ensure innovation is at the centre of patient-driven healthcare services.



References

- ¹ House of Commons Committee of Public Accounts. (2022). NHS backlogs and waiting times in England: Forty-Fourth Report of Session 2021–22. Available: <https://committees.parliament.uk/publications/9266/documents/160332/default/>. Last accessed 13/05/22.
- ² NHS England and NHS Improvement. (2022). Tackling the backlog of elective care. Available: <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2022/02/C1466-delivery-plan-for-tackling-the-covid-19-backlog-of-elective-care.pdf>. Last accessed 13/05/22.
- ³ NHS Digital. (2022). NHS Vacancy Statistics (and previous NHS Vacancies Survey). Available: <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-vacancies-survey>. Last accessed 13/05/22.
- ⁴ Royal College of Physicians. (2022). Strength in Numbers - stronger workforce planning in the health and care bill. Available: <https://www.rcplondon.ac.uk/guidelines-policy/strength-numbers-stronger-workforce-planning-health-and-care-bill>. Last accessed 13/05/22.

Focus on: transforming systems

Leading system transformation



Helen Oliver, Business Development Director and Deputy Chief Executive Officer at Eastern AHSN, explains how we are supporting integrated care systems to ensure innovation is at the centre of patient-driven healthcare services

System-wide innovation in health and care requires a detailed understanding of the needs specific to that system. This relies on knowing the drivers of population health, enabled by access to data and a system-wide care record. But understanding a system's needs is only part of the equation, as the uptake of new technologies and pathways also relies on building and strengthening relationships and trust between organisations, networks and people across all stakeholders within that system.

We believe that we have a core role encouraging and enabling our local system to transform by removing traditional divisions, embracing the future and embedding a culture of innovation to improve population health.

Establishing integrated care systems as innovation leaders

Collaboration and leadership aren't just for senior management. We need to involve health and care professionals at all levels and provide the right skills, culture and tools to work with the community to





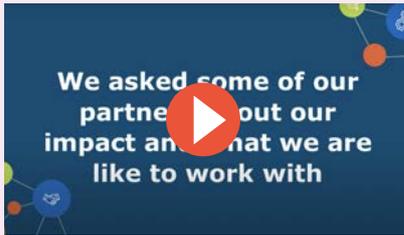
**Jacky Dixon,
Systems Leadership
Development Senior
Manager for Leadership
and Lifelong Learning
(East of England) at
NHS England and
NHS Improvement.**

deliver the care patients need.

To this end, in September we partnered with Eastern AHSN and our six integrated care systems (ICSs) to support the embedding of collaborative, compassionate and inclusive leadership within developing ICSs.

Leading for care integration – the big collaboration brought together more than 700 health and care staff from across the region over three online events to explore collective innovation, enabling high-performing integrated teams and how we instil the leadership skills and behaviours that health and care leaders will need for the successful integration of public sector, social care and third sector.

Eastern AHSN’s input was really valuable in helping us secure speakers, promote the event and develop the agenda, as well as drawing on its networks to deliver some of the workshops.



Jacky Dixon talks about working with Eastern AHSN



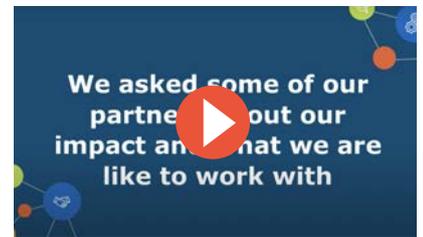
Developing an innovation hub

We are thrilled to be a partner in one of the four Adopting Innovation Hubs funded by the Health Foundation as part of a national programme to ensure that people using services benefit faster from effective healthcare technology and practice.

The hub, which launched in February 2022 and is based within the Cambridgeshire and Peterborough ICS, aims to address health inequalities across the county through the implementation of proven innovation. It will support this through building knowledge, skills and confidence in provider organisations and local systems and sharing wider learning on the effective adaptation and uptake of proven innovation regionally and nationally.

As well as supporting the development of the funding bid, Eastern AHSN helped in the initial set up of the hub by bringing together patient and professional groups, partners and stakeholders to establish working groups, co-design the hub’s strategy, support recruitment and capture an effective baseline for evaluation.

The hub aims to achieve a sustainable legacy within the ICS through upskilling the workforce to encourage adoption capability whilst aligning NHS, commissioning, local authority, academia and innovation partners through a central mechanism for the adoption of proven innovations. We have already seen an acceleration in collaboration between the partners as we move into the live delivery phase in summer 2022. Find out [more](#).



Ewen Cameron talks about Eastern AHSN's role in establishing the Cams and P'boro Innovation Hub

“We hope this will become the blueprint for adopting innovation across the region in the coming years.”

– Dr Ewen Cameron, Interim Chief Operating Officer at Cambridge University Hospitals NHS Foundation Trust

Empowering innovation ambassadors

Innovation ambassadors are embedded into local systems to promote and support innovative activities from within, supporting both ICS and AHSN priorities. They develop local infrastructure to ensure that systems are innovation-ready and able



to adopt best practice and new technologies. They also encourage colleagues to come forward with innovative ideas and challenges to AHSN Network colleagues.

Due to the success of my role and similar ones previously funded in Norfolk and Waveney CCG and East and North Hertfordshire NHS Trust, Eastern AHSN have appointed two more innovation ambassadors in Cambridgeshire Community Services Trust and are in the process of appointing another in Bedfordshire, Luton and Milton Keynes ICS.

Below are some of the projects I have been able to facilitate within the Suffolk and North East Essex ICS based on an understanding of our local needs and Eastern AHSN's insight into the latest innovations that could provide positive health impact.

Quibim

Quibim's QP Prostate software allows NHS Hospitals to operate a rapid urology clinic for prostate cancer and allows full diagnosis in less than 50 minutes. After they presented to the Cambridgeshire and Peterborough Combined Authority Growth Works programme, of which Eastern AHSN is a member, we invited Quibim to our [Scale-Up Academy in 2021](#). Eastern AHSN also supported their application to the NHSX Artificial Intelligence in Health and Care Award, for which they have proceeded to the next round of applications after we developed their data-driven proposal to align with key policies. We have supported East Suffolk and North Essex NHS Foundation Trust (ESNEFT) in a funding bid to pilot QP Prostate at the trust which, if successful, will run over three years.

C the Signs

C the Signs is an integrated clinical decision support tool which uses artificial intelligence mapped with the latest clinical evidence to support GPs to identify patients at risk of cancer at the earliest stage of the disease. A pilot of C the Signs has been commissioned across 35 GP practices by Ipswich and East Suffolk CCG, for which Eastern AHSN is providing funding and programme management support for an independent evaluation of the service due Summer 2022.

C2-Ai

C2-Ai provides clinical decision-makers with enhanced risk analysis and detailed risk profiles for each patient, using existing NHS hospital data and machine learning. Having identified C2-Ai's patient risk stratification system as something that could support capacity management in the region, Eastern AHSN is part-funding a project with NHS England and NHS Improvement to pilot the tool in Colchester Hospital to help identify and prioritise patients at the highest risk of deterioration. It is hoped this will enable clinical teams to differentiate and prioritise between patients and strengthen their ability to get accurate prioritised patient lists to increase staff and service efficiencies. Eastern AHSN is funding and managing the evaluation of the project, which we hope to have completed by January 2023.

Read more about our work with C2-Ai to support NHS elective services [here](#)

Liberate Pro

Liberate Pro is a digital platform designed to empower patients to better manage their conditions whilst reducing the number of clinical appointments needed. It allows a clinician to record their consultation with their patient and send it to them with further guidance to support understanding of how to manage their condition better. Eastern AHSN has worked closely with the ICS to broker a pilot of this tool with cardiovascular disease patients, with the evaluation due in January 2024. Eastern AHSN has supported the development of resources for the pathway and materials aimed at both clinicians and patients. This is being further extended to support other areas including pulmonary and cardiac rehabilitation.

Atrial fibrillation (AF) remote detection

AF is an irregular heart rhythm which is associated with a higher risk of stroke. We



Caroline Angus, Head of Innovation at Suffolk and North East Essex ICS



brokered a pilot of a new remote atrial fibrillation (AF) detection pathway across two hospitals from February 2022. The pilot will offer remote screening via two technologies – FibrCheck and Zio XT Patch (a remote ECG monitor), removing the need for patients to go to their GP or the trusts for initial screening. Find out more in our article on [page 8](#).



Share this article



● Get in touch

Do you need support in making your organisation more innovation-ready? **Contact us** to see how we can support you.

[Return to the contents page](#)

Up next: Read how we are supporting integrated care systems to ensure innovation is at the centre of patient-driven healthcare services.



● Addressing health inequalities



Why addressing health inequalities matters



Reducing health inequalities needs action to be taken to address all the factors that contribute to them. Harprit Hockley, Head of Equalities and Inclusion at NHS England and Improvement, outlines how we are working with our communities to take positive action

As services become more integrated, our biggest opportunities to really deliver on improving population health and healthcare services are at the margins of our communities.

Our vision is to ensure exceptional quality healthcare for all through equality of access, excellence in experience and optimal outcomes”

– Dr Bola Owolabi, Director for Health Inequalities at NHS England and NHS Improvement, and keynote speaker at *Leading for care integration – the big collaboration* last year

Health disparities in our region are long-standing, stark and can undermine people’s ability to work and live long, healthy and independent lives¹. These disparities create pressure on the NHS, social care and other public services, both in terms of population health and the impacts experienced by our own diverse workforce. By seeing our workforce and our communities through the same lens, we can improve the experiences of those accessing our services and those delivering them.

Data from before the COVID-19 pandemic shows that the difference in healthy life expectancy for those born in the most deprived areas of the UK, compared with the least, amounts to almost two decades² and the pandemic has exacerbated these health inequalities. Suggested reasons for this include housing, caring responsibilities, lack of financial safety nets and jobs that could not be moved to remote working^{3,4}. The mortality rates from COVID-19 in the most deprived areas were more than double that of the least deprived areas⁵ and death rates from COVID-19 were highest among people of black and Asian ethnic groups⁵.

As we recover from the pandemic and turn our attention to the backlog for treatment, those living in the most deprived areas are nearly twice as likely⁶ to wait more than a year for treatment compared with those living in the least deprived areas.

I am delighted that reducing inequalities is a key part of the new strategy for Eastern AHSN and it’s been great seeing its work in action to partner with the NHS and the NIHR ARC, to pilot and evaluate innovations that are helping to reduce inequalities. Here are a few current examples from the past year of that commitment in practice:

Leading the way in addressing health inequalities

In September 2021, Eastern AHSN partnered with the East of England NHS Leadership Academy and our region’s six integrated care systems (ICSs) to support the embedding of collaborative, compassionate and inclusive leadership within developing ICSs. I was delighted to be invited to lead a conversation with award-winning journalist Afua Adom about how to talk about race and racism in a progressive way. I passionately believe that the NHS needs to continue to empower healthcare professionals to have difficult conversations and be allies and catalysts for change for underrepresented groups. We explored why people still feel uncomfortable talking about race and culture and the steps we can all take to become actively anti-racist.

Dr Bola Owolabi also gave an inspiring keynote speech outlining a compelling case for the role of developing ICSs and the wider health system to address health inequalities.

Read more about *Leading for care integration – the big collaboration* [here](#).

38% of attendees said they have made diversity and inclusion a priority following the Leading for care integration event



Charlotte James, Director of Communications, Marketing and Engagement and Chair of Eastern AHSN’s diversity and inclusion group

Empowering patients

Eastern AHSN’s close partnership with the East of England Citizens’ Senate is one of the ways it ensures citizens’ views are at the heart of the development of health services in our region.

The integration of care will rely on a strong relationship between the healthcare system and patients and citizens with lived experience to understand the impact decisions may have on marginalised communities. That’s why the AHSN partnered with the NHS Leadership Academy to support Leading for Change, a fully

Pandemics expose fault lines in society
Read Charlotte’s blog about our commitment to improving health equality

funded four-day leadership programme delivered by the Citizens' Senate for patient and public voices in the NHS. The programme empowers participants by developing the skills, knowledge and behaviours to support collaborative and meaningful relationships with internal and external decision-makers. We trained 10 patient and public champions as part of the 2022 cohort.

Kevin Minier, expert through lived experience:

"The Leading for Change programme taught me how to effectively engage in the planning and delivery of healthcare services. People like me have so much valuable experience, but so often don't know how to collaborate with clinicians and decision-makers. The programme gave me the confidence to be a critical friend and an equal partner on healthcare projects, offering a different perspective to develop better services."

Strengthening inclusive leadership

Eastern AHSN has been commissioned to support the design and delivery of a leadership programme for regional aspiring Chief Allied Health Professionals, with a particular focus on supporting those from ethnic minority backgrounds. As part of this programme, Eastern AHSN is developing the offer with staff through a series of co-design workshops.

Reducing inequalities through innovation

Eastern AHSN is a partner in the set up and delivery of the new Cambridgeshire and Peterborough Adopting Innovation Hub, with its focus on implementing proven innovations to address the root causes of health inequalities facing certain communities in the county.

You can read more about this programme [here](#).

Our pledges

Across the AHSN Network, we have developed a [set of diversity pledges](#) that aim to deliver equality, diversity and inclusion in our leadership, our workforce and our work programmes.

"Locally, the Eastern AHSN diversity and inclusion working group is here to ensure everything we do is aligned to tackling health inequalities, from our recruitment practices to how we plan and deliver our programmes, how we assess innovations we come across and who we engage." – Tendai Nzirawa, Maternity Clinical Improvement Lead and member of Eastern AHSN's diversity and inclusion working group.

"This is a groundbreaking initiative, which has the potential to influence our approach to adaptation of innovations nationally as well as our understanding of health inequalities."

– Helen Oliver, Deputy Chief Executive at Eastern AHSN, talking about the Cambridgeshire and Peterborough Adopting Innovation Hub

Click [here](#) to read Tendai's blog on how learning about different cultures can address inequalities in pregnancy



Assessing remote monitoring pathways in integrated care systems

Virtual wards and remote care solutions have developed rapidly during the COVID-19 pandemic to help clinicians monitor people's health at home and reduce the need for hospital visits and stays. However, with the introduction of technologies in healthcare there is a risk of exacerbating existing inequalities related to digital literacy and access⁷. To better understand where these inequalities arise and how they might affect patient outcomes, we have partnered with the NIHR Applied Research Collaboration in our region to assess the impact of remote

systems covering parts of Hertfordshire, Essex and Bedfordshire to explore how they support care pathways for hip and knee replacements, heart palpitations and chronic diseases including asthma.

Eastern AHSN is supporting project governance, including project oversight, ensuring access to required data, establishing a lived experience advisory panel and leading stakeholder engagement, including the facilitation of site-specific steering groups and a large project oversight group. A key part of the work will focus on understanding who is and is not well served by remote monitoring, and how patients are currently assessed, triaged and supported. By understanding how this impacts different groups, the



monitoring technology on supporting people with a wide range of conditions in the community.

Remote monitoring systems are being evaluated across four integrated care

findings will inform the future rollout of remote monitoring to ensure inequalities are accounted for and minimised so it is only used where suitable. We look forward to sharing the results in spring 2023.

Share this article



Supporting innovation

If you have an innovation which could help us address health inequalities, *get in touch*

[Return to the contents page](#)

Up next: Read how we are improving the prevention and management of heart conditions across the region



References

- ¹ Williams, E., Buck, D., Babalola, G. (2020). What are health inequalities? Available: <https://www.kingsfund.org.uk/publications/what-are-health-inequalities>. Last accessed 19/04/22.
- ² Census 2021. (2021). Health state life expectancies by national deprivation deciles, England: 2017 to 2019. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthinequalities/bulletins/healthstatelifeexpectanciesbyindexofmultipledeprivationimd/2017to2019>. Last accessed 19/04/22.
- ³ Local Government Association. (2021). Health inequalities: Deprivation and poverty and COVID-19. Available: <https://www.local.gov.uk/health-inequalities-deprivation-and-poverty-and-covid-19>. Last accessed 19/04/22.
- ⁴ Stafford, M., Deeny, S. (2020). Inequalities and deaths involving COVID-19. Available: <https://www.health.org.uk/news-and-comment/blogs/inequalities-and-deaths-involving-covid-19>. Last accessed 19/04/22.
- ⁵ Public Health England. (2020). Disparities in the risk and outcomes of COVID-19. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf. Last accessed 19/04/22.
- ⁶ Holmes, J., Jefferies, D. (2021). Tackling the elective backlog – exploring the relationship between deprivation and waiting times. Available: <https://www.kingsfund.org.uk/blog/2021/09/elective-backlog-deprivation-waiting-times>. Last accessed 19/04/22.
- ⁷ Litchfield, I., Shukla, D., Greenfield, S. (2021). Impact of COVID-19 on the digital divide: a rapid review. *BMJ Open*. 11 (10).

 Focus on: cardiovascular disease



Taking a population-led approach to improving heart health

The scale of the issue:

Cardiovascular disease affects around **seven million people** in the UK²

Around **670,000 people** are living with **heart disease** in the East of England³

Heart and circulatory diseases cause **1,300 deaths** each month in the East of England³



Dr Max Hickman, clinical advisor for Eastern AHSN's cardiovascular disease programme, explains how our work is focusing on both prevention and management of heart conditions across the region

As the NHS recovers and resets from COVID-19, it is worth remembering that we are also globally experiencing a pandemic in cardiovascular disease¹ (CVD). Even before it was discovered that patients with these underlying conditions are at much higher risk of dying from COVID-19, CVD was responsible for one in four deaths in the UK and is the largest cause of premature mortality in deprived areas.

Socioeconomically deprived groups have also been shown to have **consistently worse outcomes** than the most affluent groups. They face a **20% higher risk of all-cause hospitalisation** even after adjustment for other factors. This inequality is not changing and has **now persisted for more than 20 years**⁴.

The AHSN Network has led successful major national programmes in cardiovascular disease prevention and management to reduce the risk of heart attacks and strokes occurring.

The AHSN Network's latest commission continues the focus on meeting the challenges and addressing health inequalities in cardiovascular disease. This includes a new programme to help identify familial hypercholesterolemia in primary care and the rollout of a consistent national approach to lipid management using the NICE-endorsed clinical pathway. We are also supporting people who remain at high risk of a cardiac event, despite being on the maximum tolerated statin therapy, access novel therapies for lipid management.

Increasing diagnosis of familial hypercholesterolaemia

Eastern AHSN is supporting the NHS Long Term Plan's aims to increase the detection of familial hypercholesterolaemia (FH) from 7% (of expected cases) to 25% by 2025. An increase in detection will lead to early and regular treatment, resulting in individuals with FH being able to apply lifestyle changes, such as eating well, being physically active and taking medicine to support them to live longer and healthier lives.

Last year, we started a national programme to partner with health and care systems in our region to pilot and evaluate a child-parent screening service for FH. As part of this pilot, infants will be tested for the condition in routine immunisation visits to their GP. We developed an invitation letter to be sent out via primary care to parents to encourage uptake in the pilot. Following this, we are already seeing significant engagement from primary care and patient groups.

This year, the FH project aims to develop and test innovative risk stratification tools to systematically search primary care records. This includes using algorithms and patient health management systems to detect people at high risk of having FH, providing specialists to confirm diagnosis, supporting the embedding of FH

Five focus areas of our national CVD programme:

- 1** Familial hypercholesterolaemia (FH) detection and management. This includes expanded access to genetic testing via screening of electronic records and piloting *child-parent screening* to enable early diagnosis and treatment.
- 2** Working in partnership with the *Accelerated Access Collaborative (AAC) Rapid Uptake Products (RUP) lipid management programme* to improve patient access to appropriate lipid management treatments using the *NICE-recommended clinical pathway*. Further information on this element of our work programme can be found on our *prescribing*

pathways in primary care and training programmes for health care professionals. We already have eight GP practices signed up as early adopters and we hope to contribute to the national aim to screen 30,000 children by March 2023.

Implementing the lipid management pathway

In July 2021, NHS England and NHS Improvement partnered with Novartis Pharmaceuticals UK to help tackle cardiovascular disease and improve access to a novel lipid management therapy, in the first NHS population health agreement of its kind. AHSNs across England are working in collaboration with healthcare organisations to improve uptake of the updated lipid management pathway, so

that high-risk patients whose cholesterol is not controlled, despite maximum tolerated statin therapy, have access to appropriate lipid-lowering therapies.

We are adopting a population health management approach, which means that we are using data to prioritise those in our community who are most at risk and stand to benefit most from access to lipid-lowering therapies. The aim of this approach is to reverse the ever-increasing gap in cardiovascular outcomes between prosperous and low-income communities.

The programme targets not only health professionals, but also the wider public to partner together and improve cardiovascular health. The objectives not only focus on lipid-lowering therapies, but also on healthier lifestyles – and, to help achieve this, we are partnering with the neighbourhood teams being developed by the new integrated care boards.

We supported a project at Addenbrooke's Hospital to build capacity in the hospital's lipid clinic through funding a specialist nurse and giving project management support. The project saw a more than 49% increase in the number of patients being treated for high cholesterol with PCSK9 inhibiting monoclonal antibodies, from 61 at the start of the project to 91 at its conclusion in June. The project has reduced waiting times for patients and there has been an increase in patients on the pathway to start treatment should they remain eligible after maximising their statin regime.

*In 2021/22, 12,594 additional patients have been prescribed with a lipid-lowering medication to control their high cholesterol, taking the total to **162,786 patients** across the region.*

Learn more about the role of the new lipid management pathway and why we need a population health management approach in Max's recent blog.

pathway webpage.

- 3** In partnership with HEART UK, we are delivering the *Tackling Cholesterol Together* education programme and the *Cholesterol Now* campaign.
- 4** Supporting proactive care for hypertension, which involves working with healthcare professionals to identify and treat patients with high blood pressure, including through self-management and remote monitoring.
- 5** Building on our previous work to increase the detection of atrial fibrillation (AF) in our region.



Dr Max Hickman explains the role of the new lipid management pathway and why we need to take a population health management approach to tackling cardiovascular disease.

Bringing together the CVD community

Our East Anglian cardiovascular seminar series brings together healthcare professionals across primary, secondary and tertiary care who look after patients with, or at high risk of developing, cardiovascular disease, to share best practice and discuss the latest advice from expert partners. Each online seminar focuses on best management of each of the cardiovascular risk factors and of the patient groups at risk. We ran two seminars in 2021, each attracting more than 70 healthcare professionals. [Find out more.](#)

We have also convened the East of England lipidology forum to bring together lipid specialists from across the region, and have been active members of local Integrated Care System CVD Prevention Boards.

“Eastern AHSN’s cardiovascular seminar series has been excellent and hugely informative. With such broad subjects, there is always more to learn from the expert-driven sessions. It is also great to bring together healthcare professionals from across the East of England to share best practice. The team at Eastern have really embedded themselves as a key part of the CVD community” –
Dr Pegah Salahshouri, lead cardiology consultant at West Suffolk NHS Foundation Trust

Supporting management of CVD with *Liberate Pro*

We have partnered with the Suffolk and North East Essex Integrated Care System to pilot the use of *Liberate Pro* in cardiovascular services. This tool allows a clinician to record a patient consultation and send it to them afterwards with further guidance, to support better understanding of their condition and how to manage it. We brokered the pilot

“I am excited to be working with Eastern

AHSN at a time when novel approaches to managing cardiovascular disease could significantly improve the health of our patients”

and are supporting the evaluation, which is expected in summer 2022. Find out more about *Liberate Pro*.

Supporting 3D modelling of arteries with HeartFlow

We are supporting the use of *HeartFlow* in services across the East of England as part of the MedTech Funding Mandate (MTFM). This technology creates a 3D model of a patient's coronary arteries and assesses the extent and location of blockages. Find out more.

Atrial fibrillation

Atrial fibrillation (AF) is the most common type of irregular heart rhythm and increases the risk of stroke, leaving survivors with disabling consequences. Around 200,000 people in the UK develop AF each year⁵. Detecting AF early and making sure people are given optimal treatment – usually blood-thinning medication to prevent clots (anticoagulants) reduces the risk of stroke by two-thirds⁶. Between 2015 and 2020, when the last data was recorded, initiatives supported by the AHSN Network are estimated to have avoided almost 12,000 AF-related strokes and saved more than 2,900 lives. This represents an estimated saving of £158 million in NHS costs and £105 million in social care costs.

Building on this locally, we brokered a pilot of a new remote atrial fibrillation (AF) detection pathway across West Suffolk and Ipswich hospitals, beginning in spring 2022. The pilot will offer individuals identified at higher risk of AF the chance to participate in heart rhythm monitoring for seven days via an app (FibriCheck) as an initial screening for the condition. Where this screening suggests the potential presence of AF, patients will then be offered further diagnostic assessment for 14 days via a remote ECG monitor (Zio XT Patch), followed by a remote consultation and initiation of appropriate treatment should AF be confirmed. The trial also integrates DrDoctor, a platform designed to manage appointments that also enables patients to receive clinical information, letters and resources digitally, reducing the need for printed and posted documents.

It is hoped that this remote service will increase detection of AF, while reducing patient travel and supporting capacity management in primary care. Eastern AHSN is providing programme support and has funded an evaluation of the project.

Share this article



Found out more about how you can get involved in our cardiovascular disease (CVD) prevention programme by visiting the Eastern AHSN [website](#).

[Return to the contents page](#)

Up next: Read how we are helping identify cancer earlier through innovation.



References

- ¹ Anand, S. (2000). A commitment to curbing the pandemic of cardiovascular disease. Available: <https://www.thelancet.com/pdfs/journals/lancet/PIIS0140673605736369.pdf>. Last accessed 03/05/22.
- ² NHS England. (2019). The NHS Long Term Plan. Available: <https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/>. Last accessed 03/05/22.
- ³ British Heart Foundation. (2022). Local statistics. Available: <https://www.bhf.org.uk/what-we-do/our-research/heart-statistics/local-statistics>. Last accessed 03/05/22.
- ⁴ Conrad, N; Judge, A, Tran, J et al. (2018). Temporal trends and patterns in heart failure incidence: a population-based study of 4 million individuals. Available: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(17\)32520-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)32520-5/fulltext). Last accessed 03/05/22.
- ⁵ Martinez, C. et al. (2015). Increasing incidence of non-valvular atrial fibrillation in the UK from 2001 to 2013. *Heart*. 101 (21), 1748-54.
- ⁶ National Institute for Health and Care Excellence (NICE). (2022). Atrial fibrillation: Anticoagulants. Available: <https://cks.nice.org.uk/topics/atrial-fibrillation/prescribing-information/anticoagulants/>. Last accessed 03/05/22.

The sooner, the better



Dr Jag Ahluwalia, Chief Clinical Officer at Eastern AHSN, explores where innovation is helping to identify cancer earlier

While the NHS took steps to protect services and continue to encourage people to engage with clinicians if they were unwell, 36,000 fewer people in England began cancer treatment during the pandemic (April 2020 – March 2021) compared with previous years. In April, a report from the House of Commons Health and Social Care Committee (HSCC) described providers having to ration treatment, likening working in cancer services during the pandemic to working 25 years ago¹. The combined impact of patients' reluctance to come forward, late diagnosis and delayed treatment will almost certainly mean that many lives will end prematurely.

The HSCC report also demonstrated that the NHS is not on track to meet its target on early cancer diagnosis – namely, the NHS Long Term Plan's target to diagnose 75% of cancers at stage I or II by 2028¹. Therefore, urgent steps are needed now to prevent the UK from losing gains made in recent years on cancer survival rates and to halt a predicted rise in avoidable cancer deaths because of this delayed diagnosis and treatment². That's why cancer remains a key focus of our strategy at Eastern AHSN.

We believe we have a key role in helping enable providers of cancer services to access proven innovations in diagnosis and treatment to manage capacity, increase efficiency and improve care and outcomes

Improving earlier diagnosis on cancer

The single most effective way to improve overall survival rates is to diagnose more cancers earlier.

“The single most effective way to improve overall survival rates is to diagnose more cancers earlier”

We have supported pilots of three innovations in the region that have helped improve earlier detection and treatment of cancers when there may be an increased range of treatment options, improved long-term survival and quality of life. Earlier diagnosis of cancer also helps address the pressures on resources in secondary care and services with extensive [waiting lists](#) following the COVID-19 pandemic.

Skin analytics

Skin Analytics uses AI and remote reviewing by local dermatologists to support clinicians in their assessment of skin lesions, directing patients to the best assessment or treatment options. Eastern AHSN partnered with Norwich Primary Care Network (PCN) and Norfolk and Waveney Clinical Commissioning Group (CCG) to fund the evaluation of a pilot of Skin Analytics' remote dermatology consultant service to support rapid assessment of dermatological lesions across 14 GP surgeries between April 2019 and March 2020.

The remote consultant service accurately identified more than 400 lesions (more than half of all those reviewed) that could be managed within primary care, with only 0.45% of these lesions re-presenting to a GP within six months of the initial referral to the remote consultant. This suggests the potential to relieve pressure on

secondary cancer services using teledermatology.

The pilot also suggested that Skin Analytics could save £11,929 per year across the 14 practices and £89,876 per year if the service was commissioned throughout Norfolk and Waveney CCG.

You can read more about our work across Norfolk and Waveney with Skin Analytics [here](#).

More recently, Suffolk and North East Essex Integrated Care System has

implemented Skin Analytics' AI solution as part of the two-week wait skin cancer pathway, with funding secured from NHS England and NHS Improvement.

The pathway was launched at West Suffolk Hospital NHS Foundation Trust in October 2021 and is already streamlining each patient's journey through the pathway and supporting rapid access to treatment where required.



Early CDT Lung Test

The *EarlyCDT Lung test* from Oncimmune is a blood test to support the early detection of lung cancer. Almost 9 in 10 lung cancer patients will survive their disease for at least a year if diagnosed at the earliest stage³. Eastern AHSN brokered and part-funded a pilot with Norfolk and Waveney CCG using the EarlyCDT Lung test to screen patients at high risk of developing lung cancer across five GP practices in Great Yarmouth. The pilot enabled the screening of 1,749 smokers and ex-smokers and identified 300 to be referred for a CT scan in secondary care.

We are now working with the University of Southampton to further evaluate the test by using the data from the pilot to model the clinical impact of the intervention under non-pandemic conditions. This is due for completion in June 2022.

Cytosponge

Cyted's Cytosponge is a non-endoscopic test that detects oesophageal cancer and Barrett's Oesophagus – a pre-cancerous condition that may mean an individual is at higher risk of oesophageal cancer. In a nurse-led clinic, a patient swallows

pathologists will use a simple antibody test to spot the signs of a patient being at risk of having cancer.

Through Project DELTA, the University of Cambridge and Heartburn Cancer UK are bringing Cytosponge to eligible patients identified across



a small pill on a string that contains a sponge. When the pill reaches the stomach, the capsule dissolves and the sponge expands. The sponge collects cells from the lining of the oesophagus as it is withdrawn and the cells are sent for analysis, where

Cambridgeshire, Essex and Suffolk through a mobile diagnostic unit in the community.

Eastern AHSN has contributed £10,000 in funding to support additional staffing capacity in the pilot, which will run until summer 2022.



Prof. Rebecca Fitzgerald, Co-founder and Clinical Advisor at Cytel, holds a dissolved Cytosponge capsule

Partnering with Macmillan to support cancer innovation



Emma Quintal, Innovation Partnerships Manager at Macmillan Cancer Support

I was first introduced to Eastern AHSN when they partnered with us at Macmillan Cancer Support to run an *innovation matching event* focused on oncology. We convened cancer leads from the NHS, healthcare companies and the third sector to showcase some of the exciting innovators Eastern AHSN work with, whose innovations were identified as having the potential to help cancer patients and services. It was clear that the two organisations' purposes were aligned and, as a result, I was seconded to Eastern AHSN for a day a week to help keep momentum on some of the connections created and offer insight from my experience from Macmillan and 10 years working in palliative care. I can also help identify opportunities for integrating innovations into services and ensuring they have the right patient input.

It is vital that we continuously improve outcomes for people with cancer and I believe that this is built on innovation and diversifying the support services we offer. Eastern AHSN is so forward-thinking in how it identifies innovation and runs projects, which speeds up the process and makes things happen. In the short time I've been seconded, I have already seen the direct impact this delivers for services and patients.

I'm really proud that, as a result of our introduction, Macmillan Cancer Support has partnered with the Sepsis Trust to enter an agreement with 52 North Health, who presented their *Neutrocheck* test innovation at the matching event.

While it is still in the early stages, this test is designed to enable people with symptoms to test for neutropenic sepsis, a potentially life-threatening complication of chemotherapy, at home using a finger-prick test. Accurately detecting the early signs of neutropenic sepsis at home would enable people to get to hospital as quickly as possible and get the treatment they need, as well as avoiding unnecessary hospital visits for those who test negative.

The innovation was identified when 52 North Health successfully applied for a £125,000 grant through the MedTech Accelerator (MTA) programme, of which Eastern AHSN is a partner within this joint venture. I am working with the Eastern AHSN team to design a business development focus workshop with key NHS stakeholders to support 52 North Health to develop its business case and better understand how it can navigate procurement and commissioning frameworks. We also supported a successful application for almost £1m in funding from SBRI Healthcare, which is an NHS England and Improvement programme supported by the AHSN Network.

We're creating so many connections between innovators, healthcare services and the third sector, which we hope will ultimately lead to a positive impact on patients.

“Eastern AHSN is so forward-thinking in how it identifies innovation and runs projects, which speeds up the process and makes things happen”

[Return to the contents page](#)

Up next: Read how we are working with local services to improve mental health outcomes for young people.



References

- ¹ House of Commons Health and Social Care Committee. (2022). Cancer services: Twelfth Report of Session 2021–22. Available: <https://committees.parliament.uk/publications/9562/documents/161967/default/>. Last accessed 03/05/22.
- ² House of Commons Health and Social Care Committee. (2022). Lack of 'serious effort' on cancer workforce shortages risks reversal of survival rates. Available: <https://committees.parliament.uk/committee/81/health-and-social-care-committee/news/165301/lack-of-serious-effort-on-cancer-workforce-shortages-risks-reversal-of-survival-rates/>. Last accessed 03/05/22.
- ³ Cancer Research UK. (2021). Why is early diagnosis important?. Available: <https://www.cancerresearchuk.org/about-cancer/cancer-symptoms/why-is-early-diagnosis-important>. Last accessed 03/05/22

Focusing on mental health in children and young people



Dr Sarah Robinson, Director of Delivery at Eastern AHSN and clinical psychologist, explains how we are working with local services to improve mental health outcomes for young people



Mental health remains a priority area for the team at Eastern AHSN and the need for innovations that enable access to evidence-based treatments has never been more important as we recover from the pandemic. While the impact that COVID-19 has had on young people's mental health will become evident over the coming years, early signs are concerning:

Rates of probable mental disorder in 6- to 16-year-olds increased between 2017 and 2021 from one in nine to one in six^{1,2}. Children and young people with a probable mental disorder were more likely to say that lockdown had made their life worse than those who were psychologically well².

When it came to receiving help for mental health problems during the pandemic, almost 1 in 5 of 5- to 16-year-olds (or their guardians) with a probable mental disorder who tried to seek help for mental health problems reported that they didn't receive the help they needed³.

At Eastern AHSN, we have a number of ongoing programmes aimed at supporting young people and enabling services to improve diagnosis and treatment of mental health conditions as early as possible.

Focus ADHD

The aim of the Focus ADHD programme is to enable services to improve how they assess children and young people for ADHD. This is done at a regional level by:

- Accelerating uptake and implementation of an objective ADHD assessment tool (measuring the three core components of attention, impulsivity and hyperactivity) to supplement current clinical assessment processes
- Supporting changes in pathways, workforce and data collection.

The increasing numbers of referrals with complexities, combined with reduced workforce capacity, have made it difficult to implement the changes within this programme across our region at speed. To help this, we are supporting providers to develop business cases and, in some cases, providing funding to support the pathway.

Figures released during ADHD Awareness Month (October 2021) show that, since the start of the first demonstrator site in the East Midlands in 2017, 52,000 children across England have had an objective assessment for ADHD using the QbTest. In the East of England, we have rolled this programme out across four sites to date and 454 tests have been completed. It is already having a positive effect through reducing waiting lists and we are working hard to ensure best practices and positive experiences are shared across all sites through our community of practice.

"Central to the implementation of this project has been using our understanding of local pressures and working with our local network to understand workforce issues and where there are health inequalities, and how these can be mitigated. Eastern AHSN has brought together professionals from the whole ADHD pathway across our local health systems to provide education, inspiration, and support which is already benefiting children and their families." – **Dr Venkat Reddy, Consultant Neurodevelopmental Paediatrician and Lead Clinician at Cambridgeshire and Peterborough NHS Foundation Trust and Clinical Advisor for the Focus ADHD programme.**

"We've seen a real surge in referrals in our trust in the last 12 months, but using QbTest has been instrumental in providing clinicians supplementary data points upon which to base their diagnosis. It also gives parents an extra level of confidence that there's an objective test being used." - **Dr Helen Alabede, East Suffolk and North East Essex Foundation Trust**

**The AHSN Network
Focus ADHD programme
won Best Mental Health
Partnership with the
NHS in the Health Service
Journal (HSJ) Partnership
Awards 2022**



Early intervention for eating disorders

Since the onset of the COVID-19 pandemic, eating disorder experts from across the globe have observed a substantial increase in the number and severity of new and pre-existing young people suffering

**“With FREED,
you’ve suddenly**

with eating disorders compared to prior years⁴. Compared to before the pandemic, there has been a dramatic (69%) increase in hospital admissions for eating disorders in young people⁵. Most eating disorders (extreme concern around eating, weight or shape, plus disordered eating) develop during adolescence; they are estimated to affect one in seven women over their lifetime and they have the highest mortality rates of any mental health disorder⁶.

The AHSN Network is supporting the adoption of early intervention for eating disorder models of care across the East of England. In our region, we are embedding the First episode Rapid Early intervention for Eating Disorders (FREED) service model. This service offers young people with suspected anorexia nervosa, bulimia nervosa or binge eating disorder who have had the condition for less than three years to be triaged within 48 hours of the referral and begin treatment within four weeks.

The programme aims to reduce the length of time young people have untreated eating disorders, improve their quality of life and reduce the severity and longer-term impact of eating disorders on patients and families, as well as reducing day/inpatient admissions and bed days.

We have successfully launched early intervention services across Norfolk and Waveney, Hertfordshire and West Essex, Suffolk and North East Essex, and Cambridge and Peterborough ICSs, meaning that young people across the Eastern region can be referred to a FREED service.

We have helped embed FREED champions in each service to lead the adoption of the programme. We have established a community of practice to provide peer support and enable collaboration between FREED champions, service managers and regional NHS England and NHS Improvement colleagues to ensure the long-term sustainability of the service.

To date, 86 16- to 25-year-olds across the Eastern region have been supported to access NICE-recommended treatment for eating disorders through the FREED programme and, with the significant rise in referrals, this number is set to rise considerably in the coming year.

We have also been supporting the team at Cambridgeshire and Peterborough to review and update a series of podcasts for people to use while they are in this service.

got this source of hope that didn't exist before for people suffering this deadly illness. It couldn't have happened without the skills, knowledge and commitment of the AHSN”

– Simon Brown, Expert by experience and Chairman of the eating disorder nursing charity **Personalised Eating Disorder Support (PEDS)**



Simon Brown talks about the importance of early intervention in eating disorders

Creating an interactive directory of UK adult community eating disorder services

This electronic document provides a comprehensive list of all community eating disorder services across England, Scotland, Wales and Northern Ireland, including information on what geographical areas they serve and contact information for making further inquiries to make a referral. All UK universities and colleges are listed under their local community eating disorder service. The hope is that

having this information freely available will help professionals and university health partners to make referrals and liaise with other community eating disorder services. As part of our work supporting mental health services in our region, a local NHS community eating disorders service requested support to streamline the process of referring young people to local community eating disorder

services when they move to university. We worked with them and Beat, an eating disorder charity, to create a directory of all UK community eating disorder services, including information on what geographical areas they serve and contact information for making further inquiries to make a referral.

You can read more about this work and access the directory [here](#).

Using health data to identify mental health problems in young people

Eastern AHSN is a partner in **FAIR TREATMENT** (Federated analytics and artificial intelligence research across trusted research environments for child and adolescent mental health), led by researchers at the

University of Cambridge. This sprint project is combining data research technologies to enable researchers to link and analyse data from different sources, including health, education and social care records, between three sites without the data needing to be moved.

Learn more about our work in healthcare data in [this article](#).

Digital therapeutics for better mental health in children

We are supporting innovator *BFB Labs* to evaluate the impact of 'Lumi Nova: Tales of Courage', an evidence-based therapeutic game that aims to enable children (7-12 years) to build life-long skills by learning how to self manage their fears, worries and anxieties. This includes common anxieties such as speaking in front of a group, fear of dogs or spiders, sleeping on their own and more. We are excited at the opportunity to support innovation at a younger age knowing that 50% of mental health problems are established by age 14⁷.

Eastern AHSN is a partner in a successful funding bid from the NIHR to pilot the use of the digital therapeutic tool across the East of England over 12 months to establish the clinical benefit in children. The research will explore the potential this innovation may have for addressing inequalities in healthcare, which is important as children from disadvantaged, marginalised, or ethnic minority communities are more likely to experience anxiety disorders, but are the least likely to access mental health services⁸.

We've supported the establishment of a Children and Families Advisory Group, which will be part of ensuring that patient voice is at the core of the research project.

Manjul Rathee, Co-founder & CEO of BFB Labs:

"Working with Eastern AHSN has been one of the best partnerships we've experienced. As well as their pragmatic approach and understanding of an innovator's journey, they were able to bring together a consortium of stakeholders including clinicians, commissioners and subject experts to help us realise this study. Within weeks, we had made progress that we expected to take months and we are so excited to see the results of the study later this year."



Watch the trailer for *Lumi Nova: Tales of Courage* by BfB Labs

Share this article



Get in touch

If you want to learn more about any of these programmes or how we can support you to improve services, contact sarah.robinson@eahsn.org.

[Return to the contents page](#)

Up next: Read about our work to understand the challenges faced by people living with a rare disease and how they might be addressed through innovation.



References

- ¹NHS Digital. (2021). Mental Health of Children and Young People in England, 2021. Available: https://files.digital.nhs.uk/97/B09EF8/mhcyp_2021_rep.pdf. Last accessed 19/04/22.
- ²Peytrignet, S., Marszalek, K. et al. (2022). Children and young people's mental health. Available: <https://www.health.org.uk/news-and-comment/charts-and-infographics/children-and-young-people-s-mental-health>. Last accessed 19/04/22.
- ³NHS Digital. (2020). Mental Health of Children and Young People in England, 2020: Wave 1 follow up to the 2017 survey. Available: <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2020-wave-1-follow-up>. Last accessed 19/04/22.
- ⁴Katzman, D. (2021). The COVID-19 Pandemic and Eating Disorders: A Wake-Up Call for the Future of Eating Disorders Among Adolescents and Young Adults. *J Adolesc Health*. 69 (4), 535–537.
- ⁵NHS Digital. (2022). Hospital admissions with a primary or secondary diagnosis of eating disorders. Available: <https://digital.nhs.uk/supplementary-information/2022/hospital-admissions-with-a-primary-or-secondary-diagnosis-of-eating-disorders>. Last accessed 19/04/22.
- ⁶Priory. Eating Disorder Statistics. Available: <https://www.priorygroup.com/eating-disorders/eating-disorder-statistics>. Last accessed 19/04/22.
- ⁷Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. (2005). Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62 (6) pp. 593-602. doi:10.1001/archpsyc.62.6.593.
- ⁸Gordon-Hollingsworth, A.T., Becker, E.M., Ginsburg, G.S., Keeton, C., Compton, S.N., Birmaher, B.B., Sakolsky, D.J., Piacentini, J., Albano, A.M., Kendall, P.C. and Suveg, C.M., 2015. Anxiety disorders in Caucasian and African American children: A comparison of clinical characteristics, treatment process variables, and treatment outcomes. *Child Psychiatry & Human Development*, 46(5), pp.643-655. Hayes AF., 2017. Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford publications.

From insight to impact: rare diseases



Jo Balfour, Managing Director of the Cambridge Rare Disease Network (CRDN), explains how we have worked together to understand the challenges faced by people living with a rare disease and how they might be addressed through innovation



Supporting the development of innovations to address some of the challenges faced by people living with rare diseases is a priority area for Eastern AHSN and is underpinned by the recommendations of the UK Rare Diseases Framework. We have been delighted to partner with Eastern AHSN for the past three years. During this time, we have deepened our relationship and what we most appreciate is the time the AHSN has taken to listen to the needs of our community and really understand how it can mobilise entrepreneurs and their innovations to help this often-overlooked group.

In 2020, we partnered to survey the rare disease community, during our RAREfest20 event, to understand their challenges, both the significant and the everyday ones that could benefit from innovative ideas to help make the lives of those living with rare diseases more manageable. This year, we listened and acted on those insights. Having identified three key areas in which we believed that the innovation community could help make a difference, we issued the following challenges to the community:

- How might we use digital technology or AI to improve access and availability of clear, reliable health information about rare diseases for patients, family members, healthcare professionals and/or members of the public?
- How might we use AI and digital technology to improve coordination of care for people living with rare diseases?
- How might we use digital technology to maintain wellbeing and reduce mental fatigue for people living with rare diseases?

A rare disease affects fewer than 1 in 2,000

1 in 17 people is affected by a rare disease at some point in their lifetime¹

The population of those living with a rare



disease in the UK is around 3.5 million, but with **only a few affected** by each of the estimated **8,000 rare conditions**, challenges abound

Seventeen groups responded to the challenges. These were evaluated by an expert panel and the five highest scoring entries were invited to present their ideas to an audience of more than 300 patients, healthcare professionals, academics and leaders within the rare disease space at RAREsummit21. It was a unique opportunity for innovators to get feedback on their ideas directly from people living or caring for those with rare diseases.

The five featured innovations were:

- **Asclepius Digital** by **Sundown Solutions** – an app enabling secure and immediate access to pertinent health care records for specialist consultants
- **Medwise.ai** – using AI to provide healthcare professionals with instant access to vetted and contextualised information and peer insights about the treatment and management of rare diseases
- **Noink** – a real-world data capturing tool for rare disease families to diarise their condition(s) for the benefit of themselves and their clinical teams
- **Thriving AI Limited** – using AI to integrate the formal and informal health and social care around the person being cared for
- **Collaborative decision making** by **Vitaly** – a collaboration tool supporting multidisciplinary team meetings of healthcare professionals with a complete and up-to-date picture of a patient's data.

You can watch the recording of the session at **RAREsummit21** **here**

Each innovation that made a submission received support from Eastern AHSN's healthcare innovation experts, but, on the day, the RAREsummit audience selected *Medwise.ai* as the solution that best met one or more of the challenges.

Reflecting after the event, Dr Louise Jopling, Commercial Director at Eastern AHSN, said

"We were blown away by the quantity and quality of the entries we received and narrowing it down to five was difficult. Through this innovation challenge we created connections that can improve the lives of the millions of people living with or supporting someone with a rare disease."

“Eastern AHSN helped us develop our own expertise by bringing its expertise to our projects. This meant we could scale CRDN’s impact to help more people and more families”

Since the RAREsummit, we have worked with Eastern AHSN to continue to support the innovators selected. This has included connecting *Thriving AI* with families living with rare diseases to provide valuable feedback on how the innovation could enable the integration of their formal and informal care. *Medwise.ai* has been introduced by Eastern AHSN to organisations including the NHS Genomic Medicines Service Alliance for potential collaborations. Additionally, Eastern AHSN has enabled us to convene a partnership with Rare Disease Research Partners to support activities arising from their recently published *Consensus Statement for Good Practice – Psychological Support at Diagnosis of a Rare Disease*.

Eastern AHSN helped us develop our own expertise by bringing their expertise to our projects. This meant we could scale CRDN's impact to help more people and more families. We are looking forward to evolving our partnership over the next 12 months to make an impact against our shared goal

Update: Rare disease education for nurses

In order for patients with rare diseases to get the best care, it is essential that clinicians and practitioners have access to reliable, up-to-date educational resources. In 2020, Eastern AHSN supported the development of an accredited educational platform for nurses working in lysosomal storage disorders (LSD). Our collaboration with Elizabeth Morris, a Clinical Nurse Specialist in the region, on behalf of a national nurse steering committee, and the ABPI helped make this vision possible. We brokered discussions between the steering committee and commercial partners, which

secured funding from four companies to enable development of the platform and led the process of appointing a medical communications agency to create the content.

Now, in the first quarter of 2022, the platform is gearing up for Beta testing and is scheduled for launch at the British Inherited Metabolic Disease Group (BIMDG) conference in June.

The platform will be hosted on the BIMDG website and is in the process of securing accreditation with the Royal College of Nursing (RCN).



Elizabeth Morris,
Clinical Nurse Specialist
at Cambridge University
Hospitals NHS
Foundation Trust:

"It's really exciting that we are so close to launching the platform, driven by a need for accessible, digestible and accredited resources. The team at Eastern AHSN has been pivotal in helping us get to this point; making introductions and helping us find the right partners to give healthcare professionals the tools to help people with rare diseases."

Share this article



More information

If you would like to learn more about Eastern AHSN's work with rare diseases and the rare disease community, contact Dr Louise Jopling, Commercial Director at Eastern AHSN, at louise.jopling@eahsn.org.

You can read more about the rare diseases innovation challenge [here](#). If you have an innovation that could have a positive impact on patients, **we want to hear from you**.

[Return to the contents page](#)

Up next: Read how we are convening partners to facilitate the storage, transfer, use and security of health and care information for research



References

¹Department of Health and Social Care - UK. (2021). The UK Rare Disease Framework. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950651/the-UK-rare-diseases-framework.pdf. Last accessed 09/02/2021.

From digital information
to patient impact:

Connecting health data for research



Mark Avery, Director of Health Informatics at Eastern AHSN, explains how we are convening partners to facilitate the storage, processing and use of health and care information for research

When the first fully assembled human genome sequence was published in 2001¹, it was clear that a new age in healthcare research had begun. Mapping the book of life was the first step in enabling us to understand how genetic variation shapes human health and disease. In less than 10 years, the time and cost of sequencing genomes was reduced by a factor of 1 million and in 2021² about 30 million people have had theirs sequenced³.

However, all this valuable insight into what makes each of us unique takes up a lot of data-storage space, with the demand for all of these sequenced genomes estimated to be in the exabytes globally⁴.

For researchers dealing with enormous volumes of data, secure access is only one part of the challenge. That data needs to be arranged, manipulated and analysed, often in combination with other datasets, to be useful for research. Many research institutions and data providers have their own trusted research environments (TREs), which are secure spaces for researchers to access and analyse sensitive data. However, these TREs are often not compatible with others, which limits the research.

By building a bridge between research environments, we can enable researchers to leave very large datasets in situ and analyse them remotely while ensuring people's privacy is protected, pulling only the results into a secure and trustworthy research environment.

This process of getting two or more distinct databases to act as one is known as federation. This technology has the potential to enable the medical research community to conduct more research, faster, by removing the geographical, logistical

One exabyte (EB) is equal to **one billion gigabytes (GB)** or can be expressed as **10¹⁸ bytes**. With the average pop song

around 3:30 in length, it would take you about 167,000 years to listen to an exabyte of music

and governance barriers associated with moving exceptionally large datasets. This has enormous potential for future research in terms of increasing both the volume and diversity of data available for health research, which is why Eastern AHSN has been a key partner in multiple data informatics projects this year to support this enabling infrastructure.

Gut Reaction

Eastern AHSN is a key partner in Gut Reaction, the Health Data Research Hub for inflammatory bowel disease (IBD).

The project builds on the high-quality phenotypic and genomic data in the NIHR IBD BioResource by combining it with real-world data from participating NHS hospitals and the UK IBD Registry. Researchers can use extracts from these linked datasets to support important research into inflammatory bowel disease. By March 2022, we had received 45 requests from researchers to use the Gut Reaction data, many of which have passed the criteria and been approved to enable them to begin their studies.

Our role has focused on operational and programme management, coordinating activities across workstreams and project governance, including reporting and assurance to our funders. Involving patients in decision-making about how their data are used for patient or societal benefit has been central to the work of Gut Reaction. This year, we have worked closely with our Patient Advisory Committee to design and implement a new data access process for inflammatory bowel disease data access applications. This approach will be reviewed after 12 months and, if successful, further refined and extended to all data access applications across the entire NIHR BioResource.

Over the past 12 months, by drawing on the experience of the partners comprising Gut Reaction and building on our successes, a sustainable model for data sharing for innovation in inflammatory bowel disease has been developed. This means the hub will be able to continue beyond the funded period to help drive innovation.

Find out more about Gut Reaction and our partners on this programme, visit [our website](#).

“Eastern AHSN are the linchpin that brings all the partners of the project together”



Rosanna, Patient Partner for the Gut Reaction Health Data Research Hub for inflammatory bowel disease (IBD), shares her experience working with Eastern AHSN.

Professor Serena Nik-Zainal, NIHR Research Professor and Honorary Consultant in Clinical Genetics, University of Cambridge

Enabling biomedical research through data

The more we learn about the human genome, the more we see the potential for clinical research in this area. Yet, sharing the data we generate across the University of Cambridge and our partner organisations is a challenge. The genomic medicine theme of the NIHR Cambridge Biomedical Research Centre (BRC) sought to improve clinical research data infrastructure, and we commissioned Eastern AHSN to project manage the building of a common data architecture so that genomic and other biological data could be effectively and safely shared across the Cambridge Biomedical Campus. For the resulting project, called CYNAPSE, Eastern AHSN scoped what would be needed, what it might cost and how it could be delivered. Having supported the procurement of a suitable software platform the team is now working with the providers (Lifebit) to develop the features and capabilities required to make it all work for a small initial number of research groups, which will be scaled over the coming months.

Eastern AHSN's expertise in helping to find solutions for complex health data challenges has been instrumental to the project's success to date. This work has the potential to revolutionise research in Cambridge and beyond.

A proof of concept for federated genomics

Building on the CYNAPSE infrastructure and working with the University of Cambridge and Lifebit, we successfully secured funding from UK Research & Innovation as part of Phase 1 of the DARE UK (Data and Analytics Research Environments UK) programme, which is delivered in partnership with Health Data Research UK (HDR UK) and Administrative Data Research UK (ADR UK). Our federated genomics project will demonstrate that different clinical-genomic datasets from CYNAPSE, the new data infrastructure for the Cambridge Biomedical Campus, and Genomics England can be analysed remotely by approved research partners. By enabling the datasets to be simultaneously accessed remotely, this project could ultimately help the research community securely access and collaborate across larger, combined cohorts to leverage the immense potential for collaboration in genomic research nationally and internationally. The sprint project is due to last only eight months and we are on course to have a proof of concept in place and working by the end of this summer.



Embed: Professor Serena Nik-Zainal talks about the potential for research using different datasets without having to move the data

Dr Anna Moore, Principal Investigator for FAIR TREATMENT

A digital first approach

We are working with our local integrated care systems (ICSs) to take a digital first approach as they develop their digital and data strategies and governance. We are also working across the region to build on the foundations laid during the pandemic to support remote monitoring of patients in care homes and virtual wards.

Data federation and mental health

Successfully combining large datasets for research has ramifications beyond genomic projects. We know that negative aspects of a young person's life can lead to poor mental health and providing support as soon as possible can make problems easier to treat, and prevent more severe problems later on. Research indicates that it's possible to spot patterns in data from health, education and social care records to identify who needs this help early, but it's difficult when this information is secured in different places. Furthermore, there are significant challenges with analysing large enough datasets to enable us to better identify young people with rare mental health conditions. To meet these challenges, we partnered with Eastern AHSN to secure funding for another sprint project funded by UKRI as part of the DARE UK programme.

The project is called Federated analytics and artificial intelligence research across trusted research environments for child and adolescent mental health (*FAIR TREATMENT*). We aim to break these silos in socioeconomic data and develop ways to analyse data between diverse geographical regions without creating large pools of data known as data lakes. By doing this, there is potential to identify relationships and support the development of AI tools for the early identification of possible mental health problems in young people. This isn't just about overcoming technical barriers; the information governance requirements are complex. Perhaps the most important aspect is understanding the views of the public about how we use their data. We have recruited a diverse panel of almost 100 young people, parents and guardians who are helping us to understand the opportunities and issues. They are working alongside the organisations contributing data, and legal and ethics experts, to develop best practice in how we use and share data for health research in a safe and ethical way. We hope to have built the infrastructure and successfully share proof of concept by this summer.

The DARE UK 'FAIR TREATMENT' consortium includes the University of Cambridge (Departments of Psychiatry and Genetics), Eastern AHSN, InterMine, AIMES, Kaleidoscope, University of Birmingham, University of Essex, Anna Freud National Centre for Children and Families, Cambridgeshire County Council and Bitfount.

Share this article



If you want to learn more about our work in health data research and informatics, contact us at mark.avery@eahsn.org or visit our [website](#)

[Return to the contents page](#)

Up next: Read how we are supporting innovations and networks which are helping people take a greater role in their own health and staying healthier for longer.



References

- ¹ National Human Genome Research Institute. (2001). International Human Genome Sequencing Consortium Publishes Sequence and Analysis of the Human Genome. Available: https://www.genome.gov/sites/default/files/media/files/2021-02/2001_Press_Release_FC_notes.pdf. Last accessed 22/04/22.
- ² Costa, F. (2012). Big Data in Genomics: Challenges and Solutions. G.I.T. Laboratory Journal. 11 (1), 2-3.
- ³ Crespi, S. (2021). Looking back at 20 years of human genome sequencing. Available: <https://www.science.org/content/podcast/looking-back-20-years-human-genome-sequencing>. Last accessed 22/04/22.
- ⁴ Stephens Z.D., Lee S.Y., Faghri F., Campbell R.H., Zhai C., Efron M.J., et al. (2015). Big Data: Astronomical or Genomical? PLoS Biol. 13 (7)



© THE CENTRE FOR AGEING BETTER

Helping our populations stay healthy for longer



Helen Oliver, Business Development Director and Deputy Chief Executive Officer at Eastern AHSN, outlines how we are supporting innovations and networks that are helping people take a greater role in their own health and staying healthier for longer

Like many, I moved a lot less during lockdown. A lack of commute, places being closed, home schooling and a ban on socialising meant more time sat at home. I'm not alone, with Sport England reporting that the pandemic led to unprecedented decreases in activity levels across all age groups¹, but particularly among individuals with more long-term health conditions and older people². This is likely to have led to the loss of physical, psychological, and functional capacity due to inactivity in these groups. This has a number of health impacts, including increasing the risk of falls³.

As time passes, we will have a better understanding of the longer-term impacts this will have on people's health and quality of life. But we know that helping people live longer and healthier lives was a priority in the NHS Long Term Plan even before the pandemic and will be vital in enabling the healthcare system to recover from COVID-19.

At Eastern AHSN, we have supported several programmes this year aimed at improving people's wellbeing and supporting healthy ageing.

Norwich Institute of Healthy Ageing

Eastern AHSN is a partner in the Norwich Institute of Healthy Ageing (NIHA), which develops and implements effective strategies to promote sustained population behaviour change, to improve physical and mental wellbeing. The NIHA is inter-disciplinary in its approach, examining human behaviours in

an integrated way and delivering large-scale cohort and (pragmatic) intervention studies. I sit on its steering group and co-chair the *NIHA Behaviour Inequalities in Health Group*, helping them identify and build key partnerships and scope potential funding opportunities. While it is still early days for the NIHA, we hope to continue supporting the organisation as it makes breakthroughs that can be translated into patient impact.



**Prof. Anne-Marie Minihane, Director of
Norfolk Institute of Healthy Ageing (NIHA):**

“Promoting the sustained population behaviour change required to improve physical and mental wellbeing requires collaboration across the whole health and care system. Eastern AHSN has been committed to finding solutions that work and convening the right partners to make it happen”

Active+ME REMOTE

“I am a lot more aware of my health issues... I became a lot more involved in trying to change that for the better, rather than for the worse” – Female Active+me REMOTE pilot participant, 47 years old

Eastern AHSN worked with Cambridge University Hospitals NHS Foundation Trust to pilot delivery of its cardiac rehab programme digitally, using *Active+me REMOTE* by Huntingdon-based company Aseptika. *Active+me REMOTE* combines exercise classes with monitors to record patients’ health metrics at home that are uploaded to an app and shared with their personal health coach. It aims to enable patients to exercise safely, monitor their own health and improve how they feel about being able to cope living with a heart condition.

The pilot was evaluated by Sheffield Hallam University’s Advanced Wellbeing Research Centre (*AWRC*), using funding from Innovate UK and with support from *Yorkshire and Humber AHSN*. The primary aim of the evaluation was to determine whether participating in cardiac rehabilitation with *Active+me REMOTE* led to an increase in patient activation measure (PAM) score – a validated, licensed tool that measures people’s knowledge, skills and confidence in managing their own health and healthcare (referred to as ‘patient activation’), scored between 0 and 100. The findings have been published in the *BMC Health Services journal* and concluded that participation in standard cardiac rehabilitation with *Active+me* is associated with increased patient activation.

The data showed that the average PAM score increased from 65.5 (level 3 – taking action) to 70.2 (level 4 – maintaining behaviours and pushing further), indicating a potential reduction in the risk of future admission to hospital and use of healthcare services. We are now in discussion with other providers across different AHSNs about how this innovation could support their outpatient services.

Read more on our [website](#).



Understanding patient activation

Patient activation is a measure of a person’s knowledge, skills and confidence to manage their own health and wellbeing and is a core enabler for supporting self-management and personalising care. The Patient Activation Measure (PAM) is a tool used to quantify patient activation⁴. Eastern AHSN sometimes works with innovations to use this metric to compare patient activation before, during and after an intervention.

“Up to a third of women will experience severe menopausal symptoms that can impact on their quality of life. However, a 2016 survey found that 50% of women aged 45-65 who had experienced the menopause in the past 10 years had not consulted a healthcare professional”

Helping identify frailty risks earlier in people with learning difficulties

Signs of ageing often appear earlier in people with learning disabilities, including autism^{5, 6}. This is due to a variety of reasons, including chromosomal differences, side effects from polypharmacy over significant periods and prevalence of other long-term health conditions⁷. The *NHS Long Term Plan* made a commitment to continue the Learning Disabilities Mortality Review (LeDeR) and to improve the health and wellbeing of people with a learning disability.

Locally, Eastern AHSN is supporting a pilot with Hertfordshire County Council and Hertfordshire Community NHS Trust with support from the University of Hertfordshire to validate *Frail+LD*, a tool that has been developed locally in line with LeDeR and NICE recommendations for an individualised assessment of frailty and consideration of comorbidities and underlying health conditions in people with learning disabilities.

Frail+LD is a clinical support tool for health care professionals to support the identification of frailty risks sooner in people with learning disabilities through clinical assessment. The outcome for *Frail+LD* is to manage and help people with a learning disability to live well for longer and reduce deaths from frailty-related conditions. Eastern AHSN is supporting the *Frail+LD* project by providing funding for the validation and has brokered the pilot, which went live in March and is due to run until December 2022.



Charco

CUE1 is a wearable device developed by Charco's team of engineers, doctors and neuroscientists for Parkinson's patients. It works by providing focused vibrotactile stimulation to reduce the symptoms of slowness and stiffness that people with Parkinson's experience. Pilot tests demonstrate a 16% improvement in everyday movement.

We have been supporting Charco to develop *CUE1*'s value proposition, secure funding for further development and introduce them to potential partners for pilots. Find out more in our Charco innovator spotlight.

Lumino

Up to a third of women will experience severe menopausal symptoms that can impact on their quality of life. However, a 2016 survey found that 50% of women aged 45-65 who had experienced the menopause in the past 10 years had not consulted a healthcare professional about their menopause symptoms.

We are working with innovation company Lumino to pilot a therapeutic app-based tool called *Seren* in the East of England, which supports women experiencing the menopause. The evidence-based clinical resources contained within *Seren* are built on a detailed understanding of the psychological impact of the menopause and it has been co-produced with digital experts and women who have and are experiencing the menopause.

Lumino are on Cambridge Judge Business School's *Accelerate Cambridge* incubator programme, having completed the Cambridge Social Ventures incubator programme last year.

As well as providing mentoring to the team, we are hoping to secure a pilot of *Seren* with primary care partners in the coming year.

● Learn more:

If you want to learn more about how we are helping people take a greater role in their own health and staying healthier for longer, contact Helen Oliver, Business Development Director and Deputy Chief Executive Officer at Eastern AHSN, at helen.oliver@eahsn.org.

Share this article





References

- ¹ Sport England. (2021). Active Lives Adult Survey November 2019/20 Report. Available: <https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/2021-04/Active%20Lives%20Adult%20November%202019-20%20Report.pdf?VersionId=OjWdwCLn13dNgDwp3X4ukcODJIDVG7Kd>. Last accessed 19/04/22.
- ² Giles, A. (2021). Staying indoors: The long-term impact of lockdown on older adults' health. Available: <https://ageing-better.org.uk/blogs/staying-indoors-the-long-term-impact-of-lockdown-on-older-adults-health>. Last accessed 19/04/22.
- ³ Public Health England. (2021). Wider impacts of COVID-19 on physical activity, deconditioning and falls in older adults. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1010501/HEMT_Wider_Impacts_Falls.pdf. Last accessed 19/04/22.
- ⁴ Hibbard, JH., Stockard, J., Mahoney, ER., Tusler, M. (2004). Development of the Patient Activation Measure (PAM): Conceptualizing and Measuring Activation in Patients and Consumers. Health Services Research. 39 (4), 1005-1026.
- ⁵ NHS RightCare. (2019). NHS RightCare: Frailty Toolkit. Available: <https://www.england.nhs.uk/rightcare/wp-content/uploads/sites/40/2019/07/frailty-toolkit-june-2019-v1.pdf>. Last accessed 19/04/22.
- ⁶ NHS RightCare. (2019). Providing the best care for people living with frailty. Available: <https://www.england.nhs.uk/rightcare/2019/06/04/providing-the-best-care-for-people-living-with-frailty/>. Last accessed 19/04/22.
- ⁷ Ouellette-Kuntz, H., Martin, L., McKenzie, K. (2018). Rate of deficit accumulation in home care users with intellectual and developmental disabilities. Annals of Epidemiology. 28 (4), 220-224.
- ⁸ Whiteley, J., DoBonaventura, M dC., Wagner, J-s., Alvir, J., Shah, S. (2013). The Impact of Menopausal Symptoms on Quality of Life, Productivity, and Economic Outcomes. Journal of Women's Health. 22 (11), 983-990.

Innovator spotlight



A MedTech solution to alleviate the symptoms of Parkinson's



We spoke to innovator Lucy Jung, Co-founder at Charco Neurotech, about how Eastern AHSN has supported its *CUE1* device to scale its business, better understand its market and secure funding for development

The benefits of vibration in Parkinson's were first noted by a French neurologist and professor of anatomical pathology, Jean-Martin Charcot, in the 19th century, who observed how his patients felt more comfortable after a train ride. *CUE1* is a wearable device that our team of engineers, doctors and neuroscientists have developed for today's Parkinson's patients based partly on this early insight. It works by providing focused vibrotactile stimulation and cueing to reduce the symptoms of slowness and stiffness that people with Parkinson's experience. During our pilot tests, users have reported experiencing more ease of movement. There has also been a demonstrable alleviation of movement symptoms, with participants registering a 9.3 point improvement on the *Movement Disorder Society-Sponsored Revision of the Unified Parkinson's Disease Rating Scale* (MDS-UPDRS) – a rating tool used to gauge the severity and progression of Parkinson's disease in patients. This figure is well above that considered clinically significant.

We first came into contact with Eastern AHSN when we submitted *CUE1* to its Innovation Review Panel in April 2020. We were due to launch in September the following year and while we had more than 1,200 privately funded backorders, we had no access to the NHS market. We had the opportunity to attend one of Eastern AHSN's Clinical Innovator Forum events and have a one-to-one with some of the commercial team. Thankfully, they helped us understand the critical importance of a health economic evaluation in securing a place on the NHS supply chain and, to our surprise, it also funded and commissioned the evaluation on our behalf. It also put us in touch with some of its contacts to build our evidence base to work towards our NICE submission, including Value Match Procurement Consultancy, who helped us better understand the NHS procurement landscape and build our value proposition.



“I might not be able to run a marathon but it gives me that boost which enables me to do the everyday tasks that are important to me”

– Tina, *CUE1* user

Assisted by these insights, we are currently prepping for a large clinical trial with the Knowledge Transfer Partnership (KTP) in the UK and another feasibility study will be starting soon in Austria, focused on gait analysis.

Eastern AHSN also conducted a business development workshop to help us understand and agree the specific patient segmentation that would offer both patients and the NHS the most value. This workshop also highlighted a number of parameters it would be important to evidence as they would significantly support and align to key NHS strategic priorities. These included relative reduction in the number of falls, reduction in the number of NHS consultations and a reduction in the number of social care visits.

More recently, the team at Eastern AHSN has helped us develop template business cases, both for the NHS and private companies. Additionally, it put us in contact with a marketing agency to develop two explainer video animations: one to present the scientific evidence and one more focused on an investor audience. This helped us realise the importance of telling our story in a visual way and we have now hired a video animator in-house.

It is still early days for *CUE1*, but we have learnt so much in the past year from the Eastern AHSN team's specialist expertise. We have recently secured \$10 million to develop our business and are under consideration for NICE review. I was therefore delighted to be invited back to present at Eastern AHSN's Clinical Innovator Forum event in December to share my experiences and provide advice to the next generation of clinical entrepreneurs.



[Return to the contents page](#)

Up next: Dr. Keith Tsui, CEO and Co-founder of Medwise.ai, explains how Eastern AHSN has helped them develop a reliable, trusted clinical decision-making tool based on a search engine



References

¹ Charco Neurotech. (2020). Charco Neurotech CUE1 User Testing Report . Available: <http://charcoweb-env.eba-aqap8z3u.eu-west-2.elasticbeanstalk.com/wp-content/uploads/2021/12/TuG-UPDRS-tapping-report.pdf>. Last accessed 19/04/22.

● Innovator profile: Medwise.ai

Helping doctors find the answer,

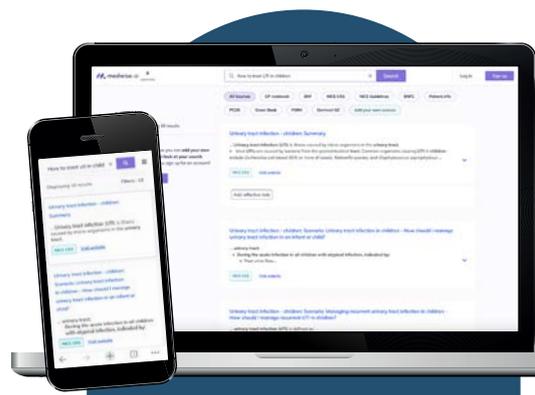


Dr Keith Tsui, CEO and Co-founder of *Medwise.ai*, explains how Eastern AHSN has helped it develop a reliable, trusted clinical decision-making tool based on a search engine for clinicians

Being a medical doctor is extremely rewarding. Each day can challenge you with new experiences and helping find the right diagnosis for patients is like solving a puzzle. However, the body of evidence is constantly growing and keeping up with the latest guidance can be an overwhelming task. A 2010 study found that medical articles are appearing at a rate of at least one every 26 seconds¹.

Working on the frontline, I was frustrated at having to rely on paper books and sometimes contradictory sources when looking for clinical information. That's what gave me the idea for *Medwise.ai*.

Our web app aids clinical decision-making by using AI-powered search across all relevant UK guidelines in a simple question and answer format to provide concise answers to clinical



questions. Having attended a few of Eastern AHSN's clinical innovator events and being so impressed by its understanding of digital healthcare solutions, I knew that we needed to apply to present *Medwise.ai* to its Innovation Review Panel in 2020. We knew our platform could be a vital tool in helping healthcare professionals find information relating to COVID-19 as the clinical community tried desperately to keep abreast of the research relating to this relatively unknown condition. The AHSN agreed and helped us develop our value proposition, as well as supporting a successful grant application from Innovate UK to develop our prototype to support frontline services during the pandemic.

Given how early we were in our journey, a full-scale clinical trial was not viable, but we received incredibly valuable mentoring from experts with both digital and clinical experience and Eastern AHSN conducted an independent user survey and a health economic evaluation to understand the impact. The evaluation found an estimated average time saving of 2.6 minutes per 10-minute consultation, leading to a potential annual cost saving of £20 million for the NHS. There were further recommendations to extend the platform into other disease areas.

We were thrilled to be shortlisted in the rare diseases innovation challenge that Eastern AHSN ran in partnership with the Cambridge Rare Disease Network (CRDN). By their nature, rare diseases can be very difficult to diagnose, so we hope that by connecting healthcare professionals with reliable and current information this may help people living with a rare disease find a diagnosis sooner. We presented *Medwise.ai* at the CRDN's RAREsummit21 event in October, where delegates voted *Medwise.ai* as the solution that best met one or more of the challenges set. We have since been introduced by Eastern AHSN to organisations including the NHS Genomic Medicines Service Alliance for potential collaborations.

In March 2022, we launched a pilot of *Medwise.ai* across three clinical commissioning groups within the Suffolk and North East Essex (SNEE) integrated care system to help clinicians navigate the growing body of evidence and guidance in treating patients diagnosed with Long COVID over 12 months. As well as helping broker the pilot and giving project management support, Eastern AHSN has agreed to fund an evaluation to determine its impact on patient outcomes and service efficiency.

We are also in talks with secondary and tertiary providers across England and were awarded a £311,000 Innovate UK Smart Grant to expand our platform into secondary care settings, which we hope will evidence that we meet NHSx Digital Technology Assessment Criteria (DTAC) standards. This will really help simplify NHS procurement of *Medwise.ai* and I'm really excited about where the future may take us.

Two years after I attended my initial clinical innovator event, I was invited back, but this time as a speaker to proudly tell my story and support tomorrow's innovators. To be a successful innovator you need to start with a problem that you are passionate about and persevere with solving it. Keep the patient or end user in mind and find the right support to help challenge you and shape your idea into something that makes an impact. For us, Eastern AHSN has been that trusted partner.

“We knew our platform could be a vital tool in helping healthcare professionals keep abreast of the latest research”

Share this article



- Visit *Medwise.ai* now to find out more and register for an account
- Do you have a great idea that could make a positive health impact? Find out how Eastern AHSN can support you at <https://www.easternahsn.org/innovators/>

[Return to the contents page](#)

Up next: Read about our work convening the mental health community across Cambridgeshire and Peterborough to develop a values-based approach to treating persistent depression. 

References

- ¹ Garba, S., Ahmed, A., Mai, A., Makama, G., & Odigie, V. (2010). Proliferations of scientific medical journals: a burden or a blessing. *Oman medical journal*, 25(4), 311–314. <https://doi.org/10.5001/omj.2010.89>

Tackling treatment-resistant depression



Tracy Dowling, Eastern AHSN Chair and former Chief Executive of Cambridgeshire and Peterborough NHS Foundation Trust, explains how we are convening the mental health community across Cambridgeshire and Peterborough to develop a value-based approach to treating persistent depression

Persistent depressive disorder, also called dysthymia or treatment-resistant depression, is a continuous long-term form of depression, although symptoms can come and go over a period of years and their intensity can change over time. People with the condition can lose interest in normal daily activities, feel hopeless, have low self-esteem and an overall feeling of inadequacy. These feelings can last for years and may significantly interfere with their relationships, school, work and daily activities.

Because of the long-term (chronic) nature of persistent depressive disorder, coping with depression symptoms can be challenging. A combination of talking therapy (psychotherapy) and medication can be effective. However, approximately 30% of those with depression (approximately 2.7 million people in the UK¹) do not respond to antidepressants.

Over the past 20 years there has been significant research into the social, biological and psychological processes that cause depression. As new developments are made, we need to apply lessons quickly and consistently across mental health services and ensure that the ways in which we commission and evaluate services, models of care and innovations are as effective as possible.

That's why Eastern AHSN has partnered with *Cambridgeshire and Peterborough NHS Foundation Trust (CPFT)*, the *University of Cambridge* and the *NIHR Applied Research Collaboration (ARC)* for the East of England to develop a value-based approach to the depression pathway, combining patient and clinician perspectives with latest evidence.

Mental health problems represent the largest single cause of disability in the UK. The cost to the economy is estimated at £105 billion a year² – roughly the cost of the entire NHS¹.

“Approximately 30% of those with depression do not respond to antidepressants”

People with severe and prolonged mental illness are at risk of dying on average 15 to 20 years earlier than other people²

What is value-based commissioning?

Value-based practice and commissioning goes beyond quantitative, evidence-based research to use a more qualitative approach. By building upon clinical expertise to include the perspective of people with persistent depression and their carers, we get a richer idea of the value of an intervention on outcomes and societal impacts over the long term, especially in individuals suffering multimorbidities.

Understanding the impact of persistent depression

65% of those with depression are in contact with services (mostly in primary care)³

It is estimated that around 30% of those with depression do not respond to antidepressants⁴

This collaborative project, known as *informing VALues-based practice in persistent Depression (i-VALiD)*, is supported by a Medical Education Grant from Janssen and has convened health professionals, science and technology partners, and experts with lived experience to showcase the latest discoveries that could benefit the services we provide, both at CPFT and across the wider NHS system.

The i-VALiD project will develop an evidence base rooted in value-based practice that commissioners and providers can draw on when considering the needs of patients with persistent depression in Cambridgeshire and Peterborough – and, hopefully, also across the wider NHS.

Central to the programme is patient input, better use of data and tapping into the wealth of insight and expertise within the life sciences and innovation community.

Commissioning and delivering mental health services is complex and requires coordination across primary and secondary care, social care and the third sector. The establishment of integrated care systems (ICSs) presents an opportunity to break down silos and rethink how we conduct research and evaluate the impact of commissioning decisions, so we're really excited to see the impact the i-VALiD programme can have in ensuring seamless pathways for people with depression.

People with persistent depression have a poorer quality of life, are more likely to need time off work and are more likely to need hospital treatment than those with other forms of depression⁵.

So far, the i-VALiD programme has convened experts across the health and care spectrum at our showcase event, which set out the ambition and capabilities of the project, and we are currently gathering insight from service users to map the care pathway and identify any potential gaps that could affect care.

The team is in the process of publishing a peer-reviewed evaluation of the outcomes that matter to service users experiencing persistent depression and how these are measured (or could be) to aid value-based commissioning in the implementation of specialist services. We will also be publishing a systematic review of the health economic measures that are utilised within mental health, and particularly depression, to ensure that we are accurately incorporating the wider societal impacts of depression.

The findings from these publications will inform future service design for value-based commissioning and we continue to collaborate with researchers and industry partners to maximise the impact of our services for patients and service providers.

Improving patient safety in mental health services

The Mental Health Safety Improvement Programme aims to improve the safety and outcomes of mental health care by reducing unwarranted variation and providing a high-quality healthcare experience. The programme is designed to support teams to deliver safer services for all, using a systematic approach to how they improve.

This is a national patient safety improvement programme being delivered in our region by the Eastern Patient Safety Collaborative (PSC), which is funded and nationally coordinated by NHS England and NHS Improvement, and hosted locally by the Academic Health Science Networks (AHSNs).

Find out more [here](#).

Share this article



Are you interested in partnering with us in the i-VALiD programme to improve the lives of those living with persistent depression through coproduction? Contact Louise Jopling, PhD, Commercial Director at Eastern AHSN at louise.jopling@eahsn.org



References

¹ McLachlan G. (2018) Treatment-resistant depression: what are the options? *BMJ*. 363 :k5354 doi:10.1136/bmj.k5354

² NHS England. (2016). *Five Year Forward View for Mental Health*. Available: <https://www.england.nhs.uk/wp-content/uploads/2016/02/Mental-Health-Taskforce-FYFV-final.pdf>. Last accessed 25/04/22.

³ NICE. (2009). *Depression: the treatment and management of depression in adults*. Available: <https://www.nice.org.uk/guidance/cg90/documents/depression-in-adults-update-full-guideline-prepublication2>. Last accessed 25/04/22.

⁴ Al-Harbi, K.S. (2012). Treatment-resistant depression: therapeutic trends, challenges, and future directions. *Patient Prefer Adherence*. 6, 369–388.

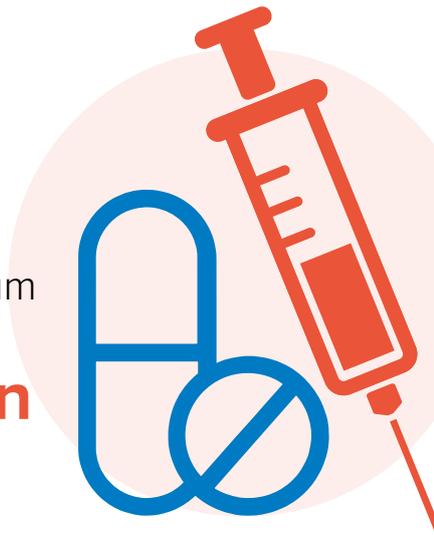
⁵ Jaffe, D., Rive, B and Denee, T.R. (2019). *The humanistic and economic burden of treatment-resistant depression in Europe: a cross-sectional study*. Available: <https://bmcpsy psychiatry.biomedcentral.com/articles/10.1186/s12888-019-2222-4>. Last accessed 25/04/22.

● **Eastern AHSN: our year in numbers**

Our impact in numbers 2021-22

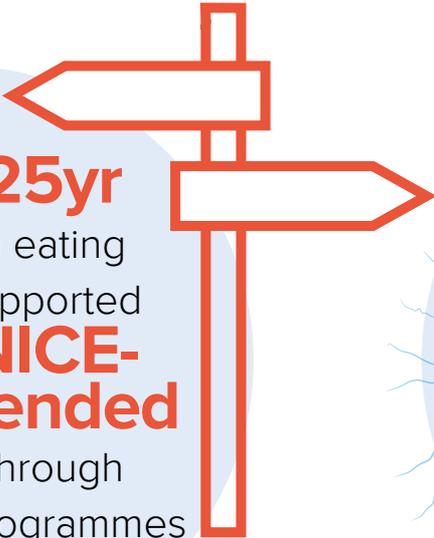
Throughout 2021/22 we have worked with our partners to turn great ideas into positive impact. Here are just some of the statistics that show the impact of our work during this time

£3m lifetime savings from the prevention of cerebral palsy by giving magnesium sulphate to **125 eligible women** in preterm labour

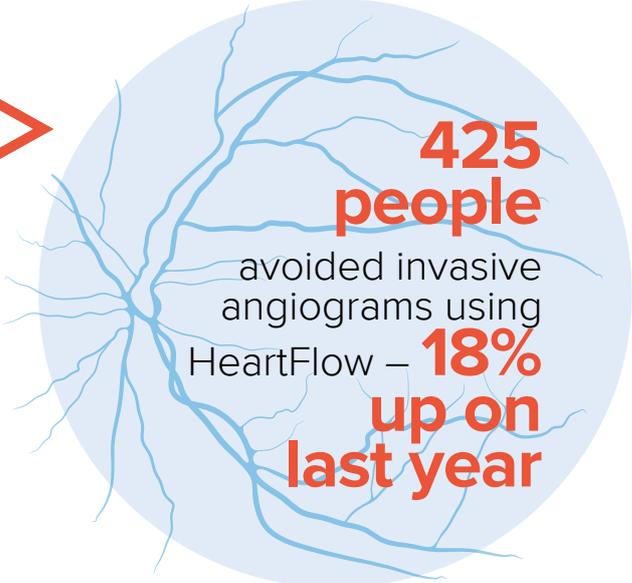


22 mental health Discharge Medicines Service (DMS) medication **reviews by a community pharmacist**

100% of our eligible sites have adopted GammaCore, a device to **prevent and treat** cluster headache pain



86 16-25yr olds with eating disorders supported to access **NICE-recommended** treatment through **FREED** programmes

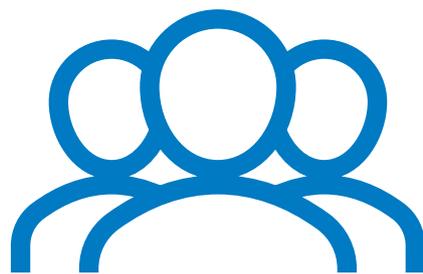


425 people avoided invasive angiograms using HeartFlow – **18% up on last year**

636 people have benefitted from our **innovator toolkits**

Supported **849 companies** across the UK and internationally

2,500+ hours of support to assist the **development of innovators**



More than a third of 700+ delegates at 'Leading for change – the big collaboration' said that **they have instigated a change** to the way they work and taken steps to **remove silo thinking**



35 shortlisted innovations

assessed by our innovation review panel and provided with **expert feedback**



96% of delegates at our Insight to Impact masterclasses said that the sessions will **influence their practice**

76
early-stage cancers
identified

using C the Signs
clinical decision
support tool

454
families

benefitted from the QbTest
to identify or rule out
ADHD



309 FeNO tests

identified 34 new asthmatics as well as **supporting 45 medication** adjustments

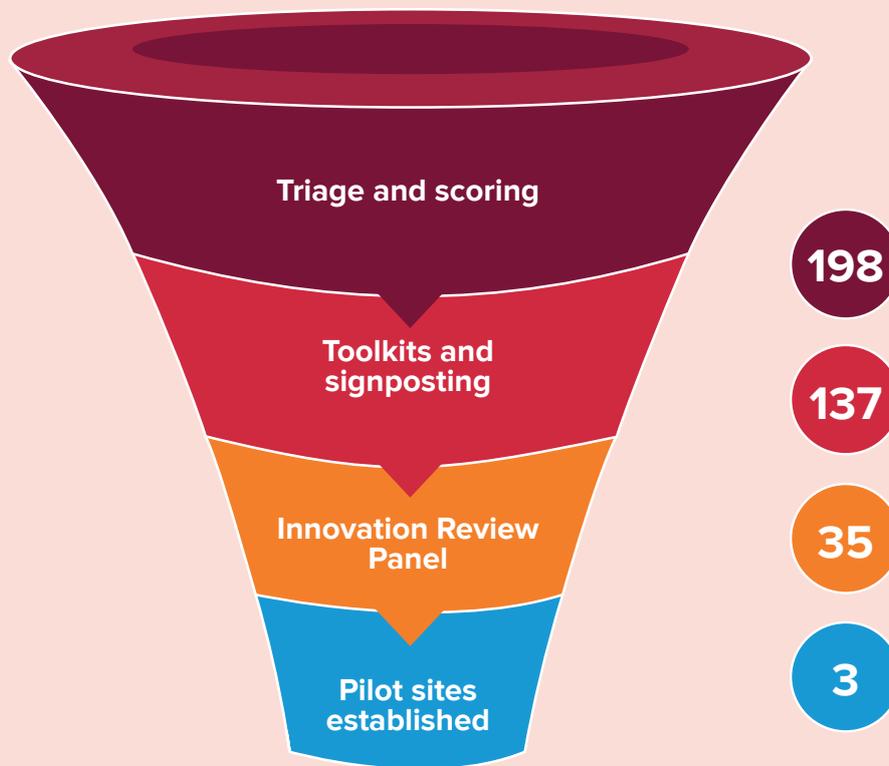


5 more providers

in our region have adopted placental growth factor (PIGF) testing to rule out pre-eclampsia, **taking the total to 12**

The innovation funnel 2021/22: What happens to innovations that come through our Innovation Review Panel?

Between April 2021 to March 2022, we have triaged a total of **198** innovations, out of which **35** have gone through our Innovation Review Panel. The different outcomes are as follows:



Share this article



[Return to the contents page](#)

Up next: Read how we have helped to secure grants and funding for our partners



[Innovator funding](#)

Impact on the bottom line

Securing grants and funding for our partners

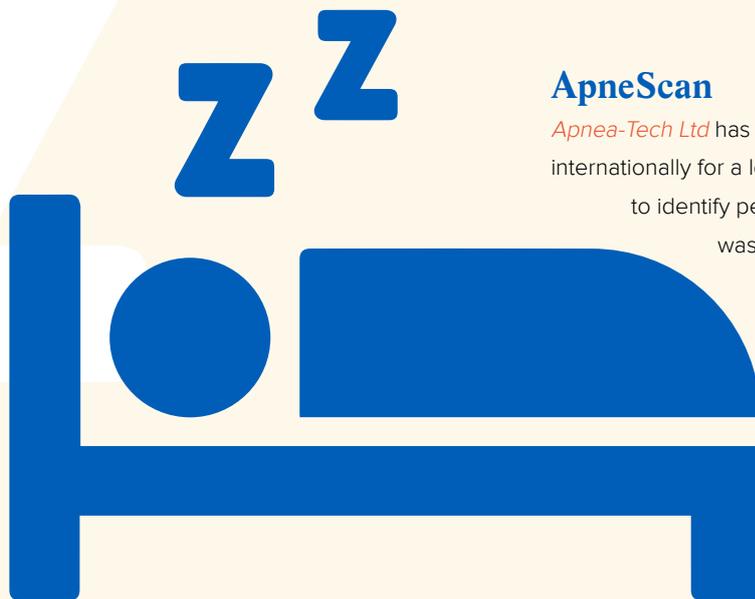


**Dr Louise Jopling,
Commercial
Director
at Eastern
AHSN**

Whether you are a clinical entrepreneur, a start-up or an academic, we know how important it is for innovators to access capital to develop your ideas and scale your business. But with so many options out there, where do you start and who should you trust?

We connect innovators with the healthcare system to improve patient care and create wealth for our economy. We help them focus their efforts on funding sources that are right for them, support them to develop their value proposition and help them write winning applications.

Here are just a few of the more significant grants and funding opportunities we have helped innovators to secure this year:



ApneScan

Apnea-Tech Ltd has identified a clear and unmet need internationally for a low-cost diagnostic aid that assists clinicians to identify people with sleep apnoea. Eastern AHSN was named as a provider of services in Apnea-Tech Ltd's successful bid of £53,000 funding from an Innovate UK Smart Grant to complete a proof of concept and feasibility study on *ApneScan*. Eastern AHSN will deliver market access workshops in support of the company's development and value proposition.

Neutrocheck

Eastern AHSN was co-applicant on 52 North Health's successful SBRI phase 2 bid for £999,000 to develop its *Neutrocheck* test, designed to enable people with symptoms to test for neutropenic sepsis at home using a finger-prick test. After coming through the MedTech Accelerator, of which Eastern AHSN is a partner, we are supporting the innovator to navigate complex commissioning and procurement frameworks through workshops with key stakeholders for the *Neutrocheck* product, to help embed market access as part of the company's ongoing development.





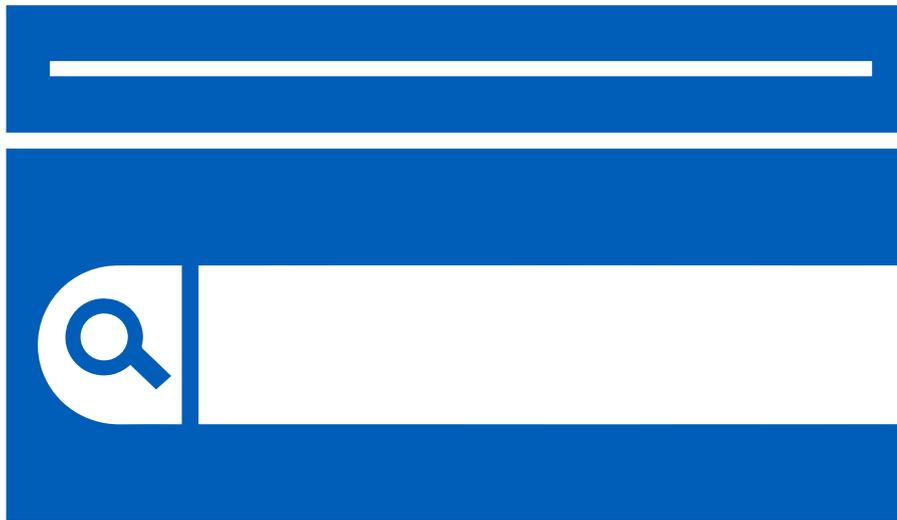
Adaptive Brain Lab

Eastern AHSN supported *Adaptive Brain Lab* with its grant funding bid from The Wellcome Trust. It has developed a clinical decision support tool based on machine learning to help healthcare professionals predict the speed and progression of Alzheimer's disease. As a co-applicant, we provided a letter of support and have helped with the development of a health economic analysis to understand the value of the innovation and to identify gaps in its validation, which are now being addressed. Eastern AHSN has also supported and facilitated partnerships with third-party providers to develop software and IT governance support. Adaptive Brain Lab secured £1.5m of grant funding in total.

Medwise.ai

Medwise.ai received a £311,000 Innovate UK Smart Grant to expand its artificial intelligence-powered clinical question-answering search platform into secondary care settings. The 18-month project will drive the evolution of the platform to support the health care workforce in acute medicine, enable NHSX Digital Technology Assessment Criteria (DTAC) certification and review the technology within an academic research study.

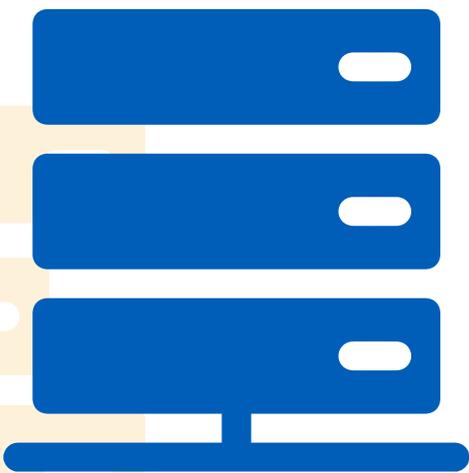
Read more about how we have supported *Medwise.ai* [here](#)



Securing funding for Norfolk's Clinical Research Facility

Eastern AHSN supported Norfolk and Norwich University Hospitals NHS Foundation Trust's (NNUH's) successful application for a £1m grant from the National Institute for Health Research (NIHR) for Norfolk's Clinical Research Facility, to drive forward innovation in experimental medicine and translational research. The funding will be spread over five years and will be used to aid the development of new treatments and improve patient care through collaborative projects involving researchers and scientists from NNUH, the University of East Anglia, the Quadram Institute, and across the Norwich Research Park.

Eastern AHSN helped with writing the bid and designing the patient and public involvement strategy for the project.



DARE UK programme

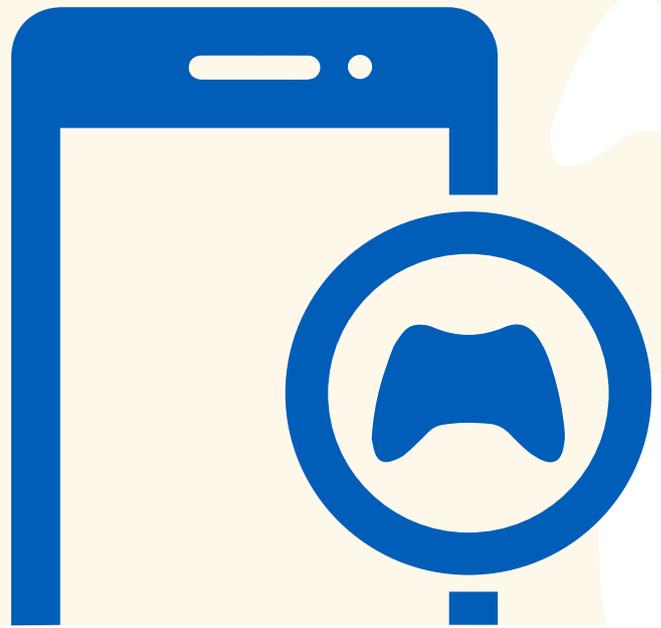
Working alongside the University of Cambridge, Eastern AHSN developed and authored a bid for £200,000 from the Data and Analytics Research Environments (DARE) UK programme and played a supporting role in a second £400,000 application. Both bids were successful, and these two ground-breaking projects will uncover and test early thinking in the development of a more joined-up and trustworthy national data research infrastructure.

Read more about the DARE UK programme on [page 12](#)

Lumi Nova by BfB Labs

Eastern AHSN collaborated with *BfB Labs* and Norfolk and Suffolk NHS Foundation Trust to secure £152,920 from the NIHR Invention for Innovation Programme (Digital Health Technologies for Children and Young People's Mental Health) to pilot and evaluate *Lumi Nova: Tales of Courage*. The intervention is an evidence-based therapeutic game that aims to help 7- to 12-year-olds to overcome anxiety through graded exposure therapy. Eastern AHSN convened the evaluation team and an expert panel to assess how to most effectively develop robust evidence for digital interventions such as *Lumi Nova* in the future.

Read more about *Lumi Nova* on [page 10](#)



Understanding the implementation and impact of remote monitoring pathways

We have partnered with the NIHR Applied Research Collaboration East of England and a number of integrated care systems in our region to assess the impact of remote monitoring technology on supporting people with a wide range of conditions in the community. This involved securing £274,550 in funding from the Accelerated Access

Collaborative (AAC) and the NIHR as part of the NHS Insights Prioritisation Programme (NIPP). The project will run until March 2023. Find out more about this project and our other work in addressing inequalities [here](#)

Find the best grants and funding opportunities for you

We regularly update our grants and funding opportunities report to help you know what may be available across our networks. Click [here](#) to access the latest report now

Share this article



If you would like to have a chat with us or find out more about anything included in this review, please contact enquiries@eahsn.org