

Oxford AHSN Year 8 Q2 Report

For the quarter ending 30 September 2020

Cover image:

“The e-Stroke Suite is a valuable resource in a world disrupted by the Covid-19 pandemic. It aids decision-making by facilitating the rapid and secure transfer of high-quality images to new settings, speeding up accurate diagnosis and treatment related to stroke.”

From Dr Guy Rooney, Medical Director, Oxford AHSN
See case study one, page 5 of this document.

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Chief Executive's Review

At the time I wrote my last review in December, I did not anticipate the profound impact the coronavirus outbreak in Wuhan would have on the NHS, the greatest challenge I have seen in my 40 years of working in the NHS. Working on the frontline in an acute stroke service in March and April at the peak of the first wave of the pandemic I witnessed the challenges faced by NHS teams and how they rapidly responded and introduced new models of care to maintain services and minimise spread of coronavirus.

In March most of our projects were paused as the health and care system focussed on responding to the pandemic. The commencement of our new national programmes was paused for six months. The AHSN team adapted quickly to working remotely and within two weeks most staff were working on new projects to support the local health and care system response to the pandemic. Each member of the senior team now leads a key programme of work – stroke and cardiovascular disease, digital, diagnostics, workforce innovation, wellbeing, remote working and personal protective equipment (PPE). We did not produce a 2019/20 Q4 report or Q1 report this year due to the initial impact of the pandemic. This report covers the first two quarters of 2020/21. Seven case studies can be found in the next section covering work in diagnostics, digital, patient safety, PPE, mental health and cardiovascular disease.

In the first quarter of 2020/21 our staff worked on supporting the NHSE regional rollout of the Digital First programme to support remote consultation in primary care across the Thames Valley, sourcing reagents and new technologies to support the national COVID-19 testing programme, and sourcing PPE. In collaboration with the national Getting It Right First Time (GIRFT) team we published two practical guides supporting stroke services in response to the pandemic.

A number of our staff were deployed to the clinical frontline or the central COVID-19 diagnostics team. Our Director of Strategic and Industry Partnerships, Julie Hart, is now seconded to work for the next six months to support the Department of Health central team on Test and Trace antibody testing development. The national AHSN Network Chair was seconded to the national Test and Trace system during the summer and I took over the Chair role during this time.

In the second quarter most of our other local activities have resumed but we have continued to support COVID-19 related activities, supporting rapid deployment of 'oximetry @home' services across the South East region in collaboration with the Kent Surrey and Sussex (KSS) and Wessex AHSNs. The NHS regional medical team has asked the three AHSNs to support adoption and spread of three workforce related innovations across the South East – Sleepio, led by our team, Remote Monitoring in Care Homes led by KSS, and S12 Solutions, a digital solution to support mental health assessments, led by Wessex. Building on the success of the AHSN Network national programme to improve the management of atrial fibrillation (AF) I have led the development of the AHSN Network programme in lipid lowering and diagnosis of familial hypercholesterolaemia which launched this month.

We have strengthened our collaborative work with the Oxford and Thames Valley NIHR Applied Research Collaboration (ARC), and Oxford Academic Health Partners which successfully secured renewal as an Academic Health Science Centre. All three organisations are considering how to improve the visibility and decision-making relating to the development and deployment of innovations from the extensive pipeline of commercial, academic and NHS innovations across the region.

As we enter the second wave of the pandemic we will continue to work with our local partners to identify and implement solutions and ways of working that mitigate the impact of the crisis on our population and NHS and social care services.

Professor Gary Ford CBE FMedSci
CEO, Oxford AHSN

Oxford AHSN case studies

Case studies included in this report:

1: Digital - Harnessing AI technology to speed up stroke care and reduce costs

Mechanical thrombectomy is the most effective evidence-based treatment for ischaemic strokes caused by large vessel occlusion. However only 10% of eligible patients currently receive this time-sensitive treatment. Increasing this figure is a priority highlighted in the NHS Long Term Plan. One of the key barriers is a lack of neuroradiology imaging expertise at smaller stroke units where most patients arrive. The COVID-19 pandemic has highlighted the need for more support for rapid, efficient, clinically effective remote working.

2: Digital - Spreading digital innovation in the NHS and supporting the workforce

Chronic insomnia affects about one in ten people with poor sleep causing problems for many more. It can damage mental and physical health, affecting productivity, performance and safety. Access to NICE-recommended treatment for insomnia (cognitive behavioral therapy - CBT) is limited, leading to overdependence on harmful medication which creates clinical and financial burdens. The COVID-19 pandemic has highlighted the importance of digital alternatives. It has also led to increasing need for – and reduced access to – mental health services.

3: Diagnostics - Keeping frail elderly people out of hospital - decreasing risk of COVID-19 infection

Blood samples are sent to pathology departments for analysis. The average turnaround time is 24 hours which can lead to delays in diagnosis and first-line treatment. This in turn can cause an increase in the average length of stay for frail elderly patients and potentially poorer outcomes, both immediately and in terms of the impact on their longer-term health and quality of life. Managing this vulnerable group of patients efficiently with quicker diagnosis in the community leads to fewer referrals to hospital emergency departments (ED) and consequently reduces the risk of COVID-19 and other serious illnesses. Frail older people can be seen in their own homes by out-of-hours clinicians carrying out blood tests using point of care diagnostic devices.

4: Pathways - Supporting stroke services through the pandemic

The response to the COVID-19 pandemic caused significant disruption to non-Covid clinical services. Stroke services were no exception, undergoing a period of rapid change to cope with the consequences of the pandemic. These included reduced admissions, fewer referrals for transient ischaemic attack (TIA), COVID-19 outbreaks and staff sickness. New ways of working were developed that complied with requirements to minimise face-to-face contact between patients and healthcare professionals while maintaining high quality care

5: PPE - Supporting NHS personal protective equipment needs (PPE)

A priority area for health and social care during COVID-19 has been to ensure a consistent supply of suitable personal protective equipment (PPE). At the start of the pandemic, there was an urgent need for additional

sources of PPE to ensure trusts had appropriate levels of protection readily available for staff. This resulted in trusts individually searching for additional suitable suppliers, and inevitably many different organisations engaging with the same suppliers. There was an identified need to assist health and care organisations to ensure a reliable supply of suitable PPE and to explore options for more reusable PPE during a period of unprecedented demand.

6: Patient safety - Improving timely observation of vital signs of deterioration in care homes

Research has shown that many care home residents are admitted to hospital when they could have been treated within the care home with more support. An increasing need for a 'track and trigger' system within care homes to spot and respond to deterioration has been recognised to ensure residents receive the right treatment at the right time in the right place.

7: National programme- Improving detection and management of atrial fibrillation (AF)

Atrial fibrillation (AF) greatly increases the risk of stroke and is responsible for a quarter of all strokes in the UK. These strokes tend to be more severe, leading to severe impairments requiring long-term care. Many people who have AF are unaware they have it. Oral anticoagulation therapy can prevent two-thirds of AF-related strokes. However, not everyone at risk of AF stroke gets the right anticoagulation treatment.

Oxford AHSN case study 1

Date: Q2 2020

Programme/Theme: All programmes

Title: Digital - Harnessing AI technology to speed up stroke care and reduce costs

What is the challenge?

Mechanical thrombectomy is the most effective evidence-based treatment for ischaemic strokes caused by large vessel occlusion. However only 10% of eligible patients currently receive this time-sensitive treatment. Increasing this figure is a priority highlighted in the NHS Long Term Plan. One of the key barriers is a lack of neuroradiology imaging expertise at smaller stroke units where most patients arrive. The Covid-19 pandemic has highlighted the need for more support for rapid, efficient, clinically-effective remote working.

What did we do?

An innovative AI-enabled decision support tool ([e-Stroke Suite - Brainomix](#)) helps clinicians rapidly and accurately decide the type and severity of stroke, and the most appropriate treatment. Initially introduced before the pandemic, it has enabled new ways of working in a world disrupted by Covid-19 eg if one hospital is overburdened another can help by interpreting brain scans without delay.

Previously, these scans had to be reviewed by a specialist in limited locations. Now they can be interpreted by a non-specialist, shared securely and seen within a few minutes of being processed – anywhere, any time – and advice given immediately.

Brainomix worked with the Oxford AHSN to support the introduction of the AI tool into the hyperacute stroke pathway in the Thames Valley to improve the quality of stroke care by enabling a robust thrombectomy referral pathway. Initially introduced at the Royal Berkshire Hospital, Reading, it was extended to a further four primary stroke centres and the regional tertiary neuroscience centre in Oxford in summer 2020, making the [Thames Valley the country's first AI-enabled regional stroke network](#).

What has been achieved?

The regional deployment of the software, enabling an integrated care model for thrombectomy referrals, demonstrates its scalability. By integrating seamlessly into the existing stroke treatment pathway, and by operating automatically, the technology can provide powerful results for stroke clinicians without interrupting the normal flow. Impact on the system is speedier decision-making and more rapid treatment of stroke patients leading to reductions in death and disability. Secondary benefits include enhanced productivity and establishing a virtual network supporting remote working and social distancing. The software can be deployed virtually or installed at a hospital with a server. The main potential constraints relate to IT and data governance. We have worked with national and regional authorities to address these concerns and issue standardised reports for each hospital.

What next?

The Oxford AHSN is leading wider expansion across the NHS England South East region and evaluating the impact of the Brainomix AI-enabled software on clinical outcomes, stroke care pathways, workforce productivity and healthcare professionals' views of the system.

Contact

Guy Rooney, Medical Director guy.rooney@oxfordahsn.org

Oxford AHSN case study 2

Date: Q2 2020

Programme/Theme: Clinical Innovation Adoption (CIA)

Title: Digital - Spreading digital innovation in the NHS and supporting the workforce

What is the challenge?

Chronic insomnia affects about one in ten people with poor sleep causing problems for many more. It can damage mental and physical health, affecting productivity, performance and safety. Access to [NICE-recommended](#) treatment for insomnia (cognitive behavioral therapy - CBT) is limited, leading to overdependence on harmful medication which creates clinical and financial burdens. The Covid-19 pandemic has highlighted the importance of digital alternatives. It has also led to increasing need for – and reduced access to – mental health services.

What did we do?

Since October 2018, the **Oxford AHSN** and **Big Health** have worked in partnership to bridge this treatment gap by providing free access to Sleepio – an online clinically-evidenced digital sleep improvement programme for insomnia based on CBT – across our region (Berkshire, Buckinghamshire, Oxfordshire, Milton Keynes). This was the first large-scale NHS rollout of direct access digital medicine – allowing people to access the programme whenever they want it without needing a GP referral or prescription. It was embedded in the local system by developing relationships with employers and primary care. This initiative was funded by **Innovate UK** with independent cost analysis carried out by the **Office of Health Economics** (OHE). Read more about the [Oxford AHSN Sleepio project](#) here.

- May 2020: Research paper was published by BMJ Innovation in: [Determinants of and barriers to adoption of digital therapeutics for mental health at scale in the NHS](#)
- July 2020: The Oxford AHSN and Big Health published a joint [report analysing the Oxford AHSN Sleepio project](#).
- September 2020: [Webinar](#) with Big Health, Innovate UK and the OHE.

What has been achieved?

Within 18 months 16,000 people needing support accessed Sleepio with more than 7,000 starting a personalised online six-week support package. There were strong clinical outcomes:

- 56% insomnia recovery rate
- almost six hours more sleep each week on average
- 70% reduction in anxiety
- 56% drop in use of sleep medication

Participant feedback: *“I can now go to bed, not dreading the long restless night ahead but knowing that within half-an-hour at most, I can be asleep - which is wonderful!”*

In addition, independent evaluation by OHE based on nine GP practices in Buckinghamshire calculated health economic savings of more than £100 for each person using Sleepio. That equates to £2.3m across the Oxford AHSN region and £56m for the NHS in England in three years.

In March 2020 access to Sleepio was made free to all NHS staff in England as part of a support package for key workers.

What next?

The potential for developing a blueprint for commissioners supporting further spread and adoption at scale is being explored.

Contact

Matt Williams, Digital Health Engagement Manager matt.williams@oxfordahsn.org

Oxford AHSN case study 3

Date: Q2 2020

Programme/Theme: Strategic and Industry Partnerships (SIP)

Title: Diagnostics - Keeping frail elderly people out of hospital - decreasing risk of COVID-19 infection

What is the challenge?

Blood samples are sent to pathology departments for analysis. The average turnaround time is 24 hours which can lead to delays in diagnosis and first-line treatment. This in turn can cause an increase in the average length of stay for frail elderly patients and potentially poorer outcomes, both immediately and in terms of the impact on their longer-term health and quality of life. Managing this vulnerable group of patients efficiently with quicker diagnosis in the community leads to fewer referrals to hospital emergency departments (ED) and consequently reduces the risk of Covid-19 and other serious illnesses. Frail older people can be seen in their own homes by out-of-hours clinicians carrying out blood tests using point of care diagnostic devices.

What did we do?

The Oxford AHSN carried out real-world evaluations of point of care (POC) diagnostic blood test devices with NHS partners in three different community settings to assess potential for spread and adoption at scale.

- Example 1: Out of Hours GP Service, Oxfordshire with Oxford University Hospitals and Oxford Health
- Example 2: Quality improvement project with South Central Ambulance Service (SCAS) and Berkshire West Clinical Commissioning Group (CCG).
- Example 3: Cost benefit analysis at Wokingham community hospital (Berkshire Healthcare).

What has been achieved?

POC devices are increasing clinician confidence, decreasing the time taken to diagnose illnesses and ensuring patients are getting correct treatment more quickly as a result, whether at home, in a community healthcare setting or an acute hospital as appropriate. Reducing emergency hospital admissions eases pressure on the health and care system and potentially results in better health outcomes for patients.

Example 1 – out-of-hours GP service:

The Out of Hours (OOH) GP service in Oxfordshire trialled the Abbott i-STAT with Chem8 and CG4 cartridges, which between them give a basic evaluation of metabolic status, kidney function and indication of sepsis risk. The tests were available to be used on any patient aged over 18 presenting to OOH.

60% of those who used it said it influenced their decision-making in deciding on what treatments to prescribe and whether the patients were safe to be left in the community or needed to be taken into hospital. Of the 47 tests performed during the short study only 12 needed hospital treatment. Patient

experience of the POC tests was positive, with appreciation expressed for immediate results removing the need to travel to hospital.

Example 2 – ambulance service:

Clinicians reported improved confidence in decision-making and patient disposition. This was validated by improved discharge on scene and re-contact rates. The biggest benefit was for patients with cognitive impairment. A budget impact model was produced for the use of the Abbott i-STAT blood test analyser in ambulance service settings. The potential savings for SCAS were estimated to be £9.8m in Year 1, £10m in Year 2 and in Year 3, giving a combined total saving of £29.8m.

Example 3 – community hospital:

Analysis suggested that implementing the POC devices in the community care pathway led to better patient management and cost savings. During the three-month study there was a significant reduction in patient referrals to hospital emergency departments (ED) and a cost saving of approximately £10,000. Introducing POC to the care pathway reduced ED referrals by 83%.

What next?

SCAS is considering a business case for POC.

Berkshire Healthcare is looking at incorporating POC testing at more community hospitals.

Hospital pathology lab networks are currently heavily involved with the validation and rollout of Covid-19 point of care testing and multiplex point of care for respiratory diseases for winter 2020/21. Therefore, there is unlikely to be appetite to take on this rollout until later in 2021.

Contact

Ashley Aitken, Senior Programme Manager ashley.aitken@oxfordahsn.org

Oxford AHSN case study 4

Date: Q2 2020

Programme/Theme: All programmes

Title: Pathways - Supporting stroke services through the pandemic

What is the challenge?

The response to the Covid-19 pandemic caused significant disruption to non-Covid clinical services. Stroke services were no exception, undergoing a period of rapid change to cope with the consequences of the pandemic. These included reduced admissions, fewer referrals for transient ischaemic attack (TIA), Covid-19 outbreaks and staff sickness. New ways of working were developed that complied with requirements to minimise face-to-face contact between patients and healthcare professionals while maintaining high quality care.

What did we do?

A collaboration between the Oxford AHSN and the stroke leads for the national Getting It Right First Time (GIRFT) programme produced two key documents outlining practical support for stroke teams across England and incorporating feedback/case studies from frontline services:

- a [guide on restoration and recovery](#) following a period of rapid change along the whole patient pathway. The guide assesses the impact of rapid changes made across the whole stroke pathway – including community services – at the peak of the pandemic, outlining new ways of working which have been beneficial for both patients and staff and should be continued and extended. It also aims to highlight those changes which now need a closer look and prevent a return to less effective ways of working. Alongside publication of this report the AHSN hosted a [webinar](#) in July 2020 exploring some of its key themes. One hundred people joined it live and a further 400 have watched it since.
- an [implementation guide](#) for adapting acute services during the pandemic. The Covid-19 pandemic presents major challenges to healthcare systems around the world. The response to it has had a profound effect on other clinical services. Reduced admissions, falling TIA referrals, Covid-19 outbreaks and staff sickness have all put stroke services under strain. Rapid changes in services have been needed to sustain high-quality stroke care. The immediate need was to minimise face-to-face interactions between patients and healthcare professionals where alternative models of care can be implemented. [Adapting stroke services in the Covid-19 pandemic: an implementation guide](#) supports this process.

[Read more here](#)

What next?

Following the success of this initial work, the collaboration has broadened its membership and scope and plans to publish a series of linked reports in Q3 focusing on CVD prevention.

Contact

Gary Ford, Chief Executive gary.ford@ouh.nhs.uk

Oxford AHSN case study 5

Date: Q2 2020

Programme/Theme: Clinical Innovation Adoption (CIA) / Strategic and Industry Partnerships (SIP)

Title: PPE - Supporting NHS personal protective equipment needs

What is the challenge?

A priority area for health and social care during Covid-19 has been to ensure a consistent supply of suitable personal protective equipment (PPE). At the start of the pandemic, there was an urgent need for additional sources of PPE to ensure trusts had appropriate levels of protection readily available for staff. This resulted in trusts individually searching for additional suitable suppliers, and inevitably many different organisations engaging with the same suppliers. There was an identified need to assist health and care organisations to ensure a reliable supply of suitable PPE and to explore options for more reusable PPE during a period of unprecedented demand.

What did we do?

The Oxford AHSN engaged with all health partners, care organisations and local trusts in the region to understand the level of need for different PPE items and identify gaps. This approach has had three distinct elements:

1. **Responding to and managing NHS PPE needs** – eg sourcing face shields and masks from local companies
2. **Encouraging innovation** – working with Wessex AHSN to support innovators developing new sustainable PPE products
3. **Developing the potential of reusable PPE** – working with Wessex AHSN, NHS leaders and industry experts to share knowledge around alternative sources and scope for reprocessing.

What has been achieved?

Collaboration to meet NHS needs for personal protective equipment (PPE) across AHSNs, with industry, universities and frontline health services has led to improved supply chain resilience, reduced environmental harm and supported economic growth. It has included sharing best practice across AHSNs. The Oxford AHSN helped drive the accelerated uptake of new supplies of PPE used by frontline NHS services across the region. This in turn helped trusts ensure a more consistent supply of suitable PPE.

What next?

There is an ongoing community of interest across AHSNs sharing best practice around reusable PPE. It has already hosted a number of fact-finding webinars with more planned in Q3. The AHSNs are also linked to

national teams developing new sources of UK supply for reusable gowns and spreading best practice for reusable masks and glove usage. In addition, they will continue to share opportunities to improve the resilience of the PPE supply chain, reduce the environmental impact and support economic growth of UK manufacturers and support services.

[Further information here](#)

Contact Paul Durrands, Chief Operating Officer paul.durrands@oxfordahsn.org

Oxford AHSN case study 6

Date: Q2 2020

Programme/Theme: Patient Safety and Clinical Improvement (PSCI)

Title: Patient Safety - Improving timely observation of vital signs of deterioration in care homes

What is the challenge?

Research has shown that many care home residents are admitted to hospital when they could have been treated within the care home with more support. An increasing need for a 'track and trigger' system within care homes to spot and respond to deterioration has been recognised to ensure residents receive the right treatment at the right time in the right place.

What did we do?

RESTORE2 is a physical deterioration and escalation tool, designed and developed by West Hampshire CCG, which encapsulates NEWS2* and 'soft signs' for use in care homes. The tool was introduced on a pilot basis in three nursing homes in Buckinghamshire. They were encouraged to develop and use advanced care planning alongside RESTORE2. Outcomes were monitored. Training was delivered to 80 care home staff.

* NEWS and NEWS2 were developed by the Royal College of Physicians for early recognition of deterioration and is established in NHS hospitals.

What has been achieved?

It is difficult to demonstrate quantitative impact of RESTORE2 in this pilot study due to the concurrent Covid-19 pandemic and the issue of small numbers. However, initial data indicates a possible trend of earlier identification and escalation resulting in reduced hospital admissions and length of stay for the engaged sites. Further work is needed to evaluate the impact of RESTORE2.

Around 8 out of 10 staff who took part in a survey said that RESTORE2 would enhance their confidence in the workplace. One care home has fully embraced the RESTORE2 escalation tool. They found it enhanced staff awareness of deterioration in residents in a correct and timely fashion. Carers found the 'soft signs' of RESTORE2 very useful particularly when English is not their first language. Another of the pilot care homes found it useful and is spreading the training materials across all 14 homes in their chain. The third home found it challenging to implement.

What next?

Buckinghamshire CCG is rolling out RESTORE2 to all 129 care homes with a GP registered in the county, linked to the telemedicine service Immedicare (Airedale) and pulse oximeters, both of which have been provided to all care homes. Care homes which have successfully implemented the tool are 'buddying up' with those that require additional support to realise the benefits. A short video following a resident's

journey and the use of RESTORE2 is planned with one of the care homes. The Oxford AHSN is connecting academics with Buckinghamshire CCG and Airedale to triangulate data and evaluate use of RESTORE2.

Contact

Jo Murray, Patient Safety Programme Manager jo.murray@oxfordahsn.org

Oxford AHSN case study 7

Date: Q2 2020

Programme/Theme: Clinical Innovation Adoption (CIA)

Title: National programme - Improving detection and management of atrial fibrillation (AF)

What is the challenge?

Atrial fibrillation (AF) greatly increases the risk of stroke and is responsible for a quarter of all strokes in the UK. These strokes tend to be more severe, leading to severe impairments requiring long-term care. Many people who have AF are unaware they have it. Oral anticoagulation therapy can prevent two-thirds of AF-related strokes. However, not everyone at risk of AF stroke gets the right anticoagulation treatment.

What did we do?

The Oxford AHSN developed and implemented a comprehensive collaborative work programme bringing together expertise from the NHS, industry, other AHSNs and pharmacists to reduce morbidity and mortality related to stroke caused by atrial fibrillation (AF). Innovative improvements in the detection and management of AF are reducing the numbers of AF-related stroke, preventing disability and reducing NHS costs.

The focus has been on three key areas – ‘detect’, ‘protect’ and ‘perfect’:

1. **Detecting AF** – utilising digital detection devices to support primary care clinicians in detecting AF and evaluating their impact in increasing detection rates.
2. **Protecting against stroke** – assessing risk and offering oral anticoagulation to those at high risk
3. **Perfecting anticoagulation control** – getting medication right, ensuring benefit and avoiding harm

What has been achieved?

- More AF detected
- Anticoagulation rates improved
- Stroke rates reduced
- Risk of future strokes reduced
- Cost savings by avoiding health and social care relating to long-term care following stroke

Since 2017, the Oxford AHSN ran a range of projects with regional partners:

- We piloted and evaluated a novel model of anticoagulation initiation within primary care in Berkshire, with pharmacists counselling patients, assessing bleeding and stroke risk and using shared decision-making techniques to decide on appropriate anticoagulation. We worked with Buckinghamshire CCG and Bayer to identify patients at high stroke risk who were not receiving oral anticoagulation therapy. They were then invited for stroke risk counselling at their GP surgery and offered oral anticoagulation therapy where clinically appropriate. This project was a finalist in the ‘Best Pharmaceutical Partnership with the NHS’ category of the HSJ Partnership Awards 2019. Read

more [here](#).

- We established outreach education and support for GPs and community pharmacists in Oxfordshire led by specialist anticoagulation pharmacists to improve safe and optimal anticoagulation management in the community. The project won an AF Association Healthcare Pioneer Award: 'Showcasing Best Practice in AF' and a [research paper](#) was published in the British Journal of Haematology in March 2019.

"The Oxford AHSN has been instrumental in delivering a number of key projects in Buckinghamshire and beyond. Innovation, coordination, leadership and support by the AHSN has led to change and significant improvement in patient outcomes."

Dr Raj Thakkar, GP and Oxford AHSN Cardiac Clinical Lead

Featured project: AF Champions

The aim of the AF champions project was to upskill a local AF champion in each of 43 practices in Berkshire West CCG (Clinical Commissioning Group), increase the capability of primary care to effectively diagnose AF and safely prescribe anticoagulation therapy for patients at risk of AF related stroke. AF champions attended intensive training sessions delivered by a stroke physician to develop skills in AF management. Participant-led shared learning was a key component of these sessions. Additionally, hand-held AF detection devices (MyDiagnostick) were provided to participating practices. The champions were encouraged to improve 'detect, protect and perfect' AF management, utilising technology and learning from the programme.

Data from the Berkshire West AF registry was analysed. During 2019/20, an additional 655 patients were diagnosed with AF (6% year on year increase) and 594 high-risk patients were anticoagulated, which translates to 22 fewer strokes. Practices in socioeconomically deprived areas made greater proportional gains in AF detection (14% higher year on year increase). This model has the potential to be used to drive improvements across other long-term conditions and hopefully addresses socio-economic inequality in AF management.

What next?

We are continuing to focus on reducing variation across our region and new opportunities for remote monitoring following the Covid-19 pandemic.

AF was one of seven national programmes supported by all AHSNs in 2018-20. Three more national programmes are starting in 2020/21. Details [here](#).

Contact

Hannah Oatley, Clinical Innovation Adoption Manager Hannah.oatley@oxfordahsn.org

Operational Review

Introduction

Q1 2020/21 was dominated by supporting the local health and care system and national bodies in tackling the COVID-19 pandemic. An outline of the original draft of the business plan was presented to the Oxford AHSN Board in February and this was updated and approved by the board in August. We decided we would resume our detailed quarterly reporting and this Q2 report covers the first six months of the year. Seven case studies are presented in this report:

- Digital - Harnessing AI technology to speed up stroke care and reduce costs
- Digital - Spreading digital innovation in the NHS and supporting the workforce
- Diagnostics - Keeping frail elderly people out of hospital - decreasing risk of COVID-19 infection
- Pathways - Supporting stroke services through the pandemic
- PPE - Supporting NHS personal protective equipment (PPE) needs
- Patient safety - Improving timely observation of vital signs of deterioration in care homes
- National programme - Improving detection and management of atrial fibrillation (AF)

As COVID-19 impacted on NHS operations and planning, the AHSN reached out and quickly got involved in supporting the local health and care system, eg diagnostics, digital, PPE, pathway redesign. In Q1 much of the planned work slowed down; a few projects accelerated, eg adoption of the pre-eclampsia test PIGF. In Q2 most activities resumed but we have continued to support COVID-related activities, eg evaluation of innovation for the national Test and Trace service, and acceleration for the COVID Virtual Ward (COVID Oximetry @home) across the South East in collaboration with KSS and Wessex AHSNs.

The Regional Medical Director has asked the three South East AHSNs to support adoption and spread of three workforce related innovations across the region – Sleepio, led by Oxford, Remote Monitoring in Care Homes, led by KSS and S12 Solutions led by Wessex AHSN. The final version of the specification for the Patient Safety Collaborative has also been published recently. These all meet the criteria agreed with NHS England for local workforce programmes – digital, pathway transformation and productivity.

COVID-19

As the health and care system prepared for and managed the COVID-19 pandemic, many of our local and national programmes came to a halt in March. The AHSN changed to remote working and each member of the senior team took on an area to support the local health and care system; Digital, Diagnostics (both point of care and COVID-19 testing), Workforce Innovation, Staff Wellbeing, cardiovascular disease and personal protective equipment (PPE). AHSN staff, both clinical and non-clinical, volunteered for additional shifts and supported work in the local hospitals. Apart from missing social interaction at work, home working has been a success and our staff have given positive feedback. We have found that there is a very strong spirit of collaboration amongst our stakeholders and industry has been very helpful. Virtual working has not been a barrier to engaging and supporting the health and care system and innovators. We engaged in 35 separate COVID-19 support activities in Q1 including:

- supporting development of **OC/VC** adoption within acute settings; support adoption of the software (NHS Video Consult); working with Wessex and KSS AHSNs and the Digital First team; we will evaluate the benefit
- supporting national **Diagnostics Innovation Team** led by Piers Ricketts, Chair AHSN Network and CEO Eastern AHSN, as part of national COVID-19 testing programme. Members of our

Strategic and Industry Partnerships (SIP) team led by the Director of SIP worked to identify organisations with resources and capacity to support the SE pathology service. Using the AHSN's interactive company map, more than 120 companies were approached. The team also assisted **Cellmark**, a commercial DNA testing laboratory, to provide COVID-19 testing locally in partnership with the NHS

- discussions with the **Berkshire Surrey Pathology Services Point of Care** (POC) team at Frimley Health, led by Katy Heaney, to investigate the possibility of using the **Abbott i-STAT** and FebriDx to triage frail elderly patients in the community, to help specialist paramedics and other community clinicians to confidently decide where best to treat patients
- providing support and guidance to the information governance for the **Brainomix** rollout in the SE – enabling remote access to stroke images – clearly desirable when minimising patient contact
- commencing a regional evaluation of changes in maternity and neonatal care, both operational and cultural, in collaboration with **OxSTaR** (University of Oxford), with the intention of informing future support and QI work for recovery/rest period
- supporting mental health services to evaluate the use of remote and digital technology on services and patients, exploring how to make these two-way
- supporting **Care Home In-Reach** teams with fortnightly meetings for sharing learning
- leading the ethical framework development across the Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System (BOB ICS), and chairing the ICS Ethical Advisory Committee
- producing national guidelines for **running stroke services under COVID-19**. We have worked with colleagues from GIRFT and NHS England/Improvement to develop practical implementation guidelines to support stroke services to adapt during the COVID-19 pandemic.
- **PPE sourcing** from local companies, reprocessing (in collaboration with Wessex AHSN) and innovation, especially reusable products – creating a community of interest of NHS Trusts and linking with national PPE team
- **Electronic Repeat Dispensing** – supported local system with implementation and uptake through sharing resources through the website and webinars. The AHSN's pharmacist was deployed in a partner CCG to engage with local GPs. Work continues in collaboration with Wessex AHSN
- As part of the AHSN Network Reset Programme we have successfully secured funding for a review of **patient experience and coproduction during COVID** and are in the process of securing a partner to work with to deliver this work by year end
- At the end of Q2 NHS E/I SE region asked the three SE AHSNs to accelerate the **COVID Virtual Ward** (Oximetry @home) rollout

The link below is a full list of COVID-19 related activities which is updated regularly and forms part of AHSN Network reporting:

<https://docs.google.com/spreadsheets/d/1IORxOgRn5ODFWk0GmLgP1Mqa9d1Qp3a-oPA5Ueu-xZk/edit#gid=292136766>

A shorter public summary is included on our website: <https://www.oxfordahsn.org/our-work/covid-19/>

Original National programmes

Most of the seven national programmes brought forward from 2019/20 were disrupted by COVID-19 in Q1. Targets for AF Detect and Protect, Emergency Laparotomy, PINCER, PReCePT and SIM were achieved by Q4 2019/20. COVID-19 has disrupted AF and Emergency Laparotomy. We are not expecting increased uptake of ESCAPE-Pain across the Thames Valley. COVID-19 has effectively closed exercise classes for Q1 and Q2. TCAM targets were not achieved by Q4 2019/20 as COVID-19 disrupted referrals at Buckinghamshire Healthcare. Royal Berkshire has developed an IT solution to accommodate TCAM and the service is expected to launch soon. Oxford University Hospitals is hesitating over a decision on TCAM. Thames Valley Police is implementing SIM in Reading and Oxford with Berkshire Healthcare and Oxford Health. There are 15 service users, but equivalence tests are yet to be undertaken.

New national programmes for 2020/21 (see table below)

Good progress has been made on both FREED and ADHD. The CVD/lipid management programme is being developed.

National innovation products (see tables below)

We will continue to support the uptake of innovative products supported by NHS England schemes: **Heartflow, SecurAcath, SpaceOAR, PIGF, PCSK9 inhibitors, and Cladribine**). Uptake for PIGF, the test for pre-eclampsia, accelerated in the region during Q1 with all maternity units adopting. We continue to lead the national spread of PIGF. Further RUP products are expected to be introduced from Q3.

Workforce Innovation theme

- Agreement was reached with commissioners that the workforce programme will be local projects, agreed with the regional team that meet the criteria – digital, pathway transformational and productivity. The three new SE regional programmes – see below – all meet these criteria.
- Engagement – links have been made with the BOB ICS workstream leads for workforce.

Patient Safety Collaborative national programmes

The Patient Safety Collaborative (See Patient Safety and Clinical Improvement section of this report) has been commissioned by NHS Improvement to deliver further improvements on:

- **Deterioration.** In the first part of 2020/21 we have concentrated on contributing to COVID-19 related work, including starting to support the pilot sites for COVID Virtual Wards. This included a successful webinar including Matt Inada-Kim who updated on the virtual ward wave 1 pilots. Lalitha Iyer, Andy Walden and Dan Lasserson presented on local **COVID Virtual Ward pilots** in Slough, Royal Berkshire and OUH. Trish Greenhalgh updated on Remote COVID assessment in primary care. In October the Regional Medical Director asked the three SE AHSNs to accelerate COVID Virtual Ward rollout across SE England
- **Maternity/neonatal safety.** Our **Intelligent Intermittent Auscultation e-learning programme**, developed with consultant midwives from OUH and RBH, HEE and OxSTAR, has been nominated for three HSJ Patient Safety awards and its use is increasing across the country. It is now being prepared for international distribution through the E-Integrity platform.

- **Tracheostomy.** From March 2020 we engaged with a rapid improvement programme in tracheostomy safety and the implementation of a care bundle in response to the emerging pandemic. All Trusts in our region now use the bundle and are linked to national resources and support. We will continue to be flexible in supporting any further requirements in this area
- **Medicines Safety.** The aim of this workstream is to reduce harm caused by errors in the administration of medicines in care homes and improve the safety and experience of care for residents. We have been supporting care homes on several projects in collaboration with our AHSN colleagues. This includes a group for sharing learning and support for In-Reach staff.

AHSN Network national PPIEE theme

Sian Rees will continue to chair the AHSNs PPI Leads Network for the coming year. During the year we will develop, with partners, a cross-AHSN strategy for patient and public involvement to support a collective and robust approach to PPIEE.

AHSN Network - new national programmes for 2020/21

Programme RAG for Q2	Contracted Metric	Plans	2020/21 target	Progress
Workforce theme	TBC	Plan: A Workforce Theme will be developed and agreed with BOB ICS by Q3. The Workforce Theme will draw on digital technology from Oxford AHSN's programmes.	NA	NA
		Progress: Engagement with BOB ICS workforce leads. Recruitment of workforce programme manager in progress. The SE Regional programmes meet the criteria for workforce programmes		
Eating Disorders – early intervention	Number of patients benefitting from an early intervention first episode eating disorder programme	Early intervention for Eating Disorders (FREED) model is predicated on the existence of a dedicated Band 7 (0.6 WTE) FREED Champion to direct and implement the approach within the existing ED team. The provision of pump priming funding to enable the recruitment of FREED champions locally will present an opportunity to engage teams and encourage the adoption of the FREED approach in 2020/21.	47	0
		Progress: Links with all eating disorder services have been established. Engagement through the existing Thames Valley Eating Disorders Best Practice Group as co-ordinated through the Hampshire/Thames Valley Clinical Network. Engagement has been positive and although teams require additional resources and support from seasoned FREED practitioners in some areas. Cross-AHSN working will aid the sharing of experiences and good practice.		
Cardiovascular Disease	TBC	Plan: Develop Familial hypocholesteraemia and lipid management workstreams. Details of the plan have been worked up with national team over the last 2 quarters	TBC	NA
		Progress: Engagement with CCG and clinical CVD leads started. Meetings with national team to discuss project structures		
Attention Deficit and Hyperactivity Diagnosis (ADHD)	Number of diagnoses of ADHD made using a continuous performance test product	Plan: work with NHS trusts to improve the process and speed of diagnosis of ADHD and appropriate use of computer-based tests (measuring attention, impulsivity and activity) to assist with diagnosis.	86	0
		Progress: Engagement work is now ongoing with several units looking to implement No new sites have yet implemented QbTest though we have at least one which is planning to do so. We do not yet know the new numbers of tests that are proposed		

**AHSN Network 2018/19-2019/20 (old) national programmes –
completing and sustaining plans for 2020/21**

Programme RAG rating for 20/21	Contracted Metric	Plans to complete and sustain (DELIVERED – indicates delivered by March 2020)	2020/21 target	2020/21 progress
AF	Number of previously unknown AF patients diagnosed with AF	<p>DELIVERED. AF Detect and Protect targets exceeded for 2019/20.</p> <p>Risk to sustain: The significant and sustained reduction in face to face contacts in primary care is likely to lead to a reduction in the number of new AF detected (against trajectory). We will review the situation with our partners in Q3.</p> <p>Various approaches to detecting AF during the COVID period being investigated and discussed with partners. 2020/21 target remains at risk</p>	4,000	TBC
Emergency Laparotomy	Number of emergency laparotomies in hospitals implementing the pathway	<p>DELIVERED. Two-year target exceeded for 2018/20. 2019/20 target exceeded.</p> <p>Whilst emergency surgery continues during the COVID-19 pandemic, anaesthetists are in front-line response and capacity to sustain the NELA audit is significantly compromised.</p>	912	502
ESCAPE-Pain	Number of people completing the ESCAPE-PAIN programme	<p>NOT DELIVERED. Despite wholesale engagement across the healthcare system take up is minimal. This is not expected to change. Sites providing the programme are within the leisure sector. Due to COVID-19, the programme is not running.</p>	25	0
PINCER	Number of GP practices adopting PINCER	<p>DELIVERED. Two-year target exceeded with 4 CCGs participating, 206 GP practices adopting, and 230 people trained. Reduction in at risk patients identified in at least one prescribing safety indicator is 2,338 or 18.4%. 1,819 (30.6%) patients at risk patients with indicators associated with a GI bleed were also identified.</p> <p>Focus in 2020/21 is to provide final training to new cohort of PCN Pharmacists in Nov and Dec 2020. Following this, to develop a sustainability plan with can be handed over to ICS/PCN/CCG leads.</p>	204	206
PReCePT	Number of additional mothers where MgSO4 given	<p>DELIVERED. Two-year target met and sustained. Some expectation COVID-19 would affect numbers - but local data showed 92% compliance from Jan – Aug 2020 (target 85%)</p>	8	5

Programme RAG rating for 20/21	Contracted Metric	Plans to complete and sustain (DELIVERED – indicates delivered by March 2020)	2020/21 target	2020/21 progress
SIM	Number of high-intensity service users covered by SIM	NEARLY DELIVERED. Service continues - equivalence testing delayed by some COVID related issues. We continue to support two localities, which between them support 15 service users, with adoption but equivalence testing not yet completed	8	15 (before equivalence testing)
TCAM	Number of completed referrals using TCAM	NOT DELIVERED. In initial phase of COVID-19 community pharmacies overwhelmed and 'completion' rate fell to zero. Buckinghamshire Healthcare referrals lower than plan. Royal Berkshire is planning on launching soon after development of an IT solution. OUH considering the solution for patients discharged to care homes	1,679	109

AHSN Network – national innovation products for 2020/21

Programme RAG rating for 20/21	Contracted Metric	2020/21 target	2020/21 progress by Q2
Heartflow	No of Heartflow scans appropriately used	569	100
SecurAcath	No units sold	5,500	1,492
SpaceOAR hydrogel prostate cancer spacer	No of patients injected with SpaceOAR hydrogel - impacted by COVID19	48	11
Placental growth factor tests for pre-eclampsia	No of placental growth factor test kits supplied	1,861	825
PCSK9i	Half the number of PCSK9i devices dispensed	247	225
Cladribine	None of unique patient Blueteq approvals for treatment with cladribine	28	Not available

AHSN Network- Regional Programmes 2020/21

Programme	Background	Plan and progress
Sleepio – led by Oxford	<p>Clinically evidenced CBT for insomnia delivered via online sleep improvement programme. Widespread adoption across the Thames Valley. Big Health made the system free for NHS staff to June 2020.</p> <p>The six Primary Care Networks in North Hants CCG have partnered with Big Health to embed Sleepio in primary care, scheduled to launch on October 1st, 2020.</p>	<p>Engaging with KSS and Wessex AHSN colleagues to establish priorities and outcomes for the project.</p> <p>Stakeholder engagement among commissioners, clinicians and others.</p> <p>Engage and seek support from the SE Region Mental Health Programme Board.</p>
S12 Solutions – led by Wessex	<p>S12 Solutions is an app and website that connects Approved Mental Health Professional (AMHPs) with available, local s.12 approved doctors.</p> <p>S12 Solutions allows AMHPs access to up-to-date contact information; allows s.12 approved doctors to share their general location (base postcode), availability, specialisms, gender and languages in real-time and process claims. The solution is user friendly and training is provided.</p> <p>Widespread in Wessex, some uptake in KSS and Oxford regions</p>	<p>Stakeholder engagement</p> <p>Attend the SE Region ICS Mental Health Board</p> <p>Wessex evaluation document</p>
Remote Monitoring in Care Homes – led by KSS	<p>Current Health is a passive remote patient monitoring wearable device which supports clinicians to monitor, manage and engage with their patients inside or outside of the clinical setting – specifically in their own homes or in care homes.</p> <p>It is a continuous monitoring device with integration into the electronic medical record. Status in SE: Well-adopted in Kent & Medway – possibility to scale. Other solutions exist and can be factored in to spread and scale implementation</p>	<p>Bring together group from 3 AHSNs and identify technologies that can enable remote monitoring for various conditions.</p> <p>Map status engage stakeholders and identify gaps that can be supported.</p>
COVID Virtual Ward – joint delivery KSS, Oxford and Wessex	<p>Part of our Patient Safety Collaborative commission, the aim of this national workstream is to reduce avoidable harm for patients who may be at risk of or experiencing physical deterioration in acute and community settings.</p> <p>NHS E/I South East Medical Director asked the three SE AHSNs if the programme could be accelerated ahead of the surge in COVID-19 cases There are two pilots in the Oxford AHSN region.</p>	<p>Set up Programme Board, chaired by Oxford AHSN Medical Director, including the national lead on COVID Virtual Ward, Matt Inada-Kim.</p> <p>Outline deliverables for a 6-8 weeks including setting up pilots in all ICSs. Communicate to all ICSs.</p> <p>Agree regional plan with KSS and</p>

Programme	Background	Plan and progress
AI Stroke Decision making evaluation	<p>Working with Brainomix, the TITAN project has delivered (within the Thames Valley) the country's first AI-enabled regional stroke network (see case study 1).</p> <p>Building on this, AI assisted diagnostic tools have been further rolled out across the SE Region, as part of the COVID response.</p> <p>Brainomix has also been successful in the National AI in Health & Care awards (AAC/NHSX). Securing the work being undertaken within the TITAN network and allowing the further establishment of networks across the UK.</p>	<p>Wessex.</p> <p>Commissioned by NHSE, the Oxford AHSN is a leading on the evaluation of the of the SE roll out, using both quantitative and qualitative analysis.</p> <p>This work has started with a planned 1-year finish date. A more detailed analysis is planned for the TITAN network, incorporating some economic data.</p> <p>The Oxford AHSN has bid for the national evaluation of the Brainomix AI in Health Care award.</p>

NB all the programmes meet the criteria for Workforce programmes - digital, pathway transformation and productivity. We have formed a programme board with KSS and Wessex AHSNs to deliver Sleepio, S12, Remote Monitoring and COVID Virtual Ward (Oximetry @home).

Local programmes – Theme 1 - COVID-19 potential Digital and Technology

- The Oxford AHSN, in partnership with the Wessex and Kent Surrey Sussex AHSNs, supported the **NHSE/I Digital First Programme** to help co-create a shared vision for digital primary care within the ICSs and, in time, across the South East. This aims to take learning and best practice of digital solutions created during the COVID-19 response and support the development of a five-year roadmap for the region.
- New **guidance for stroke services** to adapt during COVID-19. We have worked with colleagues from all the local stroke units, the National Director for CVD Prevention, GIRFT and NHS E/I to develop practical implementation guidelines to support stroke services to adapt during the COVID-19 pandemic. The first three documents were published on the British Association of Stroke Physicians (BASP) website during May. Another document, Restoration and Recovery for stroke services, was completed in July.
- **AI imaging software** implemented: An evaluation has been agreed with NHSE and leads from GIRFT on implementation of AI Imaging software that is currently being deployed and is anticipated to potentially have a positive impact on factors that affect clinical and patient outcomes. This activity is ongoing and will continue for at least a year.

Stroke AI imaging. For the last year we have been working with the Thames Valley stroke network to design, develop and deliver a mechanical thrombectomy service across the system. This project is called TITAN: (Thrombectomy Innovation and Transformation Network). Part of this development has been working with Brainomix, to introduce their AI software, to aid clinicians in the interpretation of complex brain imaging of patients with a stroke. A full rollout of the AI decision support tools is expected by July 2020 and a detailed evaluation of the impact of TITAN, is underway and shall proceed over many months. In addition, the NHSE South East Covid-19 response has included the rollout of stroke decision support tools across all stroke services in the South East. An evaluation of the impact has been developed alongside the rollout and will persist for many months.

Local programmes – Theme 2 COVID-19 potential – Local Support (e.g. where AHSN staff are redeployed to support direct response to COVID-19)

- **Electronic Repeat Dispensing (eRD).** Our registered Pharmacist (Seema Gadhia) was redeployed to Buckinghamshire Clinical Commissioning Group in a clinical capacity. NHSE/I made a recommendation to GP Practices to convert as many patients that are suitable to electronic repeat dispensing during the COVID-19 period. Our pharmacist has supported GP practice level implementation by presenting benefits and availability of resources to practice staff; setting up remote access to GP clinical systems for team members; clinical review of patients for suitability and conversion of patients to eRD.
- Redeployment of clinical staff
 - 0.6 WTE Patient Safety Manager seconded to Buckinghamshire Healthcare as registered midwife to support initial demand. Ending 31/5/2020.
- Redeployment of non-clinical staff
 - 2.2 WTE includes 2 WTE working on national testing programme. The Director of Strategic and Industry Partnerships programme is on secondment until March 2023, evaluating testing innovations for Professor Dame Sue Hill, Chief Scientific Officer for England.

Local programmes – Theme 3 - COVID-19 potential – Additional AHSN Support

- **Sleepio:** a digital therapeutic delivering cognitive behavioural therapy-related treatment for insomnia and poor sleep, Sleepio is well placed to offer support for clinicians and the public during the pandemic. It has been made available to all NHS and social care workers across England for the duration of the pandemic and take-up has been positive. Sleepio enables users to assess their sleep – using a simple ‘sleep test’ - and then allows those with a low score (out of 10) to complete six online guided sessions with “The Prof” to address the causes of their poor sleep. Sleepio has been selected is one of three regional programmes for rollout across the South East.
- **Stroke AI Imaging Ethics IG.** Given our role in the Thames Valley TITAN project (see above), we have worked with NHSE, NHSX and Brainomix, on the regional uptake of the Brainomix AI (aids the interpretation of complex brain imaging for people having a stroke). The impact of COVID-19 has placed a strain on the traditional delivery of stroke services. By allowing the rapid sharing of images, and the use of the AI interpretation tool, this digital product was selected for rollout across the South East region. The Oxford AHSN has been a key partner in this rollout and is leading on a region-wide evaluation.
- **Information Governance.** A related support to NHSE and NHSX, the Oxford AHSN Medical Director helped them with the information governance framework, to allow a regional (and national) rollout.
- **Ethics.** As part of the response to the COVID-19 pandemic, the Oxford AHSN Medical Director was asked by the Executive lead for the BOB ICS to co-ordinate the ethical response to the pandemic across the system. This work has involved the formation of a system-wide Ethical Advisory Committee, chaired by the medical director, and has input from across the system.
- **PPE – sourcing, reprocessing and sustainability.** We have supported the Trusts and the ICSs in the region on PPE - (1) working with local industry to source products from new suppliers, eg face shields, hand gel, gowns and masks, and (2) reprocessing PPE - forming a working group of Trusts to share protocols and results on reprocessing PPE and PPE innovation - this is a collaboration between Oxford and Wessex AHSNs and has involved industry and NHS partnerships. With eight other AHSNs we have formed a Community of Interest on sustainability with sub-committee on reusable PPE. With Wessex we are showcasing best practice and PPE innovation with Trusts from around the country, e.g. the **PeRSo** hood, the **OxfordBox** (also advised on commercialisation), reprocessing gowns and N95 masks with hydrogen peroxide. We are linked with the NHS Sustainability Development Unit and the Director of the central PPE Make team who have recently published a PPE Strategy, the aims of source reusable PPE in the UK to improve supply chain resilience, reduce the environmental harm of single use plastics and support economic growth.
- **Post-acute stroke services** during COVID-19: data analysis and qualitative interviews with staff and patient to understand the challenges of delivering care during this time and to make recommendations for care delivery in future.

Local programmes – Theme 4 - no COVID-19 potential (summary from three programmes – PS&CI, CIA and SIP)

- We have continued to support the **Anxiety and Depression** Clinical Network, which works closely with all IAPT (Improving Access to Psychological Therapies) services, their commissioners and academics at the cutting edge of psychological treatment. The network

aims to continue to enhance recovery rates of patients entering the IAPT service through clinical collaboration and targeted training; to support the roll out and dissemination of innovations with reference for patients with chronic health problems, to better understand relapse rates for patients suffering with depression/anxiety disorders and to develop more effective post discharge support mechanisms. This includes the piloting and roll out of the Paddle app, which is a therapy support app designed by patients for patients. Due to the pandemic, further development was slowed down, but continues to progress.

- We are intensifying our support for our **care homes** dementia In-reach services, with more frequent remote meetings to share learning and quickly identify emerging areas of concern and requirements for support.
- **Adopting Innovation and Managing Change in Healthcare Settings Programme** - cohort eight commenced in February, however the programme was interrupted in late March due to the COVID19 pandemic. The programme resumed in September 2020 and for the first time the course has been delivered online.
- **eMaps** - our market access hub for innovators - has been made available to SMEs in the Digital Health Technology Catalyst. There is an urgent need to increase the number of subscribers for eMaps. A free offer of UK content is also planned to generate more traffic to the site and raise awareness and usage of the platform.
- **Bone health** - development of a case-finding tool, that will identify patients at risk who require a pharmacist-led medication review, is held up by contract negotiations.
- **Elastomeric devices** - this project paused due to a shift in focus to COVID-19 activities. However, work restarted at the end of Q1 as this project may be of significant interest to other Trusts and help support recovery plans.
- **Medicines Optimisation** - an opioid prescribing data pack has been produced with comparative data from all the national data sets that publish opioid prescribing indicators. This has been circulated to regional Medicines Optimisation leads.
- **Polypharmacy** - some elements of the programme have been delivered but some are on hold due to COVID-19.
- **Lipid Management pathways/PCSK9i**: Supporting local teams to improve lipid pathways. This includes two pathway transformation projects in Bucks and Berks West as well as broader projects around hypercholesterolaemia and familial hypercholesterolaemia
- **Evaluation - AI software South East**: This programme is a South East regional evaluation of the impact of new technologies in artificial intelligence algorithms and efficiencies in image sharing as applied to acute stroke services.
- **Strategic and Industry Partnerships** continues to undertake the four core activities commissioned by the Office for Life Sciences: communicating local priorities, innovator support and signposting, evaluation in a real-world setting, adoption and diffusion.

Highlights:

- Five case studies were chosen for the next Office for Life Sciences economic growth brochure include **Perspectum Diagnostics**, **POCKiT Diagnostics**, **Brainomix**, the Oxford AHSN Accelerator programme and Trust on Tap. In addition, further case studies have been drafted including **Roche Diagnostics** and **TrueColours IBD**.
- **Ufonia** is an Artificial Intelligence company developing an automated speech-based service to contact patients who have undergone cataract surgery to assess their eye health and need for further follow up - working with Buckinghamshire Healthcare to perform a study to understand the barriers to adoption

- **Perspectum Diagnostics** is a company based in Oxford developing technologies to improve and bring innovation to hepatology clinical pathways. Primary sclerosing cholangitis (PSC) is a chronic, or long-term, disease that slowly damages the bile ducts - aim of this study was to see where the clinical utility for MRCP+ would lay in the PSC pathway with exploration into its utility in other areas.
- **Medicines pricing** project funded by a large pharmaceutical company: The project aims to review the medicines pricing models used in other countries to compare these with the systems used by the NHS in England.
- **The Oxford AHSN Accelerator** 2020 Programme has progressed from its creation in 2019 to include a wide range of activities, partners, and participants. In 2020, our first commercialisation workshops in April had to be changed from a face-to-face meeting at the University of Reading to a virtual event delivered by our partner BioCity using Zoom video conferencing. We had 24 sign-ups to the April workshops and have supported several companies to explore clinical trials and commercial research for their solutions.
- The total awarded to the Strategic and Industry Partnerships team from the NIHR for the **Artificial Intelligence** Phase 1-3 awards is £188,338 supporting Phase 2 bids from **Cariso Diagnostics**, **Ufonia** and **Albus** and a Phase 3 award from **Ultromics** (project aims to show that **EchoGo Pro**, helps doctors more reliably diagnose heart disease using a stress echocardiogram or “stress echo”).
- The aim of the **BreathOx** project is to further develop algorithms and clinical decision-support tools for early detection of **asthma** attacks in children by capturing early warning signs through continuous long-term monitoring, enabling early treatment to stop attacks at home. The AHSN is estimating the value in NHS care pathways and generating real-world evidence of clinical and economic value.
- The National Consortium of Intelligent Medical Imaging (**NCIMI**) is a network of 14 NHS hospital trusts across the United Kingdom, 10 industry partners with expertise in the field of Artificial Intelligence (AI) and medical imaging. The project timelines and deliverables were affected by the COVID-19 pandemic, with many activities being put on hold
- Rapid Identification of **Stroke Mimics** (PRISM) **Sarissa Biomedical** – project will be completed by December 2020
- Point of Care Blood Tests helps inform decision making for patients with **acute frailty syndrome** - potential savings for SCAS were estimated to be £9.8 million in Year 1
- Delivery of a gastroenterology programme to benefit sufferers of Irritable Bowel Syndrome (**IBS**) and Inflammatory Bowel Disease (**IBD**) has been suspended

PPIEE

We are working in detail with several programmes and projects with initial work on the bone health programme utilising our recording and impact checklist. To support this, we are discussing how we might routinely embed cross-cutting themes such as PPIEE across our work. We are redesigning the Leading Together programme with a local mental health provider to go ahead as planned during Q3 and Q4. We will be unable to adapt for people with learning disabilities at present.

Workforce Innovation

The national AHSNs workforce programme will be agreed at a regional level with a focus on productivity, pathway transformation and digital developments. We already have well established relationships with Wessex and Kent Surrey Sussex AHSNs and have agreed to spreading three local innovations across our region: Sleepio, MaST and s12 Solutions. We are exploring whether these innovations, all of which have workforce productivity benefits, might form the basis of our regional offer.

We are involved in all the workstreams of the BOB Workforce Programme and better understand local need. We will continue to work with them to identify specific work on which we can collaborate.

Stakeholder engagement and communications

The Oxford AHSN has adapted readily to remote working with our NHS, industry and academic partners. Our staff are all learning to optimise meetings and workshops on Microsoft Teams and Zoom. Attendance at virtual meetings is probably higher than when we ran physical meetings as participants are saving on travel time. During Q1, engagement activities on anything non-COVID-19 related was challenging as the health and care system focussed on managing the epidemic. By the end of June, we were able to return to clinically-led events online.

Oxford AHSN staff will continue to lead and contribute to local, regional, national and international webinars and events. The highest levels of engagement were achieved around two high profile webinars we hosted in September relating to spreading digital innovation in the NHS and showcasing innovation in Covid-19 patient pathways. These created a buzz on social media reflected in a new record of 63,000 Twitter impressions for [@OxfordAHSN](#) in September.

Unsurprisingly, traffic to our websites dipped in April, May and June - but it has since bounced back with the main Oxford AHSN website recording more page views in July than in any other month in 2019 or 2020 (5,835). Among significant additions to our website is a new section outlining how we have responded to the pandemic: <https://www.oxfordahsn.org/our-work/covid-19/>. We are adding case studies all the time. Since April 2020 @OxfordAHSN has added 220 Twitter followers (see chart above). We also have 141 more connections on [LinkedIn](#). In addition, we published the 80th edition of our established [stakeholder newsletter](#) which now has around 1,400 subscribers.

Recent additions to our website – www.OxfordAHSN.org - include case studies highlighting our varied contributions to the COVID-19 response. We will continue to expand this content and on our linked sites: www.OxfordAHSNhighlights.uk, www.patientsafetyoxford.org, www.clinicalinnovation.org.uk and www.healthandwealthoxford.org. More of our high impact case studies will be added to the national AHSN Atlas website (bit.ly/AtlasOxford) and included in publications demonstrating how we have contributed to economic growth. A schedule of this year's events can be found in the Stakeholder and Communications section of this report.

Finance

Total forecast income is £5.4m. Forecast expenditure at £5.4m is on plan in line with our business plan. Some unexpected income came from our collaboration in the Digital First South East programme. Due to changes in working practices and restrictions due to COVID-19 we will underspend on events and travel. We are recruiting to support our programmes and to achieve breakeven this year.

	Model Period Beginning	01-Apr-20	01-Apr-20
	Model Period Ending	31-Mar-21	31-Mar-21
	Financial Year Ending	2020	2020
INCOME (REVENUE)		Opening Plan	Forecast
Commissioning Income - NHS England Master Licence		2,723,650	2,723,650
Commissioning Income - Office of Life Sciences		830,300	830,300
Commissioning Income NHSI - PSC		447,058	447,058
Other Income - Partner Contributions		330,000	330,000
Other Income - Recharges to Accelerare/Cogentis		101,599	101,624
Other Income - Health Education England		0	0
Other Income - Digital First South East		0	74,022
Other Income - Patient Safety Collaborative		0	4,185
Other Income - Clinical Innovation Adoption		479,036	475,000
Other income - Strategic & Industry Partnerships		424,000	413,541
Other Income - PPIEE		40,000	20,000
Total income		5,375,643	5,419,380
AHSN FUNDING OF ACTIVITIES		Opening Plan	Actual
Patient Safety		537,518	523,866
Clinical Improvement		307,217	281,848
Clinical Innovation Adoption		1,516,596	1,568,562
Strategic & Industry Partnerships		1,344,402	1,401,298
PPIEE		194,519	169,685
Communications, events and sponsorship		139,123	133,047
Contribution to AHSN Network		150,000	168,032
Covid Activity		0	5,154
General Contingency		0	0
Programmes and themes		4,189,375	4,251,491
CORPORATE			
Pay costs		720,877	723,122
Non-pay costs		465,391	444,767
Total Corporate Costs		1,186,268	1,167,889
Total expenditure		5,375,643	5,419,380
Net Income/Expenditure		0	0
Programme funding previously committed		0	0
Surplus/(deficit)		0	-0

Risks and issues

The most significant issue this year is ensuring our staff can work safely during the COVID-19 pandemic. In line with current government and OUH guideless our staff are asked to work from home unless it is not possible.

Dr Paul Durrands ACA CMILT, Chief Operating Officer, Oxford AHSN

Patient Safety and Clinical Improvement (PSCI)

The Patient Safety and Clinical Improvement programme encompasses the Oxford Patient Safety Collaborative, with an additional focus on clinical improvement, including a specific focus on supported improvement in mental health. The Oxford PSC is embedded in the Oxford AHSN structure, and as a result enjoys cross-working with other sections of the AHSN, including the Clinical Innovation Adoption, Strategic and Industry Partnerships programmes and the Patient and Public Involvement, Engagement and Experience theme. We influence the patient safety aspects of other programmes' work, increasing the overall impact of the PSC. Together we enjoy a broad range of strong relationships and engagement with healthcare providers and other bodies in our region.

In response to the COVID-19 pandemic a temporary specification and plan was formed with NHSI and the National Patient Safety Improvement Programme for April to September 2020 to address COVID-19 support. We also looked to respond to local need where we were able.

Deterioration - National Workstream

The aim of this national workstream is to reduce avoidable harm for patients who may be at risk of or experiencing physical deterioration in acute and community settings. Three main domains of effectively managing deteriorating patients are recognition, response and escalation – underpinned by excellent communication. In the first part of 2020/21 we concentrated on contributing to COVID-19 related work, including starting to support the pilot sites for COVID Virtual Wards. This included a successful webinar including -

- Matt Inada-Kim, Acute Physician and National Clinical Lead-Deterioration/Sepsis, who updated on national guidance and virtual ward wave 1 pilots.
- Lalitha Iyer, Executive Medical Director Frimley Collaborative, followed with an outline of the pilot virtual ward project and experience in Slough.
- Andy Walden, Consultant Intensive Care Medicine, Royal Berkshire NHS Foundation Trust, shared the TICC-19 (Triage into Community Covid-19) assessment and management in ED/GP 'hot hub'.
- Dan Lasserson, Professor of Acute Ambulatory Care, University of Warwick, Clinical Lead for Ambulatory Outreach Team, Oxford University Hospitals NHS Foundation Trust, shared his work on point of care ultrasound (POCUS) in the ambulatory care setting, including care homes.
- Trish Greenhalgh, Professor of Primary Healthcare Sciences, University of Oxford, updated on RECAP (Remote Covid Assessment in Primary Care) an assessment tool that provides an early warning score.

This was attended by over 100 stakeholders, and at the time of writing has been viewed over 500 times in its first week available on [YouTube](#)

Support for scaling 'soft signs' of deterioration tools continued, with the PSC supporting Buckinghamshire to roll out RESTORE2 in Care Homes.

Tracheostomy – New National Workstream

From March 2020 we engaged with a rapid improvement programme in tracheostomy safety and the implementation of a care bundle in response to the emerging pandemic. All Trusts in our region now use the bundle and are linked to national resources and support. We will continue to be flexible in supporting

any further requirements in this area, including supporting a regular forum for sharing learning between clinicians in the region.

Maternal and Neonatal Health Safety Improvement Programme – National Workstream

The overall ambition of this workstream is to improve the safety and outcomes of maternal and neonatal care by reducing unwarranted variation and provide a high-quality healthcare experience for all women, babies and families across maternity care settings in England. This aim includes improving outcomes and experience of care, addressing the national ambition of reducing rates of maternal deaths, stillbirths, neonatal deaths and brain injuries that occur during or soon after birth by 50% by 2025. Over the last three years we have supported and coached each of our Trusts through improvement projects, brought key stakeholders together through Local Learning System (LLS) meetings and network meetings, and supported SCORE culture surveys and debriefing at each location.

In this period, we have supported maternity and neonatal services with COVID-19 issues (including PSC staff working clinically) and developed and conducted a review and evaluation of what went well and not so well during the first wave of the pandemic. This included a survey of all maternity and neonatal staff, with nearly 900 responses from across the region, the findings of which will be released shortly, and supporting the Trusts to share safety issues via our Perinatal Governance network.

Our Intelligent Intermittent Auscultation e-learning programme, developed with Consultant Midwives from OUH and RBH, HEE and OxSTAR, has been nominated for three HSJ Patient Safety awards and its use is increasing across the country. It is now being prepared for international distribution through the E-Integrity platform.

This programme will now develop into 'Phase 2', which concentrates on system-level improvement in key areas - Optimisation of the Preterm, Smoke free Pregnancies and recognition and escalation of deterioration. The delivery of this will be through a MatNeo Patient Safety Network which has evolved from our existing Local Learning System and Maternity Network. This work will include close working with our Local Maternity Systems, Neonatal (ODNs), Clinical Networks and Regional colleagues such as the Regional Chief Midwife. We have worked to ensure these relationships have remained strong during this period, including assisting in successfully applying for funding to develop a regional Maternity dashboard.

PRCePT

At a cost of £1 per dose of magnesium sulphate to mothers, the PReCePT has helped prevent cerebral palsy in pre-term babies - avoiding a £1m cost to the care system during the person's lifetime. We aimed to sustain rates of administration at or above 85% now the active phase of this programme has completed. From January 2020 to the end of August 2020 the Oxford AHSN region achieved a compliance rate of 92%.

Medicines Safety - National Workstream

The aim of this workstream is to reduce harm because of errors in the administration of medicines in Care Homes and improve the safety and experience of care for residents. In Q3 and Q4 of 2019/20 we carried out a significant scoping piece on the issues and requirements of our local providers. We have been supporting Care Homes on several projects in collaboration with our AHSN colleagues. This includes a group for sharing learning and support for In-Reach staff. We have been planning for the next phase of this work

which will consist of the development of a Care Homes Patient Safety Network, testing and spreading interventions.

Adoption and Spread – National Workstream

This workstream was paused during Q1 and Q2, most specifically with regards to improvement work around the COPD Discharge Care Bundle to free up capacity to address more COVID related work. We anticipate this will be reintroduced in Q3.

Mental Health

We have continued to develop our Mental Health Improvement Strategy to meet local and national requirements, supporting local ICS plans with a focus on safety and adoption and spread of effective innovation. This includes work on learning from changes to the services as a result of COVID-19 as directed by local need. This workstream also supports activity relating to mental health through the rest of the Oxford AHSN

ADHD – National Programme

Attention Deficit Hyperactivity Disorder (ADHD) affects between 4-8% of school aged children. However, current services are variable, and it is common for children and their families to wait a very long time to receive a diagnosis. The process for diagnosing ADHD extends over multiple steps. Assessment is based on the clinician's judgement, supplemented by subjective reports from parents, teachers, and the child or young person. These reports can be contradictory, incomplete, and not returned within a timely manner, leading to delays in diagnosis. Children in the UK wait 18 months on average to receive an accurate diagnosis. Multiple clinic visits over this period result in significant costs to the NHS, estimated at £23 million. These costs exclude wider healthcare system costs (such as school observations) and social and economic costs (including parental work loss, parental stress-related illness, and increased childcare expenses). Quality of care varies significantly across the country. The core element of our national programme involves work with NHS trusts across England to improve the process and speed of diagnosis of ADHD and includes appropriate use of computer-based tests (measuring attention, impulsivity and activity) to assist with diagnosis. Engagement work is now ongoing with a number of units looking to implement.

Serenity Integrated Mentoring (SIM) – National Programme

The active phase of SIM, which involved the adoption of specialist, integrated mental health care and policing teams which provide a unique blend of nursing care and behavioural management, is near completion. We continue to support two localities with their ongoing adoption

S12

S12 Solutions is an app and website that connects Approved Mental Health Professional (AMHPs) with available, local s.12 approved doctors. S12 Solutions allows AMHPs access to up-to-date contact information; allows s.12 approved doctors to share their general location (base postcode), availability, specialisms, gender and languages in real-time and process claims. Engagement work has been progressing through this period, now enhanced by being part of the new South East Regional projects.

Anxiety and Depression – Local Programme

We have continued to support the existing Anxiety and Depression Clinical Network, which works closely with all IAPT (Improving Access to Psychological Therapies) services, their commissioners and academics at the cutting edge of psychological treatment. The network aims to continue to enhance recovery rates of patients entering the IAPT service through clinical collaboration and targeted training; to support the roll out and dissemination of innovations with reference for patients with chronic health problems, to better understand relapse rates for patients suffering with depression/anxiety disorders and to develop more effective post discharge support mechanisms. This includes the piloting and roll out of the Paddle app, which is a therapy support app designed by patients for patients. Due to the pandemic, further development was slowed down, but continues to progress.

Clinical Innovation Adoption (CIA)

The CIA programme has had a busy six months supporting the regional and national response to COVID19 and then subsequently accelerating the commissioned activities that were put on hold.

Some of the activities such as Digital First and PPE have moved off the portfolio but other activities such as digital roll outs that have proven value and that are beneficial for remote working, the AAC products and joint regional projects have been added. The CIA programme has aligned to three of the four key Oxford AHSN themes: CVD, Cancer and Mental Health, whilst also leading on digital and polypharmacy activities.

Highlights include:

- Concerning new national programmes, a substantial amount of work has gone into engagement for the FREED programme that has resulted in successful sign up and network engagement within the Oxford AHSN region and South East.
- The team has also done an excellent job at working with the national GIRFT CVD leads on national CVD Guidance and supporting the creation a National Procurement Framework for one of the AI products.
- The PINCER deployment continues to report above the national average on performance and has a sustainable approach that will incorporate it into business as usual.
- Other national projects such as Emergency Laparotomy and TCAM have suffered major setbacks due to the pandemic. Emergency Laparotomy, whilst delivering on national numbers requires sustainability commitment; TCAM has recently been implemented at the Royal Berkshire Hospital and should start to add benefit as a way of reviewing patient medication outside of hospital and remotely with a community pharmacist.
- The Adopting Innovation and Managing Change in Healthcare Settings Programme (MSc) funded by HEE and run jointly with Bucks New University, has now trained 238 front staff including Primary Care staff. The programme has had to adapt to remote working and continues to attract candidates (creating a waiting list) who want to know how to successfully manage change and implement innovation within the system.
- The CIA Programme is leading on the AAC programme for Asthma Biologics, shaping the activity for national delivery as of the new year.
- Other national programmes such as Lipid Management, overlap with AAC products (high intensity statins/PCSK9i) and will be delivered as integrated activities with an eye on the delivery from different perspectives.
- Involvement with the AI Award process: The programme has responded to NHSEI/Xs request to shape the AI Award process and to set up requirements for the evaluation in situ of AI technologies; This has been a successful collaboration with NHSEI/X, KSS AHSN and SW AHSN. The evaluation work for Brainomix has now extended due to the CIA team being successfully appointed to do the specific evaluation/deployment work required on this £1.8m AI Award. Evaluation now incorporates local and regional activities that are already providing evidence of quality improvement in the Thames Valley area.
- We are delighted that the Sleepio project sponsored by Innovate UK (£1 m funding), is one of three projects selected by the South East Region AHSNs, for regional roll out. Engagement and activities have started and there is significant interest. The CIA team is also working with the PSC team on a SE Regional project on remote Patient Monitoring.

- Local osteoporosis work on the Bone Health Project with PRIMIS has progressed with a stakeholder all-inclusive workshop that has provided insight into perspectives from charities, patients and clinicians.
- We have seconded an experienced Methodologist to support the evaluation/deployment activities for AI.
- We have been working with HEE to develop their knowledge support capability for AHSNs within their Library and Knowledge Services. This has been done through a 0.2 WTE secondee who works within the CIA team and links with the other programmes. This arrangement has been mutually, beneficial and will be developed and shared with other AHSNs.
- Tracey Marriott continues to be a member of the European Innovation Technology Health Board and will continue to do so for one more year only. This is because of the UK's status change post Brexit and the transition of EIT Health activities to Ireland.
- We continue to work closely with the Oxford and Thames Valley Applied Research Collaboration (ARC). The Programme Director and Implementation Manager is now in post and works across both the ARC and the AHSN. The second stage of the adoption readiness review meetings with the six ARC theme leads have been held and two research projects are receiving more in-depth support from the AHSN.

Activities linked to COVID 19 response and reset

GUIDANCE FOR STROKE SERVICES PREVENTION

(1) Guidance for stroke services and CVD prevention stakeholders during the COVID-19 Pandemic

Background: Since April Oxford AHSN has worked collaboratively with Getting It Right First Time and NHS England/Improvement to develop a range of pragmatic guidance to support teams during the COVID-19 pandemic. The first two sets of guidance focused on stroke services and work is now ongoing to develop guidance for a wider set of stakeholders around CVD prevention.

Activities in Q1 and Q2

Phase 1 of the guidance was published in May 2020 <https://basp.ac.uk/wp-content/uploads/2020/05/Adapting-stroke-services-in-the-COVID-19-pandemic-May-2020-updated.pdf> and phase 2 which focused on 'restoration and recovery' for stroke services was published in July and launched with a webinar <https://www.basp.org/supporting-stroke-services-during-the-covid-19-pandemic/restoration-and-recovery/>

Activities planned for Q3

- Stakeholder engagement for phase 3 – CVD prevention which is aimed at a wider group of stakeholders
- Development (researching, creating and curating content) of phase 3

Impact: The guidance appears to have been well received and we are aware that it has been widely read. Difficult to measure direct impact but feedback has been positive.

Activity next quarter: Phase 3 finalised and published

(2) Management of stroke patients discharged during the COVID-19 pandemic (reset)

Background: During the early stages of the COVID-19 pandemic, there was a requirement to create or free up bed capacity for the predicted high numbers of admissions of patients with COVID-19. Many stroke inpatients were discharged earlier in their recovery than usual and there have been concerns expressed across the stroke community that this cohort of patients may not have had the same access to rehabilitation and follow-up care as those discharged pre-COVID-19.

The aim of the project is to use a combination of data and qualitative analysis to provide an in-depth understanding of the impact of the initial phase of the COVID-19 pandemic on the provision of post-acute stroke services. This will enable the NHS to identify potential solutions and system changes to optimise current and future patient care.

The project will be delivered through a Joint Working Agreement (JWA) between Bayer and Oxford AHSN.

Activity during Q2: Last quarter efforts were focused on developing the proposal, understanding scope and in developing the Joint Working Agreement with Bayer. The JWA was signed in September 2020.

Engagement: Royal Berkshire, Oxford University Hospitals, Buckinghamshire Healthcare, Berkshire Healthcare, Oxford Health, Bayer, Thames Valley Stroke forum.

Expected outcomes: An understanding of the impact of early discharge from acute stroke units and Emergency Departments to inform second wave planning. Root cause analysis to enable identification of factors that need to be addressed.

Activity next quarter: Data analysis and qualitative interviews

CARDIOSIGNAL

Background: CardioSignal is a novel app that can detect AF using the gyrometer within a smart phone. Oxford AHSN is working with PreCordior, the supplier of CardioSignal, to pilot and evaluate the use of the app for detecting AF within a range of settings.

Activity during Q1 and Q2: During quarter 1 of 2020/21 the AHSN developed a service evaluation framework for the evaluation of the app in the TIA clinic setting and commenced stakeholder engagement.

Royal Berkshire NHS Foundation Trust agreed to commence the project in October 2020, and it will run for three months, evaluating the following:

- Patient experience:
- Ease of use
- Clinician perception and experience
- Impact on costs and efficiency

Engagement:

- Royal Berkshire NHS Foundation Trust
- Suppliers: PreCordia and Omron

Potential impact: Improved time to diagnosis of paroxysmal AF; Increased efficiency.

Activity next quarter: Launch project and commence evaluation. Explore other settings where the device could be used, including primary care.

ELECTRONIC REPEAT DISPENSING (eRD)

Background: At the start of the Covid-19 pandemic (March 2020), the National AHSN Network and local Medicine Optimisation (MO) teams prioritised activity that could directly support the system. At the same time, NHS England/Improvement issued guidance to Primary Care to consider putting all suitable patients onto eRD when their next repeat prescription was due. As eRD uptake rates locally and nationally are relatively low, conversion of patients to eRD would have had a significant impact on workload for GP Practices. Implementation of eRD would have the benefit of reducing workload for GP Practices, reducing the footfall into GP Practices and managing the medicines supply chain reducing the number of unavailable medicines.

Oxford AHSN offered support to the system with the implementation and uptake of eRD by organising and hosting webinars; sharing resources; providing expert advice and redeploying a pharmacist to support directly with engagement and conversion of patients to eRD.

Activity in Q1 and Q2

- Resources were hosted and shared on the Oxford AHSN website and webinars were organised and delivered. Links: <https://clinicalinnovation.org.uk/project/electronic-repeat-dispensing/>
<https://wessexahsn.org.uk/img/projects/ElectronicRepeatDispensingeRDsupportforPracticesandPCNs.mp4>
- Data has collated and shared on a weekly then, monthly basis
- CCG MO team were supported to set up remote access to EMIS and AccuRx and to develop a method for reporting progress
- Working directly with GP Practices, patients were reviewed for their suitability for conversion to eRD and those that were suitable were converted
- eRD support for care homes patients was included in a paper on initiatives to support care homes support produced for CCG Medicines Optimisation Leads

Engagement: Wessex Academic Health Science Network, NHS Business Services Authority, Regional CCG Medicines Optimisation Leads, Regional eRD Leads, Thames Valley GP Practices

Impact

Qualitative feedback has been received from eRD leads on the value of the webinars, sharing resources, data and direct support.

'Thank you very much for the training today. It was excellent and pitched just right for what we needed. Your help with this is very much appreciated and will definitely help eRD use increase.'

Tim Langran, CCG Lead Prescribing Pharmacist. NHS East Berkshire CCG.

Quantitative data for EPS and eRD figures shows an increase in all areas since May 2020 see table 1.

Table1. EPS and eRD uptake as of 29/09/2020

CCG report for data requests as of 29/09/2020												
CCG	Number of practices who have requested and received NHS numbers (number)	Practices within the CCG who have requested NHS numbers (%)	Excluding DP sites: Practices within the CCG who have requested NHS numbers (%)	EPS items as a % of total items	EPS % change from 7th May	Excluding DP sites: EPS items as a % of total items	eRD items as % of total items as of 7th May	eRD items as % of total items	eRD % change in the last month	Excluding DP sites: eRD items as % of total items	Practice with lowest eRD %	Practice with highest eRD %
Berkshire West CCG	20	43%	33%	78%	↑ 17%	97%	8%	12%	↑ 1%	16%	0%	46.20%
Buckinghamshire CCG	40	80%	54%	85%	↑ 17%	98%	5%	7%	↓ 0%	9%	0%	40.76%
East Berkshire CCG	36	77%	68%	93%	↑ 22%	92%	11%	15%	↓ 0%	16%	0%	47.70%
Milton Keynes CCG	19	76%	72%	96%	↑ 26%	96%	4%	7%	↓ 0%	7%	0%	24.58%
Oxfordshire CCG	37	54%	37%	75%	↑ 11%	94%	10%	12%	↓ 1%	21%	0%	67.76%

To note, there is a delay in the data due to a lag in the EPACT data and caveats in how the data is recorded.

Activity next Quarter: To continue to circulate new resources, monitor data and to participate in the national eRD working group.

National programmes

Project Type		Project Titles		End
National	Ongoing	Atrial Fibrillation - Detect innovation spread to region project	CVD	Mar-23
National	NEW	Familial Hypercholesterolemia identification (involves high intensity Statins, Lipid Clinical pathways) links to AAC activities	CVD	Mar-23
National	NEW	Blood Pressure improving management not detection	CVD	Mar-23
National/local	NEW	Industry Partnership activity with Bayer	CVD Rehabilitation	Mar-21
National	NEW	First episode and Rapid Early intervention in Eating Disorders (FREED)	Mental health	Mar-23
National	NEW	Appointed to manage the evaluation for 2 of the phase 4 technologies	AI/digital	Mar-21
National	NEW	Supporting NHSEI/X with the AI Award selection process	AI/digital	Mar-21
National	NEW	Continuing guidance approach for CVD activities.	CVD	Mar-21
National	NEW	AAC – Leading the Asthma Biologics Programme	Respiratory	Mar-22
National	NEW	AAC – new programmes include FeNO testing, cladribine, Lipid Management and 1 other TBC	AAC Activities	Mar-22
National	Sustain	PINCER pharmacist-led information technology intervention for medication errors	MO	Sep-20
National	STOPPED	ESCAPE-Pain	MSK	Mar-21
National	Ongoing	Transfer of Care Around Medicines - TCAM	MO	Mar-21
National	Sustain	Emergency Laparotomy Collaborative - ELC	QI for surgery	Dec-20

Activity over the 6-month period

CVD Prevention (National - NEW) – Covers several activities

Background: Cardiovascular disease was highlighted as a priority area within the NHS Long Term Plan, with a clear ambition to prevent 150,000 strokes, heart attacks and dementia cases over the next 10 years. To underpin delivery of the long-term plan, Public Health England has developed a set of cardiovascular

disease ambitions that focus on improved detection and management of three high risk conditions for CVD – atrial fibrillation (AF), hypertension and high cholesterol.

The AHSN CVD prevention programme aims to build on the AF programme and incorporate hypertension and lipid management. In year one, all AHSNs will work on the lipid management pathway with a small number of AHSNs also working on case finding and optimisation for familial hypercholesterolemia and optimisation of hypertension medicine with the aim to increase the number of people receiving therapy in line with NICE guidelines for hypercholesterolemia and hypertension.

Start date: The project will launch in October 2020

- Stakeholder engagement has taken place through various forums and through direct conversation with CCG and CVD leads.
- Various meetings have been held with the national team to discuss potential project structures and methods of searching primary care data bases.

Impact over the previous 6 months: The project is at an early stage (set up) however, working groups have been agreed through stakeholder engagement and the project objectives are now on the local agenda.

Activity next quarter: Formal project launch; Development of project proposals to share with stakeholders. *See page 6 for Bayer Project: Management of stroke patients discharged during the COVID-19 pandemic (reset).*

FREED (First episode Rapid Early intervention for Eating Disorders) (National)

Background: FREED is an innovative, evidence-based, specialist care package for 16 to 25 year olds with a first episode eating disorder of less than three years duration. FREED aims to overcome barriers to early treatment and recovery and provides highly co-ordinated early care, with a central focus on reducing the duration of an untreated disorder. It consists of a service model and a care package.

Scope and Activity: FREED seeks to reduce waiting times for assessment and treatment which can vary between areas and address some of the issues commonly faced by young people with an eating disorder as they move from children's services and begin their adult life (employment, university and leaving home). The AHSN has been engaged with each of the eating disorders services operating across the Thames Valley; including Milton Keynes (who fall under the auspices of Bedford, Luton and Milton Keynes, BLMK, in this instance). Work included:

- Initial engagement with service leads and co-ordinators
- Developing a person specification and role description to recruit FREED Champions. The FREED Champion is pivotal to the success of any FREED services as the primary co-ordinator of the approach
- Two successful submissions were made during the last quarter to receive funding to support the recruitment of a FREED Champion by Berkshire and the Buckinghamshire Eating Disorder services
- Supporting both services to recruit to this role and participating in a South East-wide buddying system to share good practice from across the patch (including KSS and Wessex)
- Engagement with other AHSN partners (UCL Partners, Eastern AHSN and Imperial) to discuss Milton Keynes services and readiness for FREED.

Engagement: Links with all eating disorder services in Berkshire Health NHS Foundation Trust, Oxford Health NHS Foundation Trust and Milton Keynes (with input from UCL Partners who cover the BLMK patch) have been established. Engagement through the existing Thames Valley Eating Disorders Best Practice Group as co-ordinated through the Hampshire/Thames Valley Clinical Network and the establishment of a South East forum.

Impact: Engagement has been positive and although teams require additional resources and support from seasoned FREED practitioners in some areas, the discussions have been productive. The creation of the EOs have helped focus the attention of teams who are also dealing with the impact of coronavirus.

Activity next quarter: Once the grant for the FREED projects has been provided, work with successful teams to recruit FREED Champions using the NHSE/I grant and initiate shaping the service to ensure it is FREED compliant by March 2021.

Develop the South East collaborative approach to share knowledge between AHSN colleagues and Eating Disorders Services to extend the learning, drawing on expertise from SLaM and The FREED Network.

PINCER

Background: PINCER is a pharmacist-led information technology intervention for reducing clinically important errors in general practice prescribing. It has been shown, in a large cluster randomised controlled trial published in [The Lancet](#) to reduce medication error rates by up to 50%. A published [economic analysis](#) showed introducing PINCER was cost effective, demonstrating an increased quality of life for patients (0.81 Quality Adjusted Life Years per practice) and an overall reduction in costs of £2,679 per practice.

Programme Name	Measure/Goal	Target	20/21 Q1 Position	Comment	Status
PINCER	Number of Practices Adopting PINCER	193	206	Target surpassed, and focus now on embedding PINCER as business as usual	

Oxford AHSN was the first AHSN nationally to reach its two-year NHSE target with 206 Pharmacists and GP at 80% of total Practices, adopting PINCER with QI methodology and root cause analysis. This has contributed considerably to the overall national AHSNs adoption percentage. The table below also shows how participating practices are performing above the national average in all areas.

Reset underway

Sustainability phase: Due to COVID, plans to train the recently recruited Primary Care Network Pharmacists in the Thames Valley were put on hold however, PRIMIS have now developed an online training offering for PINCER training, and we will be working with CCG teams and PCN leaders to take stock of all those that require training and support this role out.

Impact

The impact in terms of reduction in the number of patients at a lower risk of a serious adverse event and people trained in the PINCER methodology is impressive. Highlights are included in table 2.

Table 2: Impact of implementing PINCER

	National	Thames Valley
Participating CCGs	130 (68%)	4 (80%)
Participating GP Practices	2,430	212
Reduction in the number of at-risk patients identified in at least one prescribing safety indicator	13,387 patients (-14.4%)	2,338 patients (-18.4%)
Reduction in the number of at-risk patients for indicators associated with a GI bleed	10,559 patients (-25.9%)	1,819 patients (-30.6%)
Individuals trained	1,600+	230+ (to date)

(Note: 212 GP Practices have signed up to PINCER; 206 have uploaded baseline data)

Plans for next quarter:

- A final training session will be delivered to new Primary Care Network (PCN) pharmacists.
- A plan will be developed to handover sustainability of PINCER to ICS/PCN/CGG leads, to ensure that this is embedded and continued as 'business as usual'.
- To meet with the national leads and the supplier PRIMIS leads, to discuss ongoing training requirements, support and a sustainable cost-effective model for the GP Practices.

Transfers of Care Around Medicines (TCAM)

The TCAM project aims to reduce the number of patients being readmitted to hospital due to adverse medication events. Patients at risk of an adverse medication event are identified and referred by hospital pharmacists to community pharmacists through a secure platform called 'PharmOutcomes'. Community pharmacists can then invite the patient to a review where they are able to address any issues with the medication and re-emphasise the correct way to take the medication.

In Q1 2020/21 at Buckinghamshire Healthcare, progress was severely restricted due to the COVID-19 situation during which the focus of Trust staff understandably moved away from the relatively immature service to focus on the COVID-19 response. However, the trust was still able to make 38 referrals, 21 of which have been completed. **In Q2, the trust made 202 referrals (109 completed) which brings the current total for the year, on 20/12/20, to 305 referrals made.** Patients receiving a referral will be helped to take their medicines correctly and consequently be less likely to be readmitted to hospital. Those patients that have a TCAM referral but still become unwell and go on to be readmitted are shown to be 'less ill' and so have a shorter length of stay. Financial modelling of the benefits of TCAM show indicative savings to the local health economy of £285,398 since 'going live' in Buckinghamshire.

The development of the IT solution at Royal Berkshire, though delayed during the peak of COVID, has progressed well. In anticipation of a launch of service in late September we held a successful 'virtual' training event for community pharmacists via Zoom to remove the need for face to face contact.

Plans for next quarter: We will continue to work to increase the referral rate at Buckinghamshire Healthcare. Royal Berkshire is close to completing the IT integration and should be able to begin referring patients in October. Oxford University Hospitals has expressed an interest to use TCAM for patients being discharged into a care home setting but states a lack of capacity in the pharmacy department and a recruitment freeze at the Trust has resulted in them not being able to progress this work.

Emergency Laparotomy Collaborative (ELC)

Emergency laparotomy is a major surgical procedure, with around 50,000 operations performed annually in the UK. It is a high-risk procedure, with significant rates of mortality.

Reset: The ELC programme within the Oxford AHSN footprint, just prior to the pandemic, was showing improvements across all hospitals performing this high-risk surgery, with comparison nationally in some metrics, together with increasing attendance at the regional ELC meetings. The impact of the pandemic on this body of work has been profound, not least because anaesthetic colleagues have been in the front-line response but, significantly also, because the 'request to senior management at each Trusts to support the critical path to sustainability of best practice has, by necessity, been paused. As services re-start, revisiting the conversation for senior support would offer the greatest chance to attain and sustain the adoption of best practice.

Without establishing the final structures to attain and sustain the adoption of best practices in emergency surgery, learnings from earlier waves of the Programme demonstrate there is a significant risk that the hard-found progress made through the Programme, is likely to revert at most sites to pre-Programme levels.

Whilst framed as a national programme that incorporates a national audit (NELA), the role of Site Lead is one of a Change Manager. These local clinical champions need time in their job plan to present the evidence-base for adoption of best practices to their colleagues across disciplines, to present to colleagues local performance compared against regional, national and similar sized hospitals and to analyse existing pathways and areas to trial quality improvements.

Critical Path to Sustainability: To deliver on the aims of the ELC Programme, specifically, the critical path to sustainability has four key components:

1. Emergency Laparotomy Pathway signed off by the Trust Board
2. Governance: reporting to a suitable responsible body
3. EL work in the job plan for site leads plus more time allocated for those with less than 1PA currently.
4. Support for section 7 data entry (a Research nurse or equivalent for 5 hours per month) to free the Clinical Lead to engage colleagues.

Other local challenges to address after putting in place the above:

- Timely theatre access
- Job planning for Geriatrician/ Perioperative Physician support. Support from these professionals currently (if at all at some sites) is not sustainable without job planning. Some sites are exploring an expanded perioperative role for anaesthetists but again, this needs senior support.
- Critical care access as mandatory for all ELC patients. As a minimum, for patients with a pre-theatre mortality risk of 5% or greater. Further site-specific challenges remain.

Impact: The total number of emergency laparotomies in hospitals implementing the pathway for Q2 was 502. The emergency laparotomy teams have had varying success at completing the national audit requirements during the considerable Covid-19 burden upon delivery of care and reflects the stage of progress that had been achieved towards introducing pillars for sustainable best practice prior to the pandemic. All sites have been and remain, significantly challenged by the pandemic.

This project is now complete from the perspective of national targets and local delivery. However, when services ultimately re-start, revisiting the conversation for senior support for the critical path to sustainability, would offer the greatest chance to enable and retain attainment of best practice.

AI Award involvement

Background: “The Artificial Intelligence (AI) in Health and Care Award is run by the Accelerated Access Collaborative (AAC) in partnership with NHSX’s AI Lab and the National Institute for Health Research (NIHR). The aim of the award is to create a pipeline of technologies ready for national roll-out across the health and social care system.

The Award will deploy £140 million over three years to accelerate the training of technologies, the testing of trained technologies, and the real-world evaluation of the most promising AI technologies which meet the strategic aims set out in the NHS Long Term Plan. The Award comprises part of the £250 million funding allocated by the Department for Health and Social Care to establish an AI Lab aimed at improving the health and lives of patients.

Kent Surrey and Sussex AHSN supported by Oxford AHSN and South West AHSN have been appointed to coordinate the initial iteration of the Award, to include feedback on the initial processes laid down by the responsible bodies to develop and refine them.

The primary purpose of evaluations of Phase 4 technologies is to help determine whether the AI technology should be adopted across the health and social care system. The evaluation objectives are to establish the effectiveness, accuracy, safety and value of the use of the technologies in the deployment test-site setting.

Scope and activity in the last quarter: The first call attracted well over 500 companies that have been filtered to a short-list of twenty by a national team, before final selection of ten technologies by a national panel.

Teams from AHSNs, CSUs, academia and potentially some commercial bodies were invited to apply for selection to become Technology Specific Evaluation Teams (TSETs), that will evaluate the AI technologies.

KSS, Oxford and South West AHSN are now involved with 'evaluating the evaluators' by assessing the applications to become TSETs and providing advice and feedback in the initial stipulated processes for this. A further round of TSET appointments is expected before end October.

Impact: the AI Award needed detailed structure to support the Programmes ambitions. Oxford AHSN has supported the development of this structure and provided key feedback to identify where gaps or limitations in process remain.

Having also been selected as an evaluator of two of the Phase 4 award winners, Oxford AHSN will continue to offer a significant contribution to the application of artificial intelligence technologies in the NHS.

Opportunity: There is increasing drive nationally to develop experience and capacity to evaluate digital technologies in the real-World NHS. Beyond our contribution to the AI Award activities, the CIA team has started team training in real-world analysis to expand our internal capabilities to meet the demand for these skills.

Technology Specific Evaluation Teams (TSETs)

During Q2, the CIA and SIP Teams applied to NHSEI/X to be lead TSETs and has been successfully appointed to manage two of the phase four technology winners – Brainomix and Ultromics; This activity will involve supporting evaluative and deployment activities that will facilitate wide scale adoption across the NHS in the UK.

Other Evaluation Activities

As part of the local, regional and national deployment activities undertaken, the CIA team has been working on improving the stroke pathway for effective thrombolysis and mechanical thrombectomy. This includes pathway redesign and quality improvement activities that incorporates the Brainomix AI Technology. The AI tool was initially introduced in the Thames Valley area to support stroke decision-making for mechanical thrombectomy but has subsequently expanded to the SE Region during the COVID period. Being appointed as the national TSET for the Brainomix technology enables us to bring together all aspects of the evaluation and deployment requirements that will enable large scale effective national roll out. The diagram below shows the objectives of these activities.

Brainomix and AI Stroke Evaluations

Thrombectomy Innovation & Transformation Network (TITAN) Started June 2019 – 3 years

Objectives:

1. Demonstrate integration capability of AI-enabled support NHS network
2. Impact on the total number of MTs and thrombolysis given
3. Evaluation of patient flow metrics e.g. CT-to-decision time, door-in-door times, no of patients transferred and proportion transferred who undergo MT
4. Clinician satisfaction and practice impact evaluation
5. Cost-effectiveness analysis to contribute to a NICE technology appraisal.

SE Region Deployment & Evaluation Started May 2020 – 2 years

Objectives:

1. Pathway changes such as roles/responsibilities; protocols; door to needle times for thrombolysis; process times door in/out.
2. Perception of clinicians on the usefulness of the technology such as acceptance as to decision support tool and sharing of imaging to facilitate coms between clinicians.
3. Ease of implementation and use.
4. Difficulty of the implementation
5. Utilisation analysis.

AI Award Phase 4 Evaluation Starts Nov 2020 - 3 years

Objectives:

1. Safety – Key risks, assurance mgt in place
2. Accuracy – in the real world environment
3. Effectiveness – outcomes for clinical, operational etc (user experience and satisfaction)
4. Value – Health economics
5. Fit with site – risk assurance mgt in place
6. Feasibility of scale up – timeline/strategy/adaptability assurance
7. Implementation considerations – integration/training/associated costs
8. Sustainability of scale up – continuity of organisation fit/continuous evidence generation/evaluation

Accelerated Access Collaborative Products Update

Project Type		Project Titles	Brief Description	2020/21 Progress Q2	End
National - AAC (RUP)	ONGOING	Heartflow	CVD - 3D scans	(100 scans appropriately used) Activity during Q1 and 2 has been lower than in previous quarters due to CV-19.	Awaiting confirmation MedTech funding mandate 2021/2022
National - AAC (RUP)	Finished	UroLift	Treatment of benign prostatic hyperplasia (BPH, enlarged prostate)	No patients treated with UroLift during Q1 and 2 due to CV-19. After a delay due to COVID, work restarted with PTF project sites and BHT project has now completed.	Payment via nat. tariff
National - AAC (RUP)	ONGOING	Cladribine	Relapsing MS	Met with Key Account Manager. MS consultant (Frimley) contacted.	TBC
National - AAC (RUP)	ONGOING	Placental growth factor (PLGF)	Pre-eclampsia diagnosis	(No of placental growth factor based tests supplied = 825) >80 Trusts now adopted PLGF based testing nationally under ITP funding scheme	Awaiting confirmation MedTech funding mandate 2021/2022

Project Type		Project Titles	Brief Description	2020/21 Progress Q2	End
National - AAC (RUP)	ONGOING	PCSK9i	inhibitor drugs that lower LDL cholesterol	(Half the no of PCSK9i devices dispensed: 225 for Q2) 2 Pathway transformation projects being initiated. Slight delay and change of scope due to COVID disruption.	Restart Sep2020
National - AAC (RUP2)	NEW	Asthma Biologics for treating severe Eosinophil Asthma	Respiratory	Oxford AHSN leading. Pre-launch event held as well as 2 product working group meetings	Mar-21
National - AAC (RUP2)	NEW	Measuring Fractional exhaled nitric oxide (FeNO) concentrate in asthma	Respiratory	Pre- launch event held. Key workstreams and leads identified.	Apr-21
National - AAC (RUP2)	NEW	High intensity statins and Ezetimibe (being covered by the PCSK9i prog.)	CVD	Pre- launch event held. Key workstreams and leads identified. Workstreams likely to align with PCSK9i work above.	Mar-21
National - AAC (RUP2)	NEW	Tamoxifen - Familial Breast Cancer (tbc)	Blocks the effects of oestrogen hormone	Nationally, details are to be confirmed.	Mar-21
National - AAC (ITP)	ONGOING	GammaCore	For use in the treatment of Cluster Headache	No activity during Q1 but restarted in Q2.	Awaiting confirmation MedTech funding mandate 2021/2022
National - AAC (ITP)	ONGOING	Endocuff Vison	Colorectal QI - gives optimal view of colon	No activity to report.	Mar-21
National - AAC (ITP)	ONGOING	Non Injectable Connector (NIC)	Can take a sample but can't inject in the arterial line.	Activity continued during Q1 and 2.	Mar-21
National - AAC (ITP)	ONGOING	Plus, Sutures	Contains antiseptic triclosan that inhibits bacterial colonisation	No activity to report.	Mar-21
National - AAC (ITP)	ONGOING	SpaceOar Hydrogel	Provides space bet. The rectum and prostate during radiology.	No. Of patients injected 11 during Q2.	Mar-21
National - AAC (ITP)	ONGOING	SecureAcath	Secures PICC subcutaneously reduces central line associated bloodstream infections	No of SecurAcath sold=1492. Activity slowed during Q1 and 2 compared with previous quarters.	Awaiting confirmation MedTech funding mandate 2021/2022
National - AAC (ITP)	ONGOING	Fecal Microbiota Transplant (FMT)	Treatment for Cdiff infection	No activity to report.	Mar-21

Asthma Biologics

This new National AAC programme is being led by the CIA team.

Tracey Marriott, Director of Clinical Innovation is the National Lead for the Asthma Biologics. This national programme will be supported by James Rose, Seema Gadhia (Lead Pharmacist), and Marianna Lepetyukh, (Project Manager). National working groups have been put into place, a Clinical Champion (Respiratory Consultant from Southampton Uni Hospitals) has been appointed and tasks have been agreed (see table below). A pre-launch meeting has been held that included AHSNs.

**Asthma Biologics
Working Group Priorities**

A review panel convened on 11th August 2020 with members including clinicians (pharmacists and doctors), representatives from NICE and the AHSN, and the National Clinical Director for Respiratory recommended focusing on these priority areas to support further uptake

Priorities/Areas of focus for delivery over the next 12 months	
1)	Modelling on variation in prescribing and referral practices across Trusts and regions as a tool to engage and discuss changes in practice
2)	Attempt audit of wait times for initiating biologics
3)	Grow home/self-administration and home monitoring
4)	Training and support for primary care clinicians (including pharmacists) in this specialist area
5)	Consideration of referrals from pharmacists and the role of the pharmacist in the new care model
6)	Development of a NICE endorsed algorithm / pathway whilst awaiting updating guidance
7)	Simplify referral criteria/triage process and consider developing a support tool
8)	Partner with a best practice network and use as a test bed to trial new approaches/pathways changes and utilise case studies
9)	Improve the uptake of new patients through upskilling primary and secondary care (and move away from a default of always using MDTs)
10)	Develop financial impact evidence
11)	Development of a code for severe asthma
12)	Development of an adoption scoping report to investigate barriers in prescribing biologics

NHS England and NHS Improvement

Next steps:

- A supplier meeting is taking place w/c 26th October.
- Set up delivery groups for tasks and produce a project plan.
- Set up a date for briefing the AHSNs.
- Collate information on the tertiary networks for baselining.
- Prepare information for briefing AHSNs.

South East Regional and Local Projects

Project Type		Project Titles	Brief Description	End
Regional	NEW	Leading on the AI Evaluation across the SE for AI stroke d-making tool.	AI/digital	Mar-21
Regional	NEW	Sleepio (Innovate UK)/SE Region	Mental Health	Oct-21
Regional	NEW	Remote Patient Monitoring at Care Homes/SE Region	Care Homes	Oct-21
Local Workforce	ongoing	Practical Innovation Adoption and Change Management MSC Course	Workforce	Mar-21
Local Workforce	ongoing	Meds Optimisation Leadership Course (CPD accredited)	MO	Mar-21
Local Workforce	ongoing	Meds Optimisation Action Learning Sets (CPD accredited)	MO	Mar-21

Local Workforce	ongoing	Meds Optimisation - Opioid	MO	Mar-21
Local	NEW	Cancer project opportunities working with Cancer Alliance and Cancer Centre	Cancer	Mar-21
Local	ongoing	Heart Failure local project Bucks (detect and treat - Novartis supported)	CVD	Apr-21
Local	ongoing	Elastomeric devices - early discharge	MO	Mar-21
Local	ongoing	Heart Failure - Implementation/spread mechanism with Novartis	CVD	Apr-21
Local	ongoing	Bone Health project being developed with other AHSNs	MSK/frailty	Mar-22

Regional Activities

The AHSNs within the South East Region have been working more closely over the last four months. Other AHSNs include Kent, Surrey and Sussex (KSS AHSN) and Wessex AHSN.

NHSEI requested that we chose three projects to implement across the South East. The three selected were: Sleepio (Lead AHSN – Oxford AHSN), Remote Patient Monitoring at Care Homes (Lead AHSN – KSS AHSN) and S12 (Lead AHSN – Wessex AHSN).

The lead AHSN will support the other 2 AHSNs to deliver the selected project. The CIA Team will add two of the above projects (Sleepio and Patient Monitoring) to our Portfolio; S12 will be deployed to our region by the Oxford AHSN Patient Safety Collaborative Team).

As you are aware, we have extensive experience with Sleepio, and are well placed to support the SE Region roll out. The Patient Monitoring of patients at Care Homes will be supported internally by the Care Home Group that spans across the Oxford AHSN programmes.

Sleepio – deployment to the SE Region – NEW

General Value Proposition for the innovation (abridged)

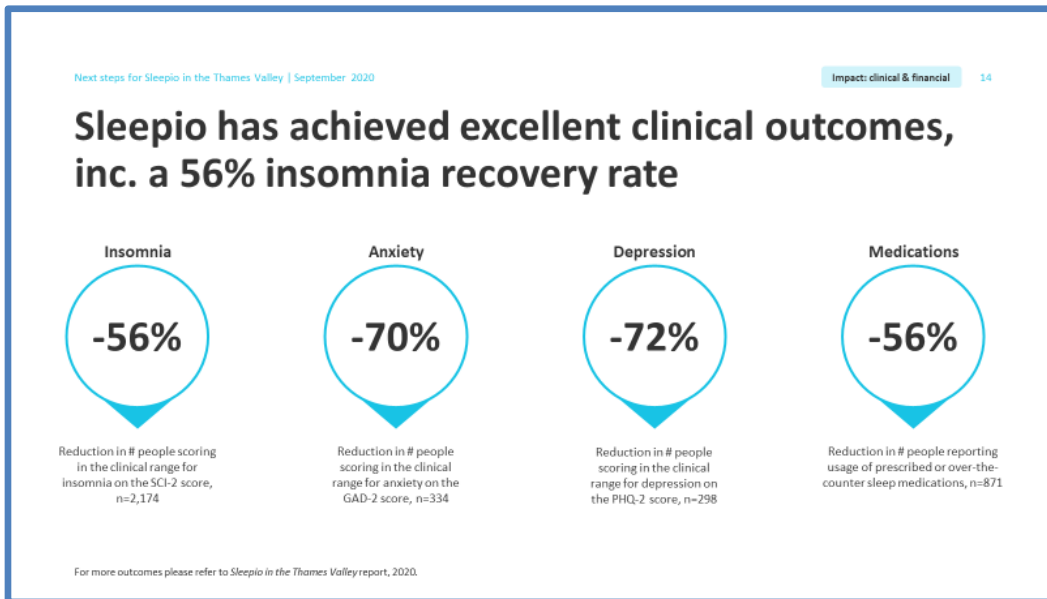
Sleepio was selected by Innovate UK and the Oxford AHSN for the Digital Health Technology Catalyst programme. The project ran for 18 months and was to test whether Sleepio could safely and effectively bridge the treatment gap for insomnia at scale across the Thames Valley region, covering 2.3m residents. Sleepio has been approved by NHS Digital and is available on the NHS Apps Library.

Mental health services were already under pressure before the Covid-19 pandemic, which is expected to create a wave of increased demand ([Centre for Mental Health](#), 2020). Further peaks may occur during spikes of Covid-19 cases and subsequent responses (e.g. local lockdowns).

This is combined with a need to avoid in-person contact where necessary, at least until an effective vaccine is developed and rolled out at scale across the country.

Health systems require innovative ways to meet growing demand for mental health services, and to cope with sudden peaks in demand that may arise due to e.g. local lockdowns, region-specific economic difficulties.

Sleepio offers a way to deliver clinically-evidence, safe and effective treatment for insomnia remotely and at scale, with unlimited capacity and no waiting times unlike traditional in-person care models. This will in turn, have a beneficial impact on demands for other mental health services such as depression and anxiety.



Health economics spotlight: projected primary care savings after introducing Sleepio

Projected cost savings driven by Sleepio, OHE report

Sample	1 year	65 weeks	2 years [†]	3 years [†]
Per person (95% confidence interval)	£2.36 (-£0.20 – £4.92)	£3.50 (-£0.01 – £7.02)	£7.24 (£0.70 – £13.78)	£12.22 (£1.64 – £22.80)
Nine practices	£25,273	£37,505	£77,493	£130,811
Buckinghamshire	£105,099	£155,969	£322,264	£543,992
Thames Valley	£447,596	£664,240	£1,372,458	£2,316,749
England	£10,894,090	£16,167,022	£33,404,436	£56,387,655

TABLE 5: PROJECTED REDUCTION IN PRIMARY CARE COSTS ASSOCIATED WITH SLEEPPIO ROLLOUT (*PROJECTION BEYOND THE OBSERVED PERIOD)

See *An Economic Analysis: Evaluation of Sleepio rollout in Thames Valley*, July 2020.

Sleepio has reached over 16,000 people in need of support

16,695

Registered patients who took Sleepio's 'Sleep Test'

7,078

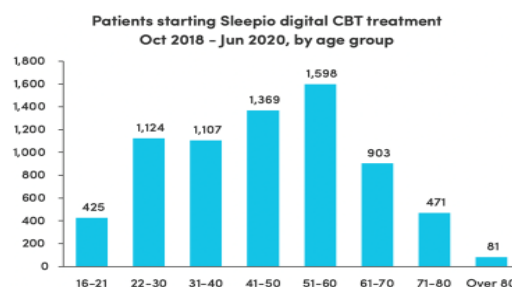
Patients who began Sleepio's digital CBT programme

981

Registrations via Healthy Minds Bucks IAPT service

19

GP practices actively prescribing Sleepio to patients



Activity in last quarter

- Initial meeting with South East AHSN colleagues from KSS and Wessex to share overview of Sleepio and distribution of the evidence gathered, and reports created as part of the initial Thames Valley project (October 2018 – October 2020).
- Initial meetings with Big Health to explore potential outcome measures that can be drawn from Sleepio and the current engagement (such as GP training and presentations within North Hampshire) across the geography. Desk research around existing, local support for those with poor sleep and associated issues within the KSS and Wessex geographies.

Plans for next quarter

- Develop Project Initiation Document and establish scope and focus of the project in collaboration with AHSN partners and Big Health colleagues.
- Regular reporting established and presentation to the Mental Health Programme Board to seek ICS 'buy in'.
- Extension of Sleepio's availability to benefit population within the wider geography using materials developed from the Thames Valley project.

Regional Activity – Remote Patient Monitoring Care Homes – NEW

There are several technologies within this space that may satisfy the requirements for this project. First steps for deploying this to the Oxford AHSN region will include, baselining what is already in use.

The highlights of this agreed project are based on a deployment that has already occurred within KSS AHSN.

General Value Proposition for the innovation:

Current Health is a passive remote patient monitoring wearable device which supports clinicians to monitor, manage and engage with their patients inside or outside of the clinical setting – specifically in their own homes or in care homes. This could be particularly useful for hospitals in the event of a second wave of CD-19.

It is a continuous monitoring device with integration into the electronic medical record.

At the point of use patients are provided with a simple device which they will wear as directed by the clinician. In most cases this is at discharge back into the community although it may be within a hospital setting in the case of a step- down use case or remote unit on the hospital site.

Other than wearing the device no other intervention from the patient is required other than responding to the service if they get in touch with them due to concern from the data they receive from the device.

Those monitoring the patients (GP, Hospital Trust, Community team etc.) will have access to a dashboard to enable them to review continuous data on that individual and will also have an automatic alert for risk and or deterioration.

Recent trials showed that training to deployment took less than 24 hours and that patients can be discharged earlier from hospital.

If a patient deteriorates at home the remote review facilitates a more-timely intervention in the home, which could avoid further deterioration and need for hospital admission. Adherence rates for Current Health were 92% (typical for remote monitoring is 50%) thought to be due to its passive, non-invasive approach. A recent study across 9 care homes showed an 87% reduction in A&E attendance from the norm.

In the community, current health can be used to reduce 'scheduled' visits to patients who are otherwise clinically well and coping at home and support clinically driven caseload management. Recent trials in Dartford & Gravesham on cardiovascular patients discharged from hospital showed a 22% reduction in physical home visits being required by clinician teams, a reduction in ED admissions and feedback from patients showed that they felt safer from having the device.

Regional Programme – Artificial Intelligence (AI) – AI Stroke Decision making evaluation for the South East Region

The CIA Team at Oxford AHSN was invited to evaluate AI stroke decision making support tools. The technologies being evaluated are decision support aids used for analysis of brain scans of patients with acute stroke to support clinicians decide the optimum treatment. These AI decision support tools use a variety of artificial intelligence approaches and have been designed by teams of clinical experts working with medical engineers and business experts.

Functionality of these stroke AI technologies typically contain automated analysis for some or all the following:

- The extent of infarction confirming stroke and extent of early damage
- Presence of a Large Vessel Occlusion (LVO) identifying patients potentially suitable for Thrombectomy (MT)
- Perfusion Analysis confirming stroke, extent of salvageable tissue with TPA (Tissue Plasminogen Activator)/MT
- A workflow function for rapid transfer between clinicians and sites accelerating delivery of TPA and MT.

The evaluation covers the SE Region.

The overall aims of the evaluation are to understand impact/gain insight into:

Influence on clinical decision making on whether to administer intravenous thrombolysis/or decision not to administer; Numbers treated and speed of treatment (door to needle time) or to transfer for Mechanical Thrombectomy, numbers transferred and speed of transfer (door in door out time).

- Pathway changes such as changes as to who does what, changes to protocols for thrombolysis administration and how triage and transfer of patients for mechanical thrombectomy occurs.
- Perception of clinicians on the usefulness of the technology (this will include queries on the confidence in the software)-acceptance and utility as a decision-support tool.
- Ease of implementation and use.

Local – Cancer- NEW (early stage)

Situation:

- The CIA programme has been keen to work with the regional systems on cancer pathway improvement/innovation activities. There has been interest in collaborative working from the TVCA on Rapid Diagnostic Centres.

Background:

- Cancer is a key part of NHS delivery: Long term plan
- Oxford AHSN has been part of the TVCA for a few years however, there has recently been a new focus on delivering on the Rapid Diagnostic Centres.
- NHSE SE medical director is keen for the AHSN to get involved in the development of the RDC.
- COVID 19 has compounded waiting times, and will impact on clinical outcomes

Assessment:

- New leadership at TVCA
- Switch from RDC with more of a focus on Rapid Diagnostic Services starting with Lung and Colorectal Cancer
- Oxford AHSN can aid the development and introduction of innovation: identifying need and linking in with solutions
- May further develop relationships with local partners

Approach:

- Oxford AHSN would like to become a key partner in the RDS work
- However, we need to clarify our scope and what we can offer
- This opportunity should link in with solutions and build partnerships with local research and innovation teams.

Local – Polypharmacy**Background**

Polypharmacy, the concurrent use of multiple medications, has been described as a significant public health challenge. It increases the likelihood of adverse effects, with a significant impact on health outcomes and expenditure on health care resources. Polypharmacy is a key part of the WHO Global Challenge to reduce harm from medication errors by 50%.

[Medication Safety in Polypharmacy. World Health Organization.](#)

The WHO state: *“appropriate polypharmacy should be considered at every point of initiation of a new treatment for the patient, and when the patient moves across different health care settings.”*

The Polypharmacy project started with four initiatives. These were jointly identified with Medicines Optimisation Leads.

1. **Polypharmacy Data Packs:** The development of CCG Polypharmacy Data Packs to support identification of priority areas. This data was based on the National Polypharmacy Comparators.
2. **Polypharmacy Action Learning Sets:** The adoption and spread of the Polypharmacy Action Learning Sets (ALS) developed by Wessex AHSN and Health Education England.

3. **Me and My Medicines Campaign:** A patient created, and clinician supported campaign to support people to have more meaningful conversations with clinicians about their medication.
4. **Safe use of Opioids:** To deliver a regional workshop on opioids and the problems associated with their use to understand regional issues, share practice and discuss system-wide initiatives.

Activity in Q1 and Q2

The scope of the project changed during the Covid 19 period. Some elements were delivered. Other elements are on hold. A new element has been added. The change is described below.

- **Polypharmacy Data Packs:** These have been produced and circulated to CCG and Acute Trust Medicines Optimisation Leads within the region. Feedback has been received
- **Polypharmacy Action Learning Sets:** The first session was delivered face to face to 45 healthcare professionals, GPs and Pharmacists, across Thames Valley. The second two sessions were redeveloped to be delivered remotely. This were on 30th Sept. and 7th Oct. 2020
- **Me and My Medicines Campaign:** A proposal has been circulated to Thames Valley CCG and Acute Trust Medicines Optimisation Leads. East Berkshire had been keen to start to engage, however, due to the prospect of a second wave of Covid, discussions have been paused
- **Safe use of Opioids:** A regional opioid prescribing data pack has been produced and circulated with comparative data from all the national data sets. In addition, a proposal to hold a regional opioid workshop has been developed and circulated. An agenda has been created and speakers contacted. However, this initiative has been paused. A different approach is being developed
- **Risk stratification and medication reviews (new):** A request had been received from the CCG MO leads to review risk stratification tools that could be used to prioritise care home residents for medication reviews. This has been completed and circulated

Engagement: Wessex Academic Health Science Network, Yorkshire and Humber Academic Health Science Network, Health Education England, Regional CCG Medicines Optimisation Leads, Regional Acute Trust Medicines Optimisation Leads, pain management consultants and leads

Impact

Qualitative

Positive feedback has been received following circulation of the Polypharmacy and Opioid Prescribing Data Packs and delivery of the Polypharmacy Action Learning Sets. Some areas have used the Polypharmacy Data Packs to identify areas to focus on in their pre-Covid 2020/21 workplans e.g. anticholinergic burden.

Quantitative

- 5 Polypharmacy data packs have been produced. Once for each area in the region
- A Thames Valley wide benchmarked opioid prescribing data pack has been produced
- 45 healthcare professionals (GPs and Pharmacists) across Thames Valley attended Polypharmacy Action Learning Set 1. 32 attended Polypharmacy Action Learning Set 2 +3.

Plans for next quarter:

- To start planning the new approach to the opioid work. This will involve working with the Patient Safety Collaborative on the opioid element of the Medicines Safety Programme
- To scope if the Thame Valley Medicines Optimisation Collaborative Network could be used as a forum to discuss and shape AHSN MO projects and initiative

Bone Health

Background: This is a primary care-based medicines optimisation project that aims to improve the management of patients with osteoporosis who are at high risk of sustaining a fragility fracture. A similar project is also being deployed by four other AHSNs who are collaborating to deliver the “Northern Bone Health Programme”.

The AHSN is working collaboratively with the University of Oxford and PRIMIS to initiate a local project with GP practices to ensure patients with osteoporosis are managed in accordance with NICE guidelines and are optimised on treatment. The project will include a review of patient and clinician education and identification of potential gaps.

Activity in last quarter: This work paused due to CV-19, however it restarted at the end of Q1 with an initial stakeholder meeting held at the end of June 2020. Work is progressing to finalise contracts with the University of Oxford and PRIMIS, and work is nearing completion on building and incorporating the case-finding 'know-how' into PRIMIS's existing osteoporosis tool. Once the contracts have been finalised, work will commence on engaging with GP practices regarding the project.

A review of the current, freely available, clinical education courses has been undertaken, and work commenced on engaging with key patient groups to discuss education and information needs. This work will continue next quarter.

Plans for next quarter:

- Finalise contracts
- Finalise and sign off case finding 'know-how' within the osteoporosis tool
- Identification of GP practices to participate in the project
- Developing plans and timeframes to commence within GP practices
- Engagement with key patient groups to discuss education and information needs / gaps.

Elastomeric Devices

Background: Elastomeric devices are small, single use pumps used to administer medication such as IV antibiotics or chemotherapy and can be used in patients' homes. As the pressure on hospital beds is significant, Trusts are keen to explore alternative ways to treat patients safely and effectively that either can facilitate an earlier discharge from hospital or prevent an admission to hospital. Elastomeric devices could be used to support both the discharge of patients who would otherwise remain in hospital purely to receive IV antibiotics, and to support the prevention of admissions for such patients.

Activity in last quarter: Work on this project paused due to a shift in focus to CV-19 activities. However, work restarted at the end of Q1 as this project may be of significant interest to other Trusts and help

support recovery plans. Data from OUH has been analysed and an implementation/support document has been drafted, which captures the outcomes and lessons from OUH, and aims to help other Trusts understand the potential benefits and assist with implementation.

Plans for next quarter:

- Finalise implementation support document
- Seek interest and engagement from other Trusts within the region

Excellence in Heart Failure

Background: Excellence in Heart Failure aims to improve medicines optimisation for heart failure patients in primary care. The project involves code cleansing to increase coded prevalence of heart failure and then review and optimisation of medicines to improve quality of life and reduce hospital admission. The project is being delivered to practices in Buckinghamshire via a joint working arrangement (JWA) between Oxford AHSN and Novartis. Through this JWA Novartis have appointed Interface Clinical Services to support practices in running clinical audits and reviewing patients.

Oxford AHSN has signed a JWA with Novartis to develop an implementation toolkit to support adoption and spread of Excellence in Heart Failure. This includes contacting other sites across the country who are working on similar projects to learn from their project data and delivery insights.

Activity in last quarter: Delivery of the project was put on hold at the end of March 2020 due to COVID-19 and the need to reduce face to face contact with patients.

Stakeholder meetings were held in July and August 2020 to discuss the changes required to the heart failure pathway during the COVID period and the ways in which the project may need to adapt. The aim is to formally restart the project in October 2020.

Results to date:

- To date, 16 practices have taken part in the project:
- Heart failure registers have increased from 1524 to 1848
- LVSD coding has increased from 561 to 1096
- 422 patients have had a face to face review
- 231 patients had a pharmaceutical intervention
- 102 patients were referred onwards for specialist intervention

Plans for next quarter:

- Restart project October 2020
- Review and publish toolkit

The Adopting Innovation and Managing Change in Healthcare Settings Programme

Background: The Adopting Innovation and Managing Change in Healthcare Settings Programme is designed to help healthcare professionals identify and introduce new ways of improving patient care and to teach about innovation adoption/quality improvement and managing change within health care settings. The

programme is a collaboration with Bucks New University and Oxford Academic Health Science Network with the programme sponsored by Health Education England.

Activity in last quarter: The programme has been impactful for the region since its inception, contributing to the upskilling of the region’s healthcare workforce. With the introduction of the NHS Long Term plan, the establishments of Sustainability and Transformation Partnerships (STPs) and Integrated Care Systems (ICSs), the scope of the programme was redefined to align with these. As a result, new content was introduced focusing on the systemic change and integration of healthcare services. This was aimed to challenge the students to direct them to consider the impact of their project proposals to the healthcare system holistically. The redefined programme was first introduced with cohort seven and feedback have been positive.

Cohort eight has commenced in February however the programme has been postponed late March due to the COVID19 pandemic.

Activities for next quarter: The programme resumed in September 2020 and for the first time the course has been delivered online. The online offering was considered in response to the COVID19 situation and accommodating the need of the students, which are all NHS and healthcare professionals. The restart will include cohort seven module two and cohort eight module one. Additionally, Cohort nine will also commence in September.

Cohort nine consists of 28 healthcare professionals from primary care, local NHS organisations and NHS trust within the region.

Applications for Cohort 10 will be open on October 2020.

Engagement by Trust

Organisation	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	Cohort 7	Cohort 8	Cohort 9	Total
Berkshire Healthcare NHS FT	1	5	2	0	2	7	0	5	22
Oxford University Hospitals NHS FT	21	4	4	12	8	6	6	14	75
Oxford Health NHS FT	1	3	4	6	4	4	3	0	25
Buckinghamshire Healthcare NHS Trust	0	8	5	1	9	4	0	0	27
Great Western Hospitals NHS FT	2	3	0	1	2	0	1	0	9

Organisation	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	Cohort 7	Cohort 8	Cohort 9	Total
Frimley Health NHS FT	0	0	4	1	0	8	0	2	15
Milton Keynes University Hospital NHS FT	1	1	0	0	0	0	0	0	2
Royal Berkshire NHS FT	1	0	0	0	0	1	3	1	6
Primary Care/CCGs/ICS/Others	0	1	1	3	0	0	13	6	24
					Cohort 6				33
					Total Students Trained				238

Data Analysis 6-month Report

COVID19 - Telephone, Online and Video conferencing for GP practices in BOB

This project used data from the 'South East Digital First Capability Tracker' spreadsheet, showing number of consultations by GP practice. We examined the effect of deprivation in BOBSTP on the number of online consultations, by grouping GP practices into quintiles based on deprivation score (IMD 2019), enabling us to see trends in the data for online consultation rates based on deprivation. We also analysed the effect of GP practice size on number of online consultations, by grouping practices in BOBSTP by size, enabling us to see trends in the data for small, medium and large GP practices within the region.

Axon 360

Gained a good understanding of the software and in the process of drawing up a quick user guide. Also, have been looking into extracting data for the IBD project under SIP and examining some data issues that have arisen with this.

Emergency Laparotomy

Recently provided some graphical data to Wexham and Frimley Health to use in a conference.

Pre-term Births

Ongoing project for Patient Safety examining different groups of babies who have been born prematurely and are admitted to a neonatal unit. Also produced analysis on the mothers of premature babies looking into the effects of giving mothers magnesium sulphate or antenatal steroids.

Data Analysis - Next Quarter

Software in Neuroscience for Stroke Decision Making project

This project is using data from the Sentinel Stroke National Audit Programme (SSNAP). We have recently received an extensive dataset from Royal Berkshire Hospitals which we are going to be analysing in the coming quarter. We are in the process of mapping some of these fields to a list of key metrics that we have, to identify the correct fields to use in our analysis. This work will be later extended to include other sites within the Oxford AHSN region.

Intelligent Intermittent Auscultation

This project is concerning foetal heart rate monitoring and a training programme for midwives which is associated with this. This data is from the e-learning system and shows how many midwives undertook the training programme and assessment, how many times they took to pass, scores and time taken. New analysis is soon to be required on a quarterly basis.

Rapid Diagnostic Centres

Possible work in the future for rapid diagnostic centres concerning cancer pathways.

NIHR Applied Research Collaboration Oxford and Thames Valley

Sarah Brown is the recently appointed Implementation Manager working on the Applied Research Collaborative and who matrix reports to the Director of Clinical Innovation Adoption at the Oxford AHSN.

Background: The Oxford and Thames Valley ARC <https://www.arc-oxtv.nihr.ac.uk/> started in October 2019 and runs for five years, ending in September 2020. There are 15 ARCs across England, all who have received funding from NIHR. The purpose of the ARCs is to undertake and implement applied health and social care research, based around local health and social care needs both for people and the systems the care is provided within. ARCs work in collaboration with AHSNs, universities, local NHS trusts, local councils and charities.

The Oxford and Thames Valley ARC (OxTV ARC) is hosted by Oxford Health NHS Foundation Trust and based at the University of Oxford's Nuffield Department of Primary Care Health Sciences. The Programme Director is Dr Richard Hobbs and the Implementation Lead is Professor Gary Ford.

Priorities for the OxTV ARC	Six major research themes
<ul style="list-style-type: none">• Improve patient outcomes across the Oxford ASHN region• Provide high-quality evidence of clinical and cost effectiveness• Lead evidence –based implementation nationally• Develop new services addressing key NHS and public health priorities• Improve regional and national capacity to conduct, high- quality world-class health and social care research	<ul style="list-style-type: none">• Disease prevention through health behaviour change• Patient self-management• Mental health across the life course• Improving health and social care• Applied digital health• Novel methods to aid and evaluate implementation

The OxTV ARC is working closely with the Oxford AHSN to implement ARC outputs into practise across the Oxford AHSN region and where appropriate across the South East and nationally.

Scope and key activities to date (October 2019- September 2020):

- 37 projects/ studies supported by the ARC (including 8 additional projects relating to COVID-19).
- Responsive funding call for COVID-19 projects.
- Supported the infrastructure for the large Oxford COVID-19 studies (PRINCIPLE, MAINSTREAM, RAPTOR, etc).
- Identification of additional joint evaluation projects between the OxTV ARC and AHSN through the new Programme and Implementation Manager role. This includes RESTORE2 (deterioration and escalation tool). This project also involves Bucks CCG and the regional CSU.
- Oxford AHSN early stage support for implementation of two ARC research outputs - Online Support and Intervention (OSI) for anxiety tool and OMRON hypertension+ platform/ app into GP surgeries.
- Public Involvement strategy redrafted, with input from our PPI champions, which now aligns to the UK Standards for Public Involvement in Research.
- Supported cross NIHR work programmes including Equality, Diversity and Inclusion, Charities Engagement, Impact and the development of the NIHR Value Framework.
- PPI webinars started to enable training to continue during the pandemic.

Engagement: The ARC core team are now all in post and developing relationships with existing stakeholders and partners, along with engaging with new ones. These include:

- Milton Keynes NHS FT
- University of Buckingham
- 4 potential industry partners
- Two new PPI champions working with the mental health across the life course and disease prevention themes.
- Working with PPI leads at Health Data Research UH and use My data

Potential Impact: Projects and studies within the OxTV ARC are predominantly in the early stages of research or evaluation. Some potential impacts have been identified earlier in the report. More detail will be added about impact over the duration of the ARC.

Plan for next quarter:

- Submit NIHR Annual report for October 2019 to March 2020 (Submission date 15/10/2020).
- Preparation for the virtual NIHR site visit (06/11/2020) to assess progress against the conditions placed by NIHR on granting the OxTV ARC award. Significant progress has been made over the last six months, particularly in the areas of concern around inclusion of public health, social care and mental health across the work programme.
- Hold next round of discussions between the ARC theme leads and AHSN (Gary/ Tracey and OXTV ARC Implementation Manager) to discuss progress in relation to potential adoption and implementation of outputs by Oxford AHSN.
- Build on work to support research capacity development locally amongst nurses, AHPs, public health registrars and social care staff.

International activities

Oxford AHSN is a Core member of the European Innovation Technology for Health (EIT Health). Tracey Marriott is a member of the EIT Health Board for UK-Ireland. Being a core member has enabled access to large funding opportunities from Europe that has benefitted SMEs and NHS Trusts in the region; This membership may end in December as there is no clarity on the UK's ongoing status with the EU.

Funding was won to undertake eMaps from EIT Health and the connection with other European Innovators has led to opportunities to utilise eMAPs in Europe along with interest in the UK.

European Market Access for Partners (eMAPs)

This is an online platform to support the life science Industry and innovators to understand how the NHS and other health sectors work in other countries; Its primary purpose is for preparing to access markets. The digital platform provides advice and information on key areas of market access including clarifying and testing value proposition, regulations and compliance, pricing and reimbursement, market structure, stakeholders and overall pathways for market access. Information has been developed for UK, USA, Germany, Italy, Portugal, France, Spain, Sweden and Denmark. The modules give information about digital, medical technology and BioTech within country's markets. This is an EIT Health KIC funded activity that is of benefit to the UK Life Science Market and others across the world.

Activities in last quarter: Content development activity with German and US partners completed during the last quarter with regular scheduled meetings taking place with the Portugal and Italy partners. These meetings include reviewing of content development, progress of modules, timeline overview and video production update. All draft content has been submitted by the German and US partners with Digital Health, MedTech and Biotech modules having been uploaded to the platform by the developers. Following the creation of static graphics and videos, the developers are now working on the outstanding animations. The internal review of completed US content on the platform is also partially completed. Following the launch of the public facing market readiness assessment. An internal more comprehensive market assessment tool has been developed and launched.

Innovate UK requested that eMaps be made available to SMEs in the Digital Health Technology Catalyst (DHTC) for the UK Digital and Value Proposition modules for delegates during July; This group of users were also introduced to the newly developed Market Readiness Assessment.

Work with the Association of British HealthTech Industries (ABHI) is on-going, which will result in the shooting of videos with 3 experts in the Market Access area for uploading to the UK area of the platform.

The platform is also being used by a Germany University for two cohorts, one of which has already been delivered. The second Erlangen Uni cohort will commence in the winter, with access being granted access to the US and German MedTech modules. This is part of a wider program of work (MDR 2-day regulatory Seminar) that has been arranged with input from the Oxford AHSN CIA Team on reimbursement scheduled to take place on 16th December.

Activities next quarter:

- Analysis and review of feedback of the UK content received to date.
- Review, and update of US and Germany MedTech modules (including external review and gap analysis, CMS updates made internally, and technical updates identified and relayed to developers for execution).
- Review, and update of Portugal and Italy modules (including external review and gap analysis, CMS updates made internally, and technical updates identified and relayed to developers for execution)
- Marketing of US and Germany modules to increase awareness of the platform.
- Source and attend online events at which the platform can be promoted.
- Completion and upload of videos with ABHI experts from their Leadership Team. Areas of filming will be digital, Regulatory and procurement and market access.
- Collaborative work with the Hill.
- Delivering a webinar at the Erlangen University MDR 2-day regulatory Seminar scheduled to take place on 16th December.
- Launch of eMaps Germany, USA, Portugal modules
- Completion of Migration to a new UK-based server which will result in increased speed and security in October / November.

Strategic and Industry Partnerships (SIP)

Strategic and Industry Partnerships support during COVID-19 peak

Lab Reagents: In April, the Strategic and Industry Partnerships team received a request for support from NHS England Pathology (South East regional team) to help in scoping out the available lab capacity and reagents in our region that could be brought into play to increase COVID-19 testing capacity. The ask was to identify any organisations with the following resources and identify those that they would be willing to offer support to the SE pathology service:

- CT and mobile imaging
- Trained microbiology or lab staff, especially those on furlough
- Any spare equipment or supplies
- Any complimentary initiatives
- Mothballed laboratory space

Members of the team (Lauren Hudson, Kieran Paterson, Ashley Aitken) called or emailed more than 120 companies to enquire as to what capacity was available for regional use, followed the initial contact up with an online survey to gather more details and then forwarded this information onto NHS Pathology South East all within one week of the initial request was made. The team used the companies list that was already available from the Oxford AHSN interactive map, targeting the bigger companies first, who were more likely to have spare capacity to offer, before working our way down to the smaller companies.

Laboratory Case Study: Cellmark, a commercial DNA testing laboratory, were contacted to see if they could help with the national COVID-19 testing efforts. Cellmark appreciated the Oxford AHSN contacting them, as they had been having difficulty in reaching a public health body to discuss their availability and willingness to help. Cellmark had the capacity, equipment and staff so Oxford AHSN facilitated conversations with NHS England and Oxford University Hospitals. With this support, Cellmark then received initial government funding and quickly launched a service providing testing to GP surgeries and care homes which was successful. Cellmark continue to perform COVID-19 testing on a commercial basis and hope to receive further funding to continue their partnership with the NHS to perform this vital service.

Diagnostics Innovation team: Two members of the Strategic and Industry Partnerships team, Ashley Aitken and Flora Hatahintwali, were seconded to the Covid-19 National Testing Programme for a period of three months and additional members of the team (Lauren Hudson, Florence Serres, Kieran Paterson) provided help with the early stage triage of innovations. The remit of the newly formed Diagnostics Innovation Team, led by the AHSN Chair Piers Ricketts, was to improve the current testing processes and help to triage and introduce new technologies into the national COVID-19 testing programme to increase testing capacity from 200,000 tests per day to 500,000 tests per day by the end of September. There were six main workstreams, and the AHSN team members acted as project managers for two of these workstreams, viral inactivation and non-swab sampling helping to drive through these two innovation projects as they moved through the evaluation process. The goal of these two workstreams was to allow greater ease of testing large numbers of people while opening further lab testing capacity, without the need for large amounts of investment into the testing system. The evaluation process involved both scientific and clinical validation of the technologies, investigating the logistical and supply chain implications of implementing these projects

at a national level, and the running of a small-scale real-world pilot which drew heavily on the expertise that the SIP team members already has in these areas. The project managers worked with numerous stakeholders from various government departments and monitored the project progress ensuring that planned activities happened as scheduled, while raising risks and issues as they were encountered.

Scientific Advice: Our Director, Julie Hart, was also seconded for a period of three months to act as Scientific Advisor to the Diagnostics Innovation Team's Director, Piers Ricketts. Julie has since provided ad hoc scientific advice to the Diagnostics Innovation Team. The Diagnostics Innovation Team has recently been incorporated into the Department of Health, Track and Trace team and Julie has been asked to act as one of five Core Scientific Advisors supporting the Technologies Validation Group (TVG) which reports into the Chief Scientific Officer of NHS England, Dame Sue Hill who is now responsible for lab capacity and technology validation. As a Core Scientific Advisor, Julie will triage products so that they can go through the appropriate validation process, undertake desktop reviews of potential testing products, collate and summarise evidence provided, engage with suppliers where appropriate (supporting screening calls, Moonshot and ongoing discussions), provide recommendations to both the Expert Panel and the TVG, provide scientific advice to stakeholder management, support development and revision of target product profiles, develop protocols for rapid validation and in-service evaluations as required and provide oversight of rapid validation and in-service evaluation activity (including the £1.3 million programme funded by National Institute of Health Research funded COVID-19 National Diagnostic Research and Evaluation Platform (CONDOR) jointly led by University of Oxford and Manchester University NHS Foundation Trust.

PPE: In response to the unprecedented demands on health services due to COVID-19, the Oxford AHSN provided a range of support to health and social care partner organisations. One priority area was Personal Protective Equipment (PPE), and the Oxford AHSN has worked with NHS partners, science parks, universities and manufacturers to source additional supplies of PPE. Engaging with our NHS partners, we understood what the need was for different PPE items, where the gaps were and where the greatest need was across our region, and we knew there was an urgent need for face visors. The Strategic and Industry Partnerships team was approached by a contact at the University of Reading and in turn the Oxford AHSN was introduced to CISCO who, as a result of COVID-19, had begun to manufacture face visors for the NHS. The Oxford AHSN was able to provide information to CISCO on the demand across our region and provide information back to our NHS partners on the potential supply from CISCO. From discussions with CISCO it was apparent they had given much thought and consideration to their operating procedures and processes to keep the manufacturing of the visors in line, as much as possible, with medical manufacturing requirements. By sharing these written protocols with NHS organisations along with sample visors, it was possible to provide information and confidence regarding the manufacturing quality of the PPE. Ashley Aitken helped support the PPE workstream, facilitating discussions directly between the suppliers and NHS organisations, and using the network to quickly share outcomes of sample reviews with other NHS providers thereby accelerating the uptake of additional PPE supplies in other organisations.

Digital First: Members of the Strategic and Industry Partnerships team (Matthew Lawrence and Flora Hatahintwali) assisted the Oxford AHSN Clinical Innovation Adoption Team with the Digital First and secondary care remote working programme. NHS England is supporting primary care to move towards a digital-first approach and using digital technology to transform the way clinicians and patients interact. As part of the long-term plan, by 2023/24 every patient in England will be able to access a digital-first primary care offer. Patients should be able to use digital and online tools to access all primary care services, such as

receiving advice, booking and cancelling appointments, and online consultation. During COVID-19 there has been an increasing demand and need to roll out the use of digital and online tools in secondary care and care homes, not just primary care. Out team members were part of a larger team looking to see what remote working options were available to our region. They carried out a scoping exercise with an initial focus of talking to different stakeholders in our region to establishing a baseline of what the sector has, what is working/not working and what help might be required. They also spoke to Wessex and Kent Surrey Sussex AHSNs to find out what has worked well, what digital and online tools were being rolled out / evaluated within their regions and share any lessons learnt.

Charity work: Rochelle Nelson volunteered as a Hub Coordinator two days a week at the John Radcliffe and Churchill Hospitals. Her role was accepting the deliveries of food packages for the staff on the COVID-19 wards and other items that were delivered from local businesses. Rochelle made sure the items were received and distributed to the correct wards and managed the daily volunteer's team.

Brainomix case study: Brainomix is an Oxford-based start-up which launched in 2010. Their vision is to “be a world leader in imaging software for neurological and cerebrovascular diseases”. The e-Stroke Suite software has been implemented in hospitals in Europe, Asia, North and South America. The Oxford AHSN is supporting the roll out of the e-Stroke Suite across Thames Valley and the South East region. In addition, with the COVID-19 outbreak, stroke teams that have local outbreaks have found themselves unable to provide a local stroke service with patients going to neighbouring units and non-stroke specialist areas instead, emphasising the importance of appropriate image-sharing software. The e-Stroke Suite supports rapid sharing of images across a network and new ways of working. Kieran Paterson worked with Dr Kiruba Nagaratnam at the Royal Berkshire NHS Foundation Trust and Brainomix to produce a case study detailing this artificial intelligence enabled imaging support solution (e-Stroke Suite) combined with digital connectivity to improve stroke care in an NHS network. The Clinical Innovation Adoption team will now support the evaluation of a 6-month pilot to scale the solution across the NHS England South East region.

PIGF-based testing: Guy Checketts reports that the adoption of Placental Growth Factor (PIGF) based testing to aid in the diagnosis of pre-eclampsia has continued to see national activity during the COVID-19 lockdown period. In the initial period of lockdown adoption activities slowed in many trusts due to near-term COVID-19 priorities as resource was diverted to more immediate concerns. Approximately half of all Trusts in adoption Stages 2 and 4 ceased all adoption activities during this time, with 14 Trusts continuing. A communique on the benefits of using PIGF-based testing to help keep women out of hospital during the pandemic, which was approved by the NHS England and Improvement COVID-19 Single Point of Contact team (ref. 001559), was released by the national PIGF Working Group to all adopters and potential adopters of PIGF-based testing in April. The communique aligns PIGF-based testing to updated Royal College of Obstetricians and Gynaecologists (RCOG) guidelines on managing pregnant women under COVID-19 conditions. Several Trusts initiated adoption of PIGF-based testing as a direct result of this communique, with 5 of these trusts implementing the test into standard clinical practice in just over 6 weeks of starting the process. PIGF Clinical Champions continue to offer support and advice to adopting and undecided Trusts, based on a prioritised list compiled with input from all AHSN's and both manufacturers. Innovation Technology Payment (ITP) funding has again been extended from the end of September 2020 to the end of March 2021. This is done in anticipation of a new funding mechanism for maternity services that is expected to go live in April 2021. Current activities of the National PIGF Working Group are focused on planning activities to support Trusts through this change. NHS England managers who are responsible for developing and delivering the new funding scheme have been drafted onto the National PIGF Working

Group so there is first-hand input on how the changes will affect maternity finding. By the 1st of June, all Trusts supported by Oxford AHSN had implemented PIGF-based testing into standard clinical practice, the first AHSN region to achieve 100% adoption. Nationally, over half of all maternity services have now introduced PIGF-based testing into standard clinical practice with over 40 more in the process of active adoption. Both manufacturers (Roche Diagnostics and Quidel Corporation) report that they expect to meet or exceed their internal sales projections for PIGF-based testing as a direct result of this Accelerated Access Collaborative rapid uptake project.

Communication leaflet: Ruby Urwin helped produce a leaflet on the correct way to take a nasopharyngeal swab following requests from clinicians unfamiliar in the technique. Since production of the leaflet and distribution of an instruction video produced by NHS Scotland, a paper was published by the Journal of the American Medical Association (JAMA) network detailed how SARS-CoV-2 nasopharyngeal swab testing can yield false negative results due to incorrect technique. A qualitative real-time polymerase chain reaction (PCR) from nasopharyngeal swabs is the standard test for SARS-COV-2 however, major concerns have been raised regarding the rates of false-negative results with sensitivity reduced to around 71%. Improper technique resulting in swabs not reaching the target site of the nasopharynx is a modifiable error. The trajectory from the nostril to the nasopharynx is often presumed to be up the nose but in fact the correct trajectory is along the floor of the nose in the direction back toward the ear.

Additional COVID-19 support: The Strategic and Industry Partnerships team contributed to the national horizon scanning for COVID-19 related innovations through the triage of company submissions through the HealthTech Connect platform and general queries to the team. Those innovations that were sufficiently close to full-scale roll out were added to the AHSN horizon scanning spreadsheet which were collated and forwarded onto the national COVID-19 programme for further review. The Strategic and Industry Partnerships team also provided support to two local COVID-related projects, both of which received input from Formula 1 teams while their race season was on hold. The first of these was marketing advice for “Oxford Box”, a collapsible Perspex box designed to contain aspirate during extubating and thereby helps to reduce PPE usage and reduce the clean-down time of a patient area or theatre from ~1 hour to ~10 minutes. The second project related to clinician decision making for the triaging of patients for suspected COVID-19 upon presentation at the Emergency Department. This is done to ensure that patients are cohorted appropriately and so avoid sending infected patients to green (non-infected) zones and vice versa. Consultants at Stoke Mandeville Hospital, part of Buckinghamshire Healthcare NHS Trust, have gathered data on 30 patients that they are analysing to determine if there is a benefit compared to currently accepted models. (Guy Checketts, Matthew Lawrence, Ashley Aitken, Mamta Bajre)

Strategic and Industry Partnerships update on Office for Life Sciences Local Implementation Plan

Continued funding was confirmed by the Office for Life Sciences at the end of March for the Strategic and Industry Partnerships team to continue supporting the Innovation Exchange. Initially the previous Local Implementation Plan was rolled over into Quarter 1 however a new Local Implementation Plan was requested to cover until the end of March 2021 and has recently been approved and signed off by the Office for Life Sciences.

Core Function 1: Identify need and communicate demand

Programme 1: Marketing communications (Lead: Ruby Urwin)

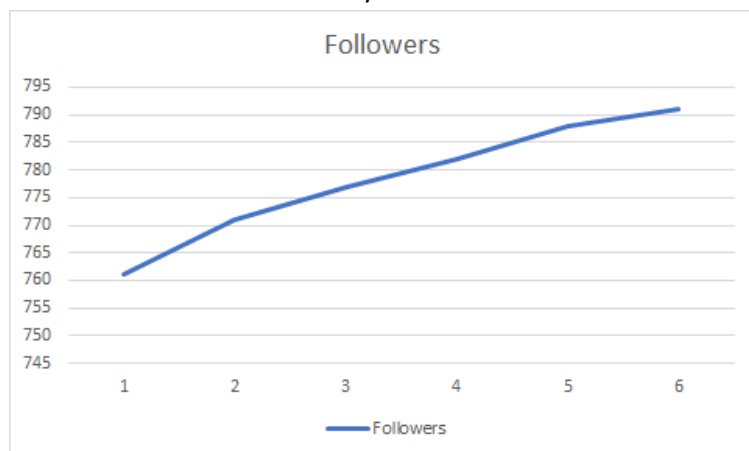
Objectives: Strategic and Industry Partnership programme will run local needs based driven calls through the Innovation Exchange and also increase its on line web presence through social media activities and Search Engine Optimisation of new content added to the websites along with development of three case studies per quarter from evaluation and economic growth activities with diffusion via appropriate channels (e.g. Atlas, OLS brochure)

During the last six months three case studies have been submitted to Atlas, with five case studies from the last year chosen to be in the next Office for Life Sciences economic growth brochure. The case studies submitted in the last six months were:



- **Perspectum Diagnostics** - The Strategic and Industry Partnerships programme is working with Perspectum Diagnostics, a company focusing on the accurate, quantitative measurement of liver, gallbladder and pancreatic disease, enabling early detection, diagnosis and targeted treatment.
- **POCKiT Diagnostics** - Funded by an Innovate UK grant awarded in December 2018, POCKiT Diagnostics is working with the Strategic and Industry Partnerships team, Newcastle University, Newcastle University Hospitals, Oxford start-up company Absolute Antibody and the University of Reading start-up company Capillary Film Technologies Ltd, to develop their biomarker panel test for stroke diagnosis.
- **Brainomix** - The Strategic and Industry Partnerships team has developed a case study detailing how Oxford AHSN is supporting wider regional roll-out of the e-Stroke suite backed by NHS England. This new artificial intelligence (AI)-driven imaging support software h has the potential to deliver huge benefits to hundreds of stroke patients each year and significant cost savings to the NHS has already been implemented at the Royal Berkshire Hospital.

The five case studies chosen for the next Office for Life Sciences economic growth brochure include Perspectum Diagnostics, POCKiT Diagnostics, Brainomix, the Oxford AHSN Accelerator programme and Trust on Tap. In addition, further case studies have been drafted including Roche Diagnostics and TrueColours IBD.

Twitter followers have steadily increased month on month.



The two most successful tweets over the six-month period were focusing on our work with Roche Diagnostics and Quidel on introducing PIGF-based testing for pre-eclampsia and with Roche Diagnostics on introducing Point of Care flu testing.

Tweets	Top Tweets	Tweets and replies	Promoted	Impressions	Engagements	Engagement rate
	Strategic & Industry Partnerships @SIPoxfordahsn · Mar 12	Did you know @OxfordAHSN is leading on implementation of PIGF-based testing for diagnosing suspected pre-eclampsia - helping improve patient experience and outcomes for mother and baby bit.ly/2Qsyg8U @RocheDiaUK @QuidelDX	2,052	17	0.8%	
Tweets	Top Tweets	Tweets and replies	Promoted	Impressions	Engagements	Engagement rate
	Strategic & Industry Partnerships @SIPoxfordahsn · Jun 2	We are working with @RocheDiaUK on implementing a point of care flu test which give results in up to 20 mins, helping to reduce pressures on the NHS during the COVID-19 outbreak. Get in touch to find out more healthandwealthoxford.org/contact-us/	1,894	9	0.5%	

The website has been maintained and regularly updated using Search Engine Optimisation (SEO). There has been an ~20% increase of page views compared to the previous six-month period. This means more pages are being looked at when visiting the website.

Page views this period	Page views previous period	Difference (%)
1751	1404	19.82%

There has been an increase of ~13% in new users visiting the website. This is users who have not visited the website within the last 60 days.

New users this period	New users' previous period	Difference (%)
743	644	13.32%

More people are staying on the website and looking through content that the previous period. The bounce rate has seen a reduction of ~11% meaning our content is proving interesting to the viewer.

Bounce rate this period	Bounce rate previous period	Difference (%)
66.20%	73.80%	-11.48%

Programme 2: Needs analysis (Lead: Mamta Bajre)

Objectives: To help innovators to understand and match health care needs and priorities, the Market Access team will work with innovators to help them understand the evidence requirements for their technologies to facilitate adoption

Working and adapting to the new COVID-19 world was very challenging for all the Strategic and Industry Partnerships team but especially the Market Access team who rely on access to clinicians to carry out their needs analysis. However, with regular catch ups, effective guidance from senior team management and persistence, the team overcame these unprecedented times. The Market Access team were still able to meet the work timelines and were constantly working towards achieving the evidence generation milestones for all their projects. At the start of the pandemic, the work slowed for few weeks as the progress of the market access projects rely on the input and feedback of health care professionals involved in different care pathways, for example ICU clinicians, payers, lab staff, hepatologists, cataract specialists and health care specialists in other countries such as France and Sweden. In order to continue their work and move the projects forward, the team identified clinicians and payers using web searches and networking. The team adapted by broadening the scope from working with a few local trusts to widening the net nationwide and obtaining inputs from the available stakeholders. To utilise their time during the peak of the COVID-19 crisis, time was spent wisely preparing the relevant documentation for all the projects. The focus reverted to secondary research aspects and writing the background and introduction of the draft report components, as well as developing the report structure. However, after a few weeks when stakeholders slowly started becoming available, interviews (virtual) were conducted, and the recordings were thematically analysed and transcribed to assess their views. The Market Access team also contributed in writing few work packages for Artificial Intelligence grant applications, a poster presentation and manuscripts for journals during this time. The team was also part of the few Covid related projects, and the team gave their valuable inputs as and when required. (Mamta Bajre, Lauren Hudson, Florence Serres, Mina Moawad)

Ufonia project funded by Innovate UK: Ufonia is an Artificial Intelligence company developing an automated speech-based service to contact patients who have undergone cataract surgery in order to assess their eye health and need for further follow up. The aim of this technology is to increase patient satisfaction of follow up care and relieve clinician burden as an increasingly ageing population affects workload demands. The Strategic and Industry Partnerships team, specifically Lauren Hudson, is working with Buckinghamshire Healthcare to perform a study to understand the barriers to adoption, based on Strategic and Industry Partnerships Lean Assessment Process (LAP) methodology. The potential clinical utility and benefit of Ufonia in the post-operative care pathway will be assessed as well as understanding whether this technology can deliver satisfactory patient outcomes and efficiencies in ophthalmology. Literature searches, clinical pathway mapping and stakeholder input allowed semi structured documentation to be prepared by Oxford AHSN. Tools used for utility such as perceived usefulness and net promotor score were included. Stakeholders working within the ophthalmology pathway were identified from various trusts and contacted for interview. The interview stage is almost completed and data that has been collected is currently being analysed and reviewed. The views and insights received from stakeholders will be consolidated into a report for Ufonia.

Perspectum Diagnostics Project funded by Innovate UK: Perspectum Diagnostics is a company based in Oxford developing technologies to improve and bring innovation to hepatology clinical pathways. Primary sclerosing cholangitis (PSC) is a chronic, or long-term, disease that slowly damages the bile ducts. MRCP stands for magnetic resonance cholangiopancreatography. MRCP is a type of magnetic resonance imaging (MRI). Perspectum Diagnostics have developed an enhanced product called MRCP+ for the PSC pathway, which is designed to enhance the image of MRCP currently used and to provide a quantitative report of the status of the biliary tree. The technology has undergone a feasibility study for its use in the PSC pathway with exploration into other biliary tree indications. The aim of this study was to see

where the clinical utility for MRCP+ would lay in the PSC pathway with exploration into its utility in other areas. Hepatologists and members of the PSC committee were interviewed to have their views assessed on potential utility and resourcing. The interviews have now been complete and transcribed. The statistical analysis is also conducted, and the draft report of the feasibility report is almost complete.

Medicines pricing project funded by a large pharmaceutical company: The project, delivered by Pricing Expert/Consultant, Andy Stainthorpe with the assistance of Lauren Hudson, aims to review the medicines pricing models used in other countries and compare and contrast these with the systems used by the NHS in England. Phase one of the project was to research the medicines pricing systems of a wide range of countries and to identify those which accommodated innovating pricing to achieve wider access to medicines. The countries identified were then used to compare their processes to the systems used by the NHS in England. The countries researched in depth were those which offered the most innovative approaches to pricing of medicines. Our work identified the mechanisms offered in these countries to facilitate greater pricing flexibilities and the associated administrative processes required to provide greater pricing flexibility. Our findings were reported to the client at the end of phase one of our work. Phase two of the project involved identifying and interviewing key stakeholders in the pricing and medicines management environment - with a focus on oncology medicines – in the NHS in England. From these interviews it is evident that there exists considerable debate about the potential to change the approach used for pricing in the NHS in England. Although there was a view from those interviewed at the hospital and pharmacy level, that the pharmacy and reporting systems in place in the NHS were robust and could accommodate innovative contracting and had the potential to allow greater flexibility in net pricing of products, there existed several practical issues which might make short-term change challenging. At the level of specialised commissioning and policy development, NHS England has made considerable progress since the introduction of Patient Access Scheme and Cancer Drugs Fund to improve accounting, and in partnership with National Institute of Health and Care Excellence (NICE), to explore ways to facilitate improved access to new medicine based on value to the NHS. New initiatives are in train including the NHS Commercial Framework for Medicines, currently under development, which sets out the ways that NHS England will work together with NICE and the pharmaceutical industry on commercial medicines activity that is intended to support the introduction of clinically and cost-effective treatments into the NHS. The third and final phase of the project is underway and involves a virtual focus group of stakeholders convened to consider scenarios based around the systems used in other countries and the potential these to work in the NHS in England to facilitate a wider range of pricing approaches for multi-indication technologies.

IMPACCT funded by EIT-Health: The Immune Profiling of ICU Patients to address Chronic Critical illness and ensure healthy ageing (IMPACCT) project is funded by the European Institute of Innovation and Technology in Health (EIT-Health) and aims at evaluating the usefulness of an innovative diagnostic test, the Immune Profile Panel (IPP), in stratifying critically ill patients who have sepsis. Sepsis is a life-threatening organ dysfunction caused by a dysregulated host response to infection affecting more than 30 million people worldwide yearly. Although the use of emergency bundles has drastically improved the rates of survival in the first 24 to 48 hours, patients are still at high risk of death due to a persistent immunosuppression that makes them more vulnerable to acquiring Hospital Induced Infections (HAI) and deterioration. The IPP test, developed by the French diagnostics company BioMérieux, is an innovative RNA-based diagnostic device that allows the detection of more than 11 genes transcripts coding for proteins involved in the immune response. Its use could help identify those patients with a compromised immune system and help the

clinician in predicting those at increased risk of HAI and/or mortality. The IMPACCT studies comprises a prospective observational study in 6 centres in the UK, France and Sweden. In support of this study, three members of the SIP team, Andy Stainthorpe, Lauren Hudson and Florence Serres are providing Market Access support and are collecting views and insights about the usefulness of the IPP in the care pathway from Health Care Professionals working in the Intensive Care Units, as well as that of payers involved in a range of commissioning roles. To this end, clinicians with the appropriate clinical expertise and seniority as well as payers with the decision-making seniority were identified and contacted in the three countries where the study is taking place. A discussion guide and a pre-read aimed at gaining an understanding of the clinicians' options for diagnosis and treatments for patients with sepsis in the ICU, as well as their views on how knowing about the immune status of a patient would impact patient management, were developed. Documents were adapted for each country healthcare system. During to the COVID-19 crisis, engagement of the stakeholders was understandably low with less than 10% responding to our emails, as clinicians were focusing on their clinical work and were not available to participate in the study. Engagement resumed after the summer break, and their opinions are being collected although clinicians and payers seem to be increasingly involved in COVID-19 related activities. To mitigate this, an additional collection of data in the form of a survey has been developed to ensure a sufficient number of participants to the study.

POCKiT Diagnostics funded by Innovate UK: A feasibility study was conducted by Dr Mamta Bajre using our Lean Assessment Process (LAP) methodology to assess a novel blood-based point-of-care (POC) diagnostic device for stroke subtype diagnosis to enable rapid treatment for stroke patients with Large Vessel occlusion (LVO) in the care pathway. Current treatment of stroke patients is dependent on diagnosis via computerised tomography (CT) scan. The new POC test device combines blood biomarkers that are highly specific for stroke subtypes. The ultra-rapid immunoassay detection may help in differentiating between stroke patients with mimics and help in identifying LVO within twenty minutes. The aim of this study was to understand the clinical usability, advantages and economical constraints that such a blood test could offer in various clinical settings. After the literature search, the clinical pathway mapping was performed. Semi-structured interview documents were prepared to conduct the stakeholder interviews. All the interview recordings were reviewed and thematically analysed to obtain the information required for understanding the unmet need of the POC testing in the care pathway, barriers to adoption and the perceived usefulness of this device implementation of the POC testing in the stroke care pathway. Based on the stakeholder's feedback, an early economic model was developed for the initial management of stroke patients within NHS England. The results of the early economic analysis suggested that the test may lead to cost-savings in the stroke care pathway in the NHS England. Both the studies are completed and submitted.

Programme 3: AHSN collaboration and knowledge sharing (Lead: Matthew Lawrence)

Objectives: Increased activity will be put into collaborating with other AHSNs to develop joint projects

Members of the Strategic and Industry Partnerships team have been involved in a PPE reprocessing group with Wessex AHSN, looking at ways in which PPE can be safely decontaminated and reused where applicable. An information sharing group has been set up, initially with Trusts in the Oxford and Wessex AHSN regions, before being broadened out nationwide. The group does not make recommendations and is only designed as a platform to share current practice and technologies. Yorkshire and Humber AHSN are a recent addition to this group. Oxford AHSN has become part of a newly created AHSN Network "common interest" group, focused on making environmental and sustainability issues a key part of the AHSN agenda.

Core Function 2: Signposting

Programme 1: Accelerators (Lead: Matthew Lawrence)

Objectives: Run Oxford AHSN accelerator programme. Support Third year of operation of the Buckinghamshire Life Sciences Innovation Centre and the digital health community in Oxford through The Hill.

The **Oxford AHSN Accelerator** 2020 Programme has progressed from its creation in 2019 to include a wide range of activities, partners, and participants. In 2020, our first Commercialisation Workshops in April had to be changed from a face to face meeting at the University of Reading to a virtual event delivered by our partner BioCity using Zoom video conferencing. We had 24 sign-ups to the April workshops and have supported several companies to explore clinical trials and commercial research for their solutions. The July Commercialisation Workshops were again delivered by BioCity and run in conjunction with Oxford BioEscalator. These were oversubscribed and again provided virtually by a Zoom meeting with hosts from Oxford AHSN (Matthew Lawrence), BioCity, and Oxford BioEscalator. Unfortunately, our June Pre-Accelerator programme had to be postponed as we worked to re-purpose the in-person format to a virtual event to accommodate the mentors and Zoom breakout rooms. The September Pre-Accelerator continued in early September and was again oversubscribed with a larger cohort that we could easily support in the virtual format.

Companies engaged in the Accelerator this year include:

- Incubeats (<https://www.incubeats.com/>) supported by Eileen Dudley and the Oxford AHSN patient safety team to engage with midwives and neonatologists on their NICU offering.
- Telescope Consulting Ltd: looking to support device and diagnostics start-ups in navigating the regulatory and commercial pathway to develop their innovations.
- Ae-sop (ae-sop.org): An Arts Enterprise with a Social mission providing among other projects a falls prevention dance programme.
- And a wide range of University of Oxford PhD candidates and MBA candidates exploring the commercial opportunities for their ventures.

Several of the Accelerator participants took the opportunity to engage with us with their innovation plans due to their other work being delayed or cancelled because of COVID-19. Oxford AHSN and BioCity explored novel methods to deliver the commercialisation workshops and the Pre-Accelerator in an environment where large face-to-face meetings would not be possible. The online virtual format allowed participants to join from a wider area and to have dedicated one-on-one virtual meetings with BioCity, Matthew Lawrence, and Oxford BioEscalator to explore topics raised in the workshops. The accelerator programme has been supported by marketing activities carried out by Ruby Urwin and Rochelle Nelson.

The commencement of Cohort three for **Bucks HSC Ventures** was delayed by the start of COVID-19. The decision was made to re-open for applications during the summer and run an online cohort over the Autumn-Winter of 2020/21. The initial round of company selection has been completed from the second wave of applications, and the long list is currently being discussed with clinicians in the Buckinghamshire Healthcare NHS Trust to help select those companies with the most relevant innovations for the region. The team at Bucks HSC Ventures has also run a number of webinars over the summer period, aimed at providing companies with a taster of what they would have access to if they applied for the cohort, as well as to provide light-touch business support and guidance. These webinars were generally well attended, and

feedback has been positive. Oxford AHSN, including the Strategic and Industry Partnerships team, has been providing sessions for **theHill** Market Access Accelerator, again in an on-line format due to COVID-19 restrictions. The cohort are due to graduate at the beginning of October and the Strategic and Industry Partnerships team will deliver follow up workshops in health economics and support grant writing by some of the cohort.

Programme 2: R&D (Lead: Julie Hart)

Objectives: Pursue funding through collaborative working with industry and NHS partners to research diagnostic and AI solutions and make relevant bids.

The total awarded to the Strategic and Industry Partnerships team from the National Institute of Health Research for the Artificial Intelligence Phase 1-3 awards is £188,338 supporting Phase 2 bids from Caristo Diagnostics, Ufonia and Albus and a Phase three award from Ultromics. Project lead for these projects is Julie Hart supported by Dr Mamta Bajre and the Market Access team. The Strategic and Industry Partnerships team has also supported Ultromics in the bid for a Phase 4 award.

Ultromics Limited - 24 months - ~£1.3 million total award

EchoGo Pro: NHS Impact of Automating Coronary Artery Disease Risk Prediction in Stress Echocardiogram Clinics.

This project aims to show that EchoGo Pro, helps doctors more reliably diagnose heart disease using a stress echocardiogram or "stress echo". More accurate tests mean more patients will get the treatment they need earlier. It also means that fewer patients will go on to have unnecessary tests, which could expose the patient to X-rays and cost the NHS money. A stress echo looks at the patient's heart under normal conditions (at rest) and when the patient's heart is working harder or "under stress", for example after exercise. The more experienced a doctor is at understanding the scans the more likely they are to give the patient a true diagnosis. EchoGo Pro device will help all doctors read the scans as well as their most experienced senior colleagues. EchoGo Pro device uses artificial intelligence to analyse stress echo scans to produce its own report for the doctor to review.

Ufonia - 18 months - ~£500K total award

Autonomous Telemedicine - Cataract Surgery Follow-up at Two NHS Trusts

The project will develop evidence that will support the safe deployment of Ufonia's automated telemedicine platform to deliver calls to cataract surgery patients at two large NHS hospital trusts. Ufonia proposes to replace routine clinical follow-up with DORA - a natural-language AI assistant delivered via a regular telephone call. The first clinical scenario DORA is being built for is follow-up after cataract surgery, currently being tested at Buckinghamshire Healthcare NHS Trust. The proposed study will implement DORA in addition to the current standard of care for a cohort of patients at Imperial College Healthcare Trust and Oxford University Hospitals NHS Foundation Trust. The study will evaluate the agreement of DORA's decision with an expert clinician. In addition, it will test the acceptability of the solution for patients and clinicians; and the health economic benefits of the solution to patients (reduced time and travel) and the local healthcare system.

BreatheOx Limited - 36 months - ~1.5 million total awards

Prediction and prevention of Asthma attacks in Children

Acute asthma attacks remain a leading cause of unplanned hospital admissions, emergency visits and missed school-days. Early recognition and management of deterioration in asthma control can prevent

attacks and emergencies. Using motion sensors (like automated lights), the device captures small movements when someone breathes. Acoustic sensors capture other clinical symptoms and environmental sensors monitor living conditions and other environmental triggers. The aim is to further develop algorithms and clinical decision-support tools for early detection of asthma attacks in children by capturing early warning signs through continuous long-term monitoring, enabling early treatment to stop attacks at home. Our objectives include demonstrating value in NHS care pathways and generating real-world evidence of clinical and economic value. The project team includes BreatheOx (Oxford University med- tech spinout company), Birmingham Women's and Children's Hospital NHS Trust, Imperial College London, AsthmaUK and the Strategic and Industry Partnerships team experts in market-access.

Caristo Diagnostics Limited - 36 months - ~£1.4 million total award

Artificial Intelligence to improve Cardiometabolic Risk Evaluation using CT (ACRE-CT)

Fat tissue (called adipose tissue) can become inflamed. This inflamed tissue can be a critical factor in the major complications of diabetes, such as cardiovascular disease (CVD). But not all fat tissue is considered 'harmful'. The risk factor relates to where in the body it is situated, and the biological characteristics of the fat. Currently, none of the routine scans or tests can identify inflammation in fat tissue. This study will focus on how best to detect this tissue using routine scans. FatHealth, detects fat tissue inflammation using new artificial intelligence techniques applied to routine computed tomography ('CT') scans. FatHealth can identify people who may be at risk of developing diabetes, and people with diabetes who are at high risk of death from cardiovascular disease. By the end of the project, our intention is to have FatHealth adopted into routine use, thereby saving the NHS considerable costs and improving the lives of many at-risk patients.

Innovate UK Sustainable Development Fund

Binding Sciences - 9 months - ~£280K total award

This project aims to reduce COVID-19 infection risk, and hence the likelihood of hospital admission, among urinary incontinence sufferers, particularly the elderly and infirm, and their carers, reducing the need for repeated and close contact between them and key workers. Minimising avoidable, unnecessary call on the resources of health and social care providers in pandemics is essential to increasing their resilience. Releaf 2 is made from vegetable-based fibre or resin and starch-based film, is fully compostable. For those with voluntary control, it is a replacement for current ad hoc toileting products, and their imitators, the majority of which are neither biodegradable nor usable when seated. The objective is to complete the development of Releaf 2 as a user-validated, CE-marked, market-ready device, supported by fully-costed manufacturing and assembly specifications and backed by a validated business case for its adoption by the NHS based on an evaluation in Buckinghamshire Healthcare NHS Trust.

Programme 3: Company support (Lead: Matthew Lawrence)

Objectives: Help companies to develop innovative solutions that meet healthcare needs; direct companies to local resources and support companies coming through Health Tech Connect, innovator portal and direct to AHSN

The Strategic and Industry Partnerships team (Ashley Aitken and Matthew Lawrence) continued to support local companies as usual through the COVID-19 lockdown, as well as those companies with new COVID-19 related innovations helping them to access the central innovation team. The Strategic and Industry Partnerships team offers practical advice, signposting to other resources and other forms of support to companies at various stages from early idea generation through to adoption. Over a four and half month period, we supported just over 40 companies with innovations not related to COVID-19 who had queries

ranging from accessing funding for moving their innovation forward, access to clinicians for clinical input and advice on evidence generation, and support with customer discovery and creating an early business model. There were difficulties in accessing non COVID-19 related funding, and clinicians, during the early stages of the lockdown, but the team supported companies and innovators to get their question sets together and to draft a loose project plans and any work packages for any future funding applications. Numerous companies came forward with COVID-19 related innovations, who were often confused as to where to submit them. Companies were directed to the correct front door for access to the central testing team and given advice on what kind of information needed to be submitted.

No. of companies supported (April-September) - 42

OLS survey results – 9 surveys received, 7 total jobs safeguarded, 3 new jobs created, £410,000 additional revenue/investment generated.

Core Function 3: Broker real world evaluation

Programme 1: Artificial Intelligence (Lead: Flora Hatahintwali)

Objectives: We will participate in the real-world evaluation of 4 exemplar projects under NCIMI banner and identify new opportunities for real world evaluation around early diagnosis of cancer.

The **National Consortium of Intelligent Medical Imaging (NCIMI)** is a network of 14 NHS hospital trusts across the United Kingdom, 10 industry partners with expertise in the field of Artificial Intelligence (AI) and medical imaging, three charity partners to provide insight into patients experience plus world leading academic researchers and clinical leaders. NCIMI's goal is to build a pipeline for innovation to allow new medical imaging AI tools to be developed, tested, validated and adopted into the NHS. NCIMI partners are working on 11 exemplar projects delivering intelligent medical imaging solutions to address unmet needs across several diseases and chronic health conditions such as cancer, heart disease and metabolic health.

Oxford Academic Health Science Network (Oxford AHSN) is one of the NCIMI partners and the Strategic and Industry Partnerships team is supporting four exemplar projects.

- Endometriosis: Aims to reduce the need for laparoscopic diagnoses by using non-invasive intelligent medical imaging solutions.
- Haemochromatosis (iron overload): Imaging can be used to assess liver iron content. This project would use Perspectum Diagnostics' technology as a non-invasive assessment of iron overload and associated liver damage.
- PET-CT Lymphoma reporting: using AI-based software to improve PET-CT image interpretation in lymphoma management by performing automated detection and segmentation of lymphoma lesions in PET/CT.
- AI in cardio-oncology: application of AI to echocardiography in order to identify and predict cancer therapy-related cardiac dysfunction.

The project timelines and deliverables were affected by the COVID-19 pandemic, with many activities being put on hold. The activities of the Strategic and Industry Partnerships team within the endometriosis and AI in cardio-oncology projects are to conduct a feasibility study with some early health economics to assess the clinical utility and impact of the new technologies in the care pathway for endometriosis and cardio-oncology respectively and also looking at the level of acceptability to the NHS. The feasibility study involves interviewing healthcare professionals in the care pathway to gain their views on the proposed technology. Interview documents for endometriosis have been approved by the companies. Due to scope change within

the AI in cardio-oncology project, the project initiation document has been re-drafted and is going through the approval process. The timelines for PET-CT Lymphoma reporting project have slipped and the evaluation which would be supported by the Strategic and Industry Partnerships programme has been rescheduled for March 2021. The Strategic and Industry Partnerships programme has committed funding to NCIMI until end of March 2021, when our current Office for Life Science funding ends, and as a result Flora Hatahintwali and Guy Checketts are in discussions with the NCIMI project management team to refine the projects being worked on in line with funding commitments.

New programme: Cancer (Lead: Marianna Lepetyukh)

Cancer has been identified as a focus area where the Oxford AHSN can make a meaningful contribution to recovery and reset. The Strategic and Industry Partnerships team has been involved in a series of discussions with staff from other Oxford AHSN teams, the Thames Valley Cancer Alliance (TVCA) and industry partners, to identify opportunities to undertake a real-world evaluation to demonstrate the benefit of new technology and solutions to patient care and outcomes and the overall system. Discussions are ongoing to define a programme of work.

Programme 2: Diagnostics (Lead: Ashley Aitken)

Objectives: Evaluation of new diagnostics for stroke, COPD and asthma. Evaluation of new diagnostics for management of patients in the community and hospitals during Covid recovery phase.

Innovate UK funded project Purines for Rapid Identification of Stroke Mimics (PRISM) Sarissa Biomedical

30% of stroke patients go unrecognised in A&E; 50% of suspected stroke patients identified by paramedics turn out to have mimic conditions; and up to 17% of patients receiving thrombolysis (an expensive and potentially hazardous treatment) have not had a stroke. Accurate identification of stroke and mimic patients in ambulances and A&E departments would lead to improved patient outcomes and better use of limited specialist resources. Sarissa Biomedical is working with researchers and NHS services to develop a simple Point of Care Diagnostic blood test (SMARTChip) which measures blood purine levels. Q12 activity: The Strategic and Industry Partnerships team has mapped the patient pathway across 2 ambulance service trusts and 5 diverse hospital settings offering different levels of neurological interventions for stroke (Nadia Okhai). These sites will be followed up with a survey of attitude towards diagnostic accuracy by Ashley Aitken. Kieran Paterson has prepared an international pathway report. Work will be completed by Ashley Aitken by December 2020 to deliver a proposition report and outline business case, hold early adopter focus groups and national focus groups with a view to identifying early adopter sites.

Innovate UK funded project COPD Exacerbation Alert for patient stratification Mologic in the UK COPD exacerbations account for 15% of all medical admissions, 1 million bed days and an annual NHS expenditure of £500M [NICE 2010]. Mologic has developed two products for patient stratification for COPD. These are simple urine-based tests like the familiar home pregnancy test kits. The first test, Headstart, will clearly identify or confirm the first signs of exacerbation with enough reliability and clarity for the patient to know when to take medication and when to seek medical attention. The second product is Rightstart, for use at home or in primary care to identify whether to use antibiotics or corticosteroids. Early identification of COPD exacerbation has the potential to reduce the severity of exacerbations by allowing faster treatment and reducing the need for GP and emergency visits to A&E. Use of Rightstart to identify the cause of the exacerbation helps ensure the correct treatment is given and also has the potential to reduce unnecessary antibiotic treatment which supports the UK governments strategies for Antimicrobial Stewardship. Using

established guidelines and literature searches, the Nadia Okhai used our lean methodology approach to map the COPD exacerbation treatment pathway and propose an alternate pathway involving the RightStart testing device. A completed report was produced highlighting the key barriers to adoption along with stakeholder willingness to promote the product. Ashley Aitken is working with the Newcastle MedTech and In Vitro Diagnostics Co-operative (MIC) and Oxford MIC is helping generate the right evidence to facilitate adoption. The Covid-19 global pandemic has impacted stakeholder engagement. Stakeholder engagement is gradually returning to normal. Timescales have been pushed back to reflect this disruption in service. The agreed project completion date is now February 2021 as respiratory medicine stakeholders are especially difficult to engage currently. However, preparation for HCP and payer workshops for both products (HeadStart and RightStart) is ongoing with the intention to have them go ahead as planned. Stakeholders will be invited to discuss the key barriers to adoption in greater detail and identify ways to overcome them if possible. The risks for project delays have been identified and steps put in place to reduce impact. Access to real world data from Buckinghamshire and Oxfordshire sites will be sought to provide information to develop a value proposition and draft an outline business case based on a budget impact model by end of January 2021 which could potentially be refined with access to the health economic data from the overall clinical study dependent on time frames. Preparation for payer and provider virtual workshops is underway. 7 patients have been recruited out of a possible 20 for Buckinghamshire Healthcare and Boat House Surgery, Pangbourne Surgery is set up but not yet recruited due to Covid-19. Contracts have started with Oxford Clinical Commissioning Group to provide more real-world data.

Astra Zenica Turbu+ Inhaler Patient recruitment to evaluate the impact of a digital intervention in asthma care commenced in September at the Modality practice in Wokingham. It is thought that between a third and a half of all medicines prescribed for long-term conditions such as asthma are not taken as recommended. The use of smart inhalers such as Turbu+ (from Astra Zenica) may provide an opportunity to have a positive impact on compliance rates for patients suffering from asthma and COPD, and support improvements in patient outcomes by optimising medicine adherence. The Modality Partnership, a GP super-partnership, and the clinical research arm of Ashfield Healthcare, have joined with Astra Zenica and the Strategic and Industry Partnerships team (Guy Checketts) to gather real-world evidence on the impact of Turbu+ on patients and the healthcare system. The project is aiming to recruit and support 100 patients through a 6-month live phase.

- Supporting patients to take their medication as prescribed
- Engaging patients to think more holistically about their wellbeing through a patient App
- Potential to improve Asthma control through improving medication adherence
- Potential to reduce the use of “rescue” inhalers, based on improved adherence to “maintenance” inhaler
- Potential to improve quality of life
- Reduced healthcare utilisation costs through fewer planned visits to both primary and secondary care

Programme 3: Sustainability (Lead: Carl Lynch)

Objectives: Evolve the AHSN business case to include recognition of the environmental benefits

Work commenced in July 2020. The overall objective is to create a programme to support the local NHS, in collaboration with industry and other AHSNs, in delivering environmental sustainability. This will be done by:

- Actively working with the AHSN Network Environmental Sustainability Community of Interest group (established in August 2020)
- Re-engaging with the Trusts and baseline activity
- Engaging with NHS Sustainability Unit
- Engaging with industry
- Prioritise solutions in the context of COVID-19, NHS resourcing and financial constraints

Initial areas of focus are:

- Reusable PPE
- Waste - PPE usage/supply chain
- Sustainable procurement
- Innovation – a sustainability toolkit to enhance business case development
- Behavioural change – waste, energy

A sustainability toolkit - to determine environmental impact - has been trialled with two Oxford AHSN programmes.

Core Function 4: Support adoption and spread

National Programme Support for the Accelerated Access Collaborative

Objective: To support to more quickly adopt clinically and cost-effective innovations, to ensure patients get access to the best new treatments and technologies. As part of the AAC's work to support stronger adoption and spread of proven innovations, the AAC has selected a range of late-stage innovations (post-NICE appraisal) to accelerate uptake in the NHS – 'Rapid Uptake Products' (RUPs).

Asthma Biologics - Biologic therapy drugs – to improve symptoms and reduce asthma attacks in people with severe asthma by helping to stop the body processes that cause lung inflammation.

Tamoxifen - For treating breast cancer.

Project planning stage of understanding the scope and deliverables of the project and establishing working groups and key priority areas. The team recently attended the RUP pre-product launch.

Programme 1: Maternity (Lead: Guy Checketts)

Objectives: Continue roll out of PIGF-based testing across and take over national role.

Evaluating the impact of PIGF-based testing to aid in the diagnosis of pre-eclampsia has proven to be difficult. The NICE DG23 resource-impact model only considers savings from reduced admissions (i.e. saved bed days), which are not cash releasing as wards are not being closed. The gathering of meaningful data is additionally hampered by the absence of a code for "suspected pre-eclampsia" (now requested) and the hand-written nature of many patient notes in maternity. Recognised benefits however include capacity release (both due to avoiding the original admission and in the frequency of subsequent follow-up appointments), cash-releasing savings from reduced cardiotocography (CTG) scans etc. from when an admission is made, improved patient experience and above all the improved patient safety benefits from being able to rule-out PE (indeed, improved patient safety has been the main driver nationally for the

adoption of PIGF-based testing to date). National efforts to demonstrate the very real benefits of PIGF-based testing are therefore being pursued by Trusts and AHSN's by undertaking their own local assessment and quantification of the impact of adoption, for example by conducting local audits on the number of women tested and the subsequent outcome of the pregnancy based on actions taken. Case studies are also forming a key element of the body of evidence for the benefits of PIGF-based testing and a national log of such examples is in the process of being collated.

Programme 2: Point of Care (Lead: Ashley Aitken)

Objectives: Roll out evaluation projects to aid triage and assessment of acute patients with POC

In the response to the Covid-19 outbreak, new models of healthcare delivery, facilitated by the use point of care (POC) diagnostics tests, could be utilised more to help providers optimise processes, drive more appropriate use of resources and manage patients safely outside of the hospital. Whilst Healthcare Professionals are often motivated to explore new care models, they generally lack the time to do it alone. The Strategic and Industry Partnerships diagnostics programme helps champion new models of care, not just with technological innovation, but through shared experience and commitment. It is proposed that one of the solutions previously evaluated could be rolled out further. Technologies have been evaluated for reducing unnecessary admissions, improving pre-hospital diagnosis and point of care influenza testing.

Example: Using Point of Care Blood Tests helps inform decision making for patients with acute frailty syndrome

- Inclusion: Patients >65 years with acute frailty syndromes and unclear care pathway needs presenting to the ambulance service
- Timeframe: 6 months led by Advanced Clinical Practitioner Dolly (Melinda) McPherson
- Staff: 4 Specialist Paramedics and 4 Frailty Paramedics, South Central Ambulance Service NHS Foundation Trust (SCAS), Reading, Berkshire, UK
- Methods: During the service evaluation, patients in whom the best destination was unclear after history taking and physical examination, received Point of Care blood testing (CG4+ and CHEM8+) to aid decision making. A budget impact model was constructed to estimate the financial consequences of adopting the new intervention in addition to existing standard of care.
- The service evaluation showed that use of Point of Care blood testing has a positive impact on all stated aims. The project results, whilst taken from a small sample size, show utility for Point of Care blood testing in both the pre-hospital environment and in the field of frailty.
- Discharge on scene increased from 49.7% to 82.1% and recontact within 7 days was reduced from 14.7% to 11.5%. Testing had most utility in the assessment of patients with cognitive impairment, long lie patients and patients with ongoing chest infections less in patients with sepsis.

The potential savings for SCAS were estimated to be £9.8 million in Year 1, £10 million in Year 2 and in Year 3 which gives a combined total of £29.8 million. For the SCAS region, according to the National Audit Office, the ambulance population (3,123,473) was split by age with 21.9% of patients over the age of 65 (876,527). All patients in the model received CHEM8+ blood test and 30% received CG4+ test based on the service evaluation data. With 51% of patients conveyed by ambulance and 52% of admissions from ED attendance, use of blood testing gives total cost savings from short and long stay of £6.75 million. Total ED attendance costs saved was £1.9 million with total savings from patient handover £356,000 saved. Costs of cartridges

versus ambulance savings was £158,000 and total costs of revisits was £96,000. Extrapolated to the population of the NHS in England, cost savings would be in the region of £138 million per annum.

Collaboration with Berkshire Surrey Pathology Services (BSPS) Point of Care (POC) team

Ashley Aitken is in discussion with the BSPS POC Team at Frimley Health, led by Katy Heaney, to look into the possibility of using the Abbott i-STAT and FebriDx to triage the frail elderly patients out in the community, in order to help specialist paramedics and other community clinicians to confidently decide where best to treat patients – either out in the community via their GP or other community service, or admit into hospital. The tests would also allow for the quick and easy triaging of patients into viral/non-viral – ensuring that non-COVID patients do not end up on COVID-19 wards, and vice versa. Discussions around this work is to recommence in the following weeks to help with the rising number of COVID-19 cases locally.

Programme 3: Gastroenterology (Lead: Marianna Lepetyukh)

Objectives: Third year of IBD Network and support to FMT - project suspended. Faecal calprotectin algorithm roll out as first fast follower region

Faecal calprotectin Analysis of real-world data to understand the impact on the local health service of a new IBS/IBD referral pathway developed by the Yorkshire and Humber AHSN and implemented in several GP Practices in Aylesbury Vale CCG. The analysis will use Hospital Episodes Statistics (HES) for the period January 2018 to December 2018 (as the baseline data) and January 2019 to December 2019 (when the intervention was introduced) available via access to the Open Vie dataset. The primary outcome is defined as the IBD detection rate, with secondary outcomes of time from first outpatient appointment to diagnosis and investigation, and number of appointments required to make a diagnosis. Anticipated result from the analysis – the new pathways has increased the detection rate and eased the burden of inappropriate referrals to the secondary care of patients with IBS. The findings of this analysis rely heavily on the quality of clinical coding in the secondary care and it is widely recognised that this is poor in the outpatient setting due to a lack of financial incentives. HES data available via Open Vie database for the period January 2018 to December 2018 (baseline data) and January 2019 to December 2019 (intervention) will be used to perform the comparison analysis. The primary outcome is defined as the IBD detection rate, which is defined as the patients that ended up receiving a diagnosis of IBD (ICD-10 codes will be used to define patient cohorts). As the diagnosis of IBD is made following endoscopy, detection rates will be calculated for the three cohorts of patients. Patients with outpatients' referrals to any of the following specialties with a subsequent endoscopic examination of the lower GI tract (colonoscopy or flexible sigmoidoscopy), patients with an outpatient referral to gastroenterology who subsequently underwent a lower GI endoscopic examination and all patients undergoing a lower GI endoscopic examination (colonoscopy and flexible sigmoidoscopy). Secondary outcomes to be reviewed: time from the first outpatient appointment to diagnosis, time from first outpatient appointment to investigation and number of outpatient appointments required to make a diagnosis.

Oxford AHSN IBD Network (established 2015) has successfully introduced real time data collection through a web-based system into clinical care for patients with ulcerative colitis or Crohn's disease. Over 1600 patients now record symptoms (daily or weekly), quality of life (fortnightly) and internationally agreed patient reported outcomes (PROMs, quarterly) and become the pilot project for patient-entered data into

their electronic health record in Oxford. The system was a finalist in the national British Medical Journal (BMJ) Awards for Digital Innovation in 2019. Oxford AHSN-IBD was the UK's first independently funded network. Partners include AbbVie (international PROMs www.ichom.org); the Norman Collinson Foundation (creation of True-Colours-IBD from a Psychiatry template); Takeda (introduction to clinical practice); Janssen (operational management). The Strategic and Industry Partnerships team, through Marianna Lepetyukh, coordinated operational management and acted as an interface between industry and clinical practice. The TrueColours-ID system is now established to monitor patients with chronic disease in real time. Mathematical modelling of responses is used to inform the need for a clinic appointment, with appointments deferred if appropriate, early identification of relapse and prospective documentation of outcomes. It has come into its own for remote monitoring during the pandemic. The Strategic and Industry Partnerships team provided a pivotal interface between Industry support and clinical practice. The interests of industry (through medical education grants), clinical and research teams were protected through the Oxford AHSN and provided project management, brokered connections to data privacy impact assessment, ethical evaluation, timelines and goals. The Escalation of Therapy of Intervention (ETI) calculator from TrueColours responses identified 62% of scheduled appointments could potentially be deferred. Deferring a third of these with patient agreement saves 500 appointments per year (£45,000) in Oxford alone, increasing capacity for urgent appointment. The process was established in Oxford during the pandemic, resolving the need for an NIHR-supported trial (Project RAINBOW) to demonstrate the value of remote digital monitoring.

Research & Development (R&D)

The theme aims to develop effective collaboration and working between the NHS and Higher Education Institutes, working with the NIHR and other research infrastructure across the Thames Valley and the AHSN's footprint. The aim is to identify potential innovation for future implementation across Oxford AHSN partners and the wider NHS, to ensure research outputs come with relevant evidence and information for NHS services to understand benefits, costs and value prior to adoption, and to identify and facilitate collaborative research opportunities between NHS and University partners across the Thames Valley.

The theme is led by the CEO, Professor Gary Ford. The Oxford AHSN R&D group, chaired by Professor Joe Harrison, CEO Milton Keynes University Hospital and Oxford AHSN Board member, comprises representatives from Universities, NHS Trusts, and the NIHR research infrastructure across the Region. It meets three times a year.

The Oxford Academic Health Partners was designated for five years by NHSE/I with effect from 1 April 2020 and the AHSN CEO played a major role in preparation of the plans and attended the interviews held in February 2020. Professor Ford sits on the OAHP Board. OAHP is committed to working as an organisation embedded within the AHSN and its membership of the R&D Committee is key to furthering its relationship beyond Oxfordshire in line with its strategic vision and goals available [here](#). The OAHP and AHSN senior teams have met to discuss future working.

Our work with the NIHR Applied Research Collaboration Oxford and Thames Valley is coordinated through Professor Gary Ford as Implementation Lead for the ARC and with the support of Sarah Brown, ARC Programme and Implementation Manager who works across the ARC and AHSN to support optimising and accelerating adoption of research outputs across the region. Joint quarterly meetings will be held with the AHSN and ARC theme leads to discuss implementation.

The R&D theme will continue its collaboration with the R&D group, Oxford Academic Health Partners, and Oxford and Thames Valley NIHR Applied Research Collaboration, on the scoping and implementation of the Health Innovation Manchester pipeline model to understand the pipeline of innovation across the Thames Valley. This is part of a wider AHSN Network initiative.

The Committee met in April and July 2020 and will next meet in November 2020. Key topics discussed at the meetings included the future regional work programme of the NIHR ARC, Oxford Academic Health partners, and the Oxford Institute of Nursing, Midwifery and Allied Health Research (OxINMAHR). Updates from the AHSN Strategic Industry Partnerships team and Digital /AI programmes were presented to the group. A full programme of meetings is being planned for 2021 and Megan Turmezei, Senior Programme Manager for the OAHP is now providing support.

The R&D Oversight Group will be reviewing its Terms of Reference in Q3 so that it can ensure that its contribution and that of its constituents can be maximised. Work in this area has included research and innovations relating to COVID 19 and stroke management and the development of AI/digital projects (e.g. Brainomix and Sleepio).

The AHSN teams are receiving increasing requests to undertake real world evaluations from partners, including the South East Regional Team. We will commission an external review of the evaluation capabilities within the Oxford AHSN team to identify areas of strength and those which require further development through new staff appointment, training or collaboration with external partners, to ensure we can deliver high-quality real-world evaluations particularly for regional initiatives such as the ongoing roll out of stroke AI imaging and planned virtual ward / remote monitoring programme.

Patient & Public Involvement, Engagement & Experience (PPIEE)-

Aim

To spread best practice and develop innovation in working between patients, professional, careers and the public, supporting person-centred care, research and education. This will be achieved by helping to embed lay involvement, the use of coproduction and the use of experience in:

- Oxford AHSN programmes and projects
- national AHSN programmes
- the work of our partner organisations across the Thames Valley.

In the coming year we will focus on key challenges in PPIEE:

- broadening community engagement, diversity and inclusion to ensure we include seldom heard and marginalised people in our work
- using and refining our approach to recording and impact

Diversity and inclusion

We have recruited our first diversity and inclusion advisers. We will continue to recruit over the coming months so that we have a broad range of people who can support our equality impact assessment work across the AHSN.

Nationally, we are leading on the next report looking at inequalities and the role of innovation for the LGBTQ community, working with Wessex and Imperial AHSNs and the LGBT Foundation.

Oxford AHSN Programmes

We are working in detail with a few our programmes and projects with initial work on the bone health programme utilising our recording and impact checklist. To support this, we are discussing how we might routinely embed cross cutting themes, such as PPIEE across our work.

Patient Pull

How do we best involve patients, careers and the public in defining the need for innovation and in spreading proven innovations? Our planned approach has been delayed by COVID, we are exploring alternative approaches to working with PPGs and Healthwatch for Q4. In the meantime, we are developing a small group of lay partners who are geographically located to support our capacity for local engagement.

National AHSN Programmes

We have successfully moved our national PPI Forum meeting on-line and increased their frequency. The COs discussed and committed to having a Network PPI Strategy at their development day over the summer. This has led to agreement on a focused piece of work to develop an involvement strategy during the second half of the year.

As part of the AHSN Network Reset Programme we have successfully secured funding for a review of experience and coproduction during COVID and are in the process of securing a partner to work with to deliver this work by year end.

Thames Valley and Surrey Shared Records Partnership (LHCR)

The Ethics and Engagement Advisory Board has met virtually on two occasions and has had a tangible impact on the processes underpinning the programme. This includes some lay-led communication work.

We will be running a webinar on understanding and using patient data in Q3. This will be aimed at CCG lay members, trust lay governors, Healthwatch and other patient organisations.

Training and development

Working Together Development Days - in response to COVID-19 we have shifted on-line running our first virtual workshop 'Writing for the public' in Q2. We will be running a series of webinars on Working with the Seldom Heard over the autumn.

The Leading Together Programme

We are redesigning the course so that the planned programme with a local mental health provider can go ahead as planned during Q3 and Q4. We will be unable to adapt for people with learning disabilities at present.

Workforce Innovation

The purpose of our workforce programme is to support the development of the health and care workforce through innovation. We will apply the processes we embed in our other programmes to this approach:

- the identification of need
- the identification of innovators and innovations
- real world evaluation, and
- adoption and spread of innovations ready to be deployed.

The national AHSNs workforce programme will be agreed at a regional level with a focus on productivity, pathway transformation and digital developments. We already have well established relationships with Wessex and Kent, Surrey, Sussex AHSNs and have agreed to spreading three local innovations across our region: Sleepio, MaST and s12 Solutions. We are exploring whether these innovations, all of which have workforce productivity benefits, might form the basis of our regional offer.

Leadership and staffing

Siân Rees is combining her existing role as Director of Patient and Public Involvement, Engagement and Experience with leading on the workforce innovation theme as Director of Community Involvement and Workforce Innovation. We will have a senior programme manager appointed by the end of October.

Local ICS work

We are now involved in all the workstreams of the BOB Workforce Programme and better understand local need. We will continue to work with them to identify specific work we can collaborate on.

Coordination of internal activities

We have collated information about existing AHSN programmes where there is a workforce impact and collated information about the training and development programmes we run. To support this, we have established an internal training and development group and will carry out a training needs analysis.

National Work

We have completed a piece of work for NHS E/I on the roll-out of national interventions to support staff health and wellbeing. We have worked on this with North East, North Central AHSN and the Health Innovation Network in South London. Our trust survey received nearly 1,000 response and we interviewed over 30 staff.

Stakeholder Engagement and Communications

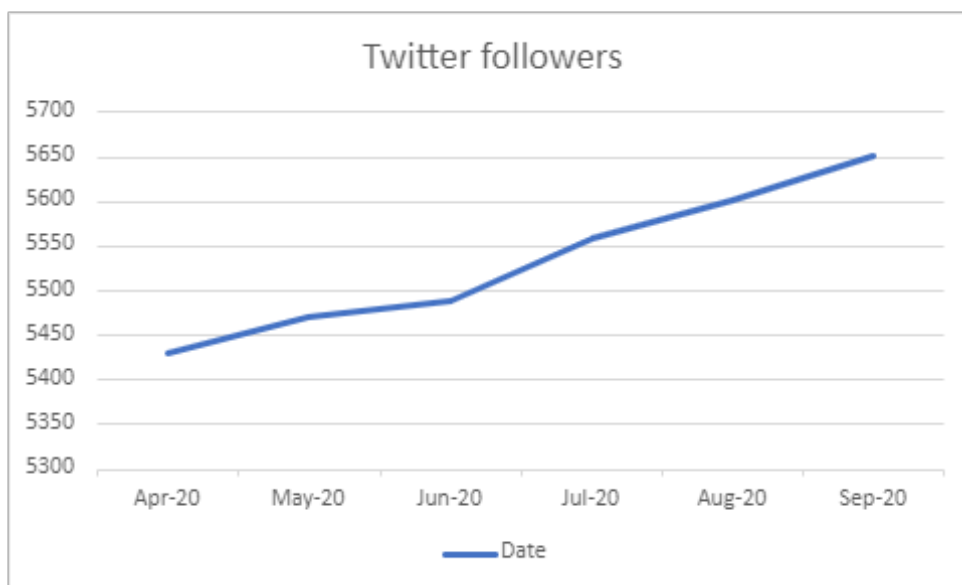
What a difference a year makes! Our communications in the second quarter of 2019/20 featured several large workshops, training and other networking events. Face-to-face was very much the norm. Twelve months on the picture is very different. Some activities paused or stopped, others moved online, and new opportunities were seized as we tailored our activities to reflect the rapidly changing needs of our NHS partners.

Our established practical innovators and Accelerator programmes are now being delivered virtually for the first time. We have hosted and contributed to many more webinars – and their impact has been felt well beyond our region. Since July more than 400 people joined our live web-based events including webinars on practical support for stroke services and showcasing innovations in personal protective equipment. Much of this output has been accessible on demand, further boosting the number of people reached, via our YouTube channel which now has more than 1,600 subscribers.

The highest levels of engagement were achieved around two high profile webinars we hosted in September relating to spreading digital innovation in the NHS and showcasing innovation in Covid-19 patient pathways. These create a buzz on social media reflected in a new record of 63,000 Twitter impressions for [@OxfordAHSN](#) in September.

Unsurprisingly, traffic to our websites dropped off in April, May and June - but it has since bounced back with the main Oxford AHSN website recording more page views in July than in any other month in 2019 or 2020 (5,835). Among significant additions to our website is a new section outlining how we have responded to the pandemic: <https://www.oxfordahsn.org/our-work/covid-19/>. We are adding case studies all the time.

We published a paper – ‘Determinants of and barriers to adoption of digital therapeutics for mental health at scale in the NHS’ in BMJ Innovations: <https://bit.ly/BMJ-sleep>. This related to the first of the September webinars mentioned above. More details of our events and publications since April 2020 are provided in the table at the end of this section.



Since April 2020 @OxfordAHSN has added 220 Twitter followers (see chart above). We also have 141 more connections on [LinkedIn](#). In addition, we published the 80th edition of our established [stakeholder newsletter](#) which now has around 1,400 subscribers.

Events and publications 2020/21

Month	Event	Publication
May		Adapting stroke services in the pandemic practical guidance
		Evaluation of adoption of digital therapeutics at scale paper published in BMJ Innovations, based on Sleepio
June	Summer programme for innovators, Bucks HSC Ventures (continued to July)	
	Webinar: Update on research and innovation infrastructure, chaired by Gary Ford, part of the HSRUK conference	
		Training resource launched on Health Education England e-learning platform for primary care clinicians on preventing stroke related to atrial fibrillation
	Webinar: Writing for lay audiences	
	Patient workshop on bone health	
July	Webinar: Supporting stroke services through the pandemic	Supporting stroke services in the restoration and recovery phase of the pandemic, second practical guide
	Commercialisation workshops, Oxford AHSN Accelerator programme with BioCity	
August	TCAM medicines optimisation workshop for Berkshire community pharmacists	
September	Practical innovators programme cohort 9 starts with Bucks New University	
	Market discovery pre-accelerator workshops, Oxford AHSN Accelerator	
	Webinar: Covid-19 patient pathways	
	Oxford AHSN Accelerator programme pitch day (invite only)	
	Webinar: Spreading digital innovation in the NHS – a Sleepio case study	
October		Oxford AHSN Q2 report
	Oxford AHSN Accelerator Programme runs to November	
November	HSJ Patient Safety Awards – midwives training package based on fetal heart sounds shortlisted in three categories	
	Oxford AHSN Accelerator final pitch and awards day	

Appendix A - Risks Register & Issues Log

Risks Register

#	Programme	Risk	Description of Impact	Likelihood	Impact	Time	Mitigating Action	Owner	Actioner	Date	Date mitigated	RAG
1	Oxford AHSN Corporate	Failure to establish culture of partnership and collaboration across the region	Insufficient engagement of clinicians, commissioner universities and industry.	Low	Med	ongoing	Stakeholder and communication strategy for the AHSN Each project has an engagement plan, including patient involvement.	AHSN Chief Executive	Programme SROs	06-Sep 13	Ongoing	GREEN
2	Oxford AHSN Corporate	Failure to sustain the AHSN	Programme activities cease	Low	Med	ongoing	NHS England has re-licensed all AHSNs. NHSI has confirmed funding to March 2023. Actively pursuing industry partnerships and grants.	AHSN Chief Operating Officer	AHSN Chief Operating Officer	31-Jul 14	Ongoing	GREEN
3	Oxford AHSN Corporate	National Programmes delivery	Reputation Protect breach of contract.	Med	Med	>6 12 mon	Robust engagement plans in place. Six of seven programmes on track to deliver. However, COVID-19 has slowed down TCAM - will catch up in 20/21	AHSN Chief Operating Officer	AHSN Chief Operating Officer	19-Feb 18	Ongoing	AMBER
E3	Oxford AHSN Corporate	Diversity and inclusion	Perpetuate inequality either in our own team or in our work across the region	Low	Med	ongoing	Oxford AHSN has Signed up to the AHSN Network D&I pledge Unconscious bias training for staff Ensure adhere to OUH policies on recruitment Ensure programmes consider inequalities in programme design and implementation. Staff unconscious bias training	AHSN Chief Operating Officer	Director for Communities and Workforce Innovation	June 2020	Ongoing	GREEN

Issues Log

#	Programme	Issue	Severity	Area Impacted	Resolving Action	Owner	Actioner	Date	Status	Date Resolved
1	Oxford AHSN Corporate	Lack of awareness by local partners and national stakeholders of progress and achievements of the AHSN	Low	Engagement	<p>Overarching comms strategy. Level of engagement monitored across all programme and themes.</p> <p>Website refreshed regularly visits per month increasing. Twitter followers and newsletter subscribers increasing. Oxford AHSN stakeholder survey. Quarterly report sent to all key stakeholders.</p> <p>Electronic Newsletter to stakeholders.</p> <p>Oxford AHSN organise and participation stakeholder events. Participation in ICS and STPs.</p> <p>Closer working with Regional NHS/I team.</p> <p>Attendance at Regional Mental Health Board to present regional mental health programmes</p>	AHSN Chief Operating Officer	Head of Communications	19 Jan 18	90% complete	Ongoing
2	Oxford AHSN Corporate	Staff health and wellbeing during the COVID-19 pandemic		Staff	<p>In line with government and OUH guideless our staff are asked to work from home unless it is not possible. Staff are subject to a personal risk assessment in accordance with OUH policy. We have made taken measures to ensure social distancing and infection control in the office for those staff who choose to work there. Staff wellbeing is monitored by our senior HR Manager and a programme of wellbeing and resilience training courses has been arranged.</p> <p>Staff communications were stepped up when the office was closed. Regular team calls are held to report progress, undertake training and development and hold social events online. Quarterly Team Get Together online in place of an annual team Away Day is being held each quarter. Staff have been surveyed and the consensus is that home working and using Teams works for most people – although everyone misses the social interaction of the workplace.</p>	AHSN Chief Operating Officer	AHSN Chief Operating Officer	17 March 2020	90% complete	Ongoing

Appendix B - Oxford AHSN case studies published in quarterly reports 2018-2020

Annual Year	Case Study Topic
2019/2020	<p>Thousands more pregnant women benefit from test to rule out pre-eclampsia following national rollout led by the Oxford AHSN</p> <p>Supporting leadership and collaboration in medicines optimization</p> <p>Paddle – Psychological therapy support app helps patients steer a course to recovery</p> <p>Adoption and spread of a quality improvement programme to prevent cerebral palsy in preterm labour (PReCePT)</p> <p>Preventing prescribing errors with PINCER</p> <p>Feasibility study for introducing a new rapid point-of-care HIV test into sexual health clinics (Owen Mumford)</p> <p>Healthcare tech company's expansion and Stock Exchange listing enabled by Oxford AHSN expertise</p> <p>Oxford AHSN support enables AI company to leverage £700,000 of grant funding (Ufonia)</p> <p>The Oxford AHSN assists Fujifilm in real-world evaluation of point of care flu test</p>
2018/2019	<p>Learning together through a regional patient-centered event to improve sepsis support and information</p>

Annual Year	Case Study Topic
	<p>Improving detection and management of atrial fibrillation</p> <p>Understanding the impact of a new model of urgent care within a GP practice</p> <p>AHSN-led collaboration brings multi-million-pound investment to Buckinghamshire and supports SMEs to meet health and social care needs</p> <p>Better diagnosis of pre-eclampsia improves patient safety and reduces burden on maternity services</p> <p>Patient forum helps improve NHS services for people with anxiety and depression</p> <p>Healthcare tech company's expansion and Stock Exchange listing enabled by Oxford AHSN expertise</p> <p>Unique point of care blood test speeds up clinical decision-making improves quality of care and reduces costs</p> <p>AHSNs come together to create new sepsis identification tool</p> <p>Spreading best practice in dementia through webinar programme</p>

More case studies can be found on our website. We usually include three in each of our quarterly reports. We have been producing these since 2014. You can find them here: <https://www.oxfordahsn.org/about-us/documents/quarterly-reports>.