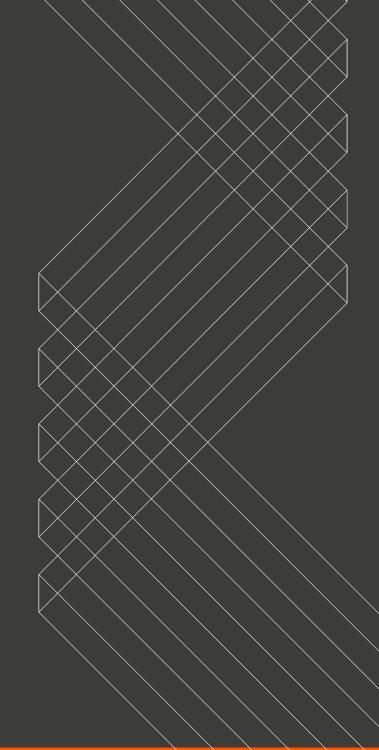
Kent Surrey Sussex Academic Health Science Network

Transforming lives through innovation

Annual Review 18/19



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Welcome

Each individual AHSN is strengthened by being part of a strong, collective network, and I'm particularly proud of the contribution that KSS AHSN has made over the year to both the national network and the healthcare economy across Kent, Surrey and Sussex.

Our work in detecting atrial fibrillation through the use of One Lead mobile ECG devices has paid great dividends. Close to 8,000 individual traces were taken across the region, detecting 793 cases of AF. This equates to to approximately 32 AF-related strokes being prevented, avoiding debilitating effects on individuals and their families.

Equally our ESCAPE-pain initiative – a rehab programme for patients with knee and/or hip osteoarthritis - benefited more than 1,000 patients across more sites than any other region.

We're also working with all maternity units across our region to help reduce cerebral palsy in babies through our PReCEpt work.

And, as the financial year came to a close, we launched our Transfer of Care around Medicines project with partners at ESHT Pharmacy, Community Pharmacy Surrey & Sussex, East Sussex Better Together and East Sussex County Council to improve the way patients' medicines are managed on discharge.

There's also been a substantial amount of behind the scenes work in supporting bids, including the Kent, Surrey and Sussex Applied Research Collaboration proposal, that will strengthen the region's infrastructure, working together with partners across academia, research and industry to shape realistic plans that address the real problems faced across KSS.

All of this great work took part against a fast changing, exciting landscape, with the announcement that the AHSN Network was to receive an additional five-year licence from NHS England in May.

That five-year commitment, with the option to roll on for a further five years to 2028, shows how integral the AHSN Network is to NHS E's vision to drive health innovation and stimulate economic growth.

The AHSN Network was given a further vote of confidence in January 2019 with the launch of the NHS Long Term Plan, which introduced a simpler, clearer innovation system with the AHSNs at its heart.

I believe that we, and the AHSN Network, are well placed to support the vision laid out in the Long Term Plan, and I look forward to working with all of our partners across Kent, Surrey and Sussex in the coming year.

Thank you, as ever, for your support.



Working with our STPs and ICSs

Our focus for 2018/19 was to support faster implementation of local Sustainability and Transformation Partnerships (STPs) and Integrated Care Systems (ICSs) and Five Year Forward View (FYFV) delivery.

Our core functions of innovation and improvement underpin the impact we make for our members and stakeholders including STPs, NHS England and NHS Improvement.

Our services for members and partners include our experience, expertise and strategic advice in areas such as innovation scouting, joint bidding and project management, clinical advice and leadership, and analysis and evaluation support.

This includes working closely with STP system leaders, providing advice and influencing the strategic direction of the STP.

For example, in Kent and Medway we have been working with the STP to develop a health and care analytics strategy. We also link in with the Clinical and Professional Board to address unmet health and wellbeing needs by matching these to proven solutions.

And we were thrilled to be part of the successful bid for the Kent, Surrey and Sussex Applied Research Collaboration (ARCKSS).

With £9m of funding awarded by the National Institute for Health Research, and a further £5m investment from local NHS trusts, local authorities and universities, the collaboration will ensure the learning from research is used more quickly and systematically to improve patient care.

Des Holden, our Medical Director, has been appointed as as Implementation Lead for the ARCKSS, and we look forward to sharing news of the project over the coming months and years.

Innovation and Technology

Payment (ITP)

Working with our STPS, we've been able to bring the benefits of this national programme to NHS patients across the region, delivering better outcomes and improving patient experiences.

ITP delivers on the commitment detailed within the Five Year Forward View to support the NHS to adopt innovative market-ready medical devices, diagnostics, digital platforms and technologies which have demonstrated improvement to the quality and efficiency of patient care, by removing financial or procurement barriers to uptake.

Our Technology Navigation service has made an amazing impact, introducing range of innovative new technologies to Trusts across the region via the ITP programme.

Collectively, the AHSN Network has supported hundreds of NHS organisations to introduce ITP innovations, helping the health service to take full advantage of these rapidly advancing medical innovations.

- EndoCuff from 17 sites to 101 and from 1,500 units to 39,000 in 12 months. 72% of eligible sites adopted
- SecurAcath from 55 sites to 92 and from 7,830 units to 84,000 in 12 months. 67% of eligible sites adopted
- Heartflow from 7 sites to 34 and from 86 scans analysed to 3,289 in 12 months. NICE guidance suggestes savings of over £700,000
- Urolift from 24 to 66 sites and from 1,200 to 2,202 patients treated in 12 months. Saving the NHS up to £350,000 in bed days (approximately 900 bed days)

Surrey Heartlands

- Colleagues at Royal Surrey County Hospital have adopted several innovations: Episcissors, angled scissors for use in guided mediolateral episiotomy; SecurAcath, to secure peripherally inserted central catheters; HeartFlow, a software product which is used to estimate fractional flow reserve from coronary CT angiography; and Endocuff Vision, improving stability and visualisation during colonoscopy.
- And at Ashford and St Peter's Hospitals NHS Foundation Trust, Episcissors have also been adopted, along with Heartflow, Endocuff Vision and Urolift – a prostatic urethral lift system

Commenting on the innovations, Dr Charlotte Roberts, KSS AHSN Senior Programme Manager, said:

"The take up of these new innovations has been encouraging and we've been delighted to provide support to the teams using them and to ensure they've been correctly reimbursed for them.

"We've also been having conversations with Surrey Heartlands Cancer, Mental Health, and Women and Children's programme lead colleagues about their future needs and the many opportunities to join us in innovation activity, which has been very encouraging."

Kent

East Kent Hospitals University NHS Foundation Trust (EKHUFT) and KSS AHSN led nationally on the following projects:

- SecurAcath helping to develop the NICE guidance on the innovation
- Dr Zach Tsiamoulos, Endoscopy Clinical Lead at East Kent Hospitals University NHS Foundation Trust, is one of the national leaders of Endocuff Vision use in England.
- Episcissors there's been excellent uptake across East Kent, and we are currently working with them to write up a case study of this work after seeing a reduction in their obstetric anal sphincter injuries (OASIS) rates

In Maidstone and Tunbridge Wells NHS Trust we have helped write a business case and co-presented at an Interventional Procedures Panel to introduce the UroLift system (NeoTract) as a day-case alternative to current benign prostatic hypertrophy (BPH) surgical management, and facilitated meetings between clinical teams and the Urolift supplier to support adoption of the solution.

Sussex

 We've supported the adoption of Endocuff Vision, Episcissors and SecurAcath in East Sussex over 18/19, with a systematic approach for considering uptake of innovation and trust level.

National programmes

The AHSN Network has selected seven projects, developed regionally, for national adoption and spread across England during 2018-20, with KSS AHSN the national lead for the Emergency Laparotomy Collaborative.

- Atrial Fibrillation (AF)
- PReCePT
- Transfer of Care Around Medicines (TCAM)
- PINCER
- ESCAPE-pain
- Serenity Integrated Mentoring (SIM)
- Emergency Laparotomy Collaborative (ELC).





The KSS AHSN Alliance for AF aims to reduce the number of people dying from, or being disabled by, AF-related stroke by optimising the use of anticoagulants in line with NICE CG180 guidelines.

Through its 'Detect. Review. Protect' project more than 500 Lead 1 ECG devices have been distributed across the region. The portable devices are being used by a range of professionals, including health care assistants, GPs, pharmacists and nurses, to take an instant heart trace to determine whether an individual has AF – a major cause of stroke.

By the end of March 2019 7,992 individual ECG traces had been taken across Kent, Surrey and Sussex. Of these, 793 possible cases of AF were detected, which equates to approximately 32 AFrelated strokes being saved, avoiding debilitating effects on individuals and their families. This is the highest patient benefit impact of any AHSN.

Bespoke support

We also work with STPs on a range of bespoke projects that reflect the needs of their populations and the clinical communities that serve them, as these following examples show.

Our continued partnership work with Surrey Heartlands Academy has helped to develop its offering so that it is now seen as a national exemplar. Alongside this we've supported the region's clinical teams to identify innovation and improvement priorities.

The Surrey Heartlands Academy was featured in a blog by Jennifer Dixon, Health Foundation Chief Executive, following a talk given by Dr Mark Hamilton at their recent annual conference: www.health.org.uk/ news-and-comment/blogs/the-paradox-offaster-progress-it-takes-time

In Sussex's developing ICS we've made excellent headway around the launch of our Transfer of Care Around Medicines (TCAM) project.

This sees us working with partners at ESHT Pharmacy, Community Pharmacy Surrey & Sussex, East Sussex Better

Together and East Sussex County Council to improve the way patients' medicines are managed on discharge.

Following a successful launch with East Sussex Healthcare Trusts, TCAM is now being rolled out with other trusts within the developing ICS.

In March 2019 we helped launch the Medway Innovation Hub. Launched out of Medway CCG, it brings together local partners from across the STP and utilises primary care leadership as an agent of change. Its objectives are to:

- Identify real world problems affecting our citizens and health and social care providers in Medway
- Provide a vessel for innovations and a pathway into finding the best value solutions for our health and social care system
- Work collaboratively with partners across the system to give proven innovations the best chance to scale up across the NHS
- Find interoperable solutions across the system with the person at the centre of everything we do.

Innovation Exchange

The Innovation Exchange model went live in 2018/19, with the aim of improving the way AHSNs identify, test and roll out innovative solutions to health challenges.

Many companies who want to work with the NHS find its complexity daunting.

AHSNs provide a range of services to companies who have a service, product or technology for use in the NHS. We do this through our national Innovation Exchange approach.

The Innovation Exchange is coordinated by AHSNs to identify, select and support the adoption of innovations that improve patients' lives, clinical outcomes and our economy.

Funded by the government's Office for Life Sciences, the Innovation Exchange builds on AHSNs' unique expertise and cross-sector connections, enabling us to identify common challenges and quickly bring people and organisations together to develop, test and spread proven innovation.

Rob Berry, KSS AHSN's Head of Innovation, says that the Innovation Exchange approach complements the organisation's existing support for health technology companies across the region, such as our Bridging the Gap service, which helps industry navigate the healthcare maze. "Kent, Surrey and Sussex has the oldest patient demographic in England and the greatest workforce recruitment challenge. We've worked hard to address these issues through a range of offerings to innovators and the NHS, and we're now thrilled to be delivering the Innovation Exchange as a core part of our work," Rob said.

Innovation Exchanges will identify and support the adoption of innovations on a regional and cross-regional basis through four structured elements:

Needs definition

We support our Sustainability and Transformation Partnerships (STPs) and Integrated Care Systems (ICSs) to identify validated solutions to existing challenges.

Industry support and signposting

All AHSNs support industry with a consistent and co-ordinated offer to innovators wherever they are identified in the system, so that the benefits of new products and services reach more patients faster.

Real world validation

Real world validation seeks to provide the information and evidence needed to enable adoption of an innovation in a variety of real world settings.

Spread and adoption of supported innovations

We support the scaling up of innovation that has been validated as effective in real world settings and support the spread and adoption of innovation identified by the Accelerated Access Collaborative.

"These functions describe a comprehensive process to support and signpost technology companies, at whatever stage they are at, and to help meet the needs of our regional health and social care system," Rob said.

"By working with partner organisations from industry and the NHS, we're able to deliver affordable, beneficial technology to patients across the region and as a result to contribute to economic growth."

Real world validation

Data analytics has a vital role to play in supporting the spread and adoption of new technology in the NHS

Through our real world validation process we're able to provide the evidence that the NHS needs, at a systems level, to make pragmatic, evidence-based decisions.

The work also helps companies to understand the necessary rigour that's required to pass the NHS's tests of effectiveness and efficiency.

Richard Lee-Wright, KSS AHSN's Director of Insight, said that his team's process, which blends a Quality Improvement approach with health economics analysis, can benefit all parties.

"Through our work we're able to help companies understand whether they have the appropriate evidence base to meet the needs and requirements of the NHS," he said.

"And for the NHS, we're able to de-risk future implementation by asking the appropriate questions, and gathering robust evidence, from the outset."

Richard and his team generally start to work with companies once they have a one-to-three site implementation in place. Whether the work is commissioned by the company itself, or an STP

looking for validation support before taking on a new product, the approach is still the same.

"Real world validation is most definitely a fully collaborative piece of work between the company, the NHS and ourselves." Richard said.

"We work with all parties to truly understand what it is they're setting out to determine, and tailor our approach accordingly."



Placing patient safety at the heart of care

England's 15 Patient Safety Collaboratives (PSCs) is the largest safety initiative in the history of the NHS.

Collectively and individually the PSCs play an essential role in identifying and spreading safer care initiatives from within the NHS and industry, ensuring these are shared and implemented throughout the system.

Funded and nationally coordinated by NHS Improvement, each of the 15 regional PSCs are organised and hosted locally by the Academic Health Science Networks (AHSNs).

KSS PSC has made a huge impact on patient safety across the region, and is now leading on the rollout of two key national initiatives on behalf of the national PSC network.

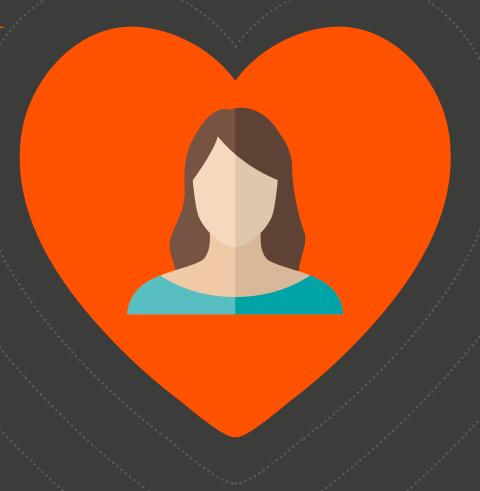
In order to maximise impact, each PSC across the network is focusing on the same workstreams. Rather than being a stand-alone area, safety Culture and PPI work will be adopted as an integral element across each of these workstreams.

Peter Carpenter, Service Delivery Director at KSS AHSN, said that KSS PSC's success was down to its ability to collaborate with a range of partners, while taking a strategic lead in key areas.

"I'm thrilled that KSS PSC is now leading the spread work nationally on two of the four Adopt and Share projects," he said.

"We have been heavily involved in the Emergency Laparotomy Collaborative and in supporting wider use of the COPD Care Bundle and we are pleased to be able to share our learnings with the whole network.

"We've also made huge impact through our leadership, capability and safety culture work, and I'm sure that, by placing this discipline at the heart of each workstream going forward, we will be able to further improve safety culture across Kent, Surrey and Sussex."



Our achievements 2018/19

Deteriorating Patients

We are actively engaged with 100% of our acute trusts, ambulance trusts and community organisations in the adoption of NEWS2 – an early warning score.

Regional sepsis trends show a mortality rate reduction of 9.45% to 8.66% per patient (decrease of 0.79% per patient) and a bed-day rate reduction of 10.45 to 9.86 compared to 17/18.

Maternity and Neonatal Health Safety Collaborative (MNHSC)

Within our Maternity & Neonatal Safety Collaborative. 138 participants attended our Local Learning System (LLS) events. All 10 Maternity units have been represented at our stakeholder events with excellent engagement between the PSC and 10 units across the region. Within our PReCePT project, aligned to MHNSC, KSS has increased their % uptake from 63% to 78.5% in the short space of six months.

Safety Culture

Through our Leadership, Culture & Capability workstream, KSS PSC has developed several high impact initiatives; an Improvers Network with more than 1,000 active staff benefitting from support and training in QI; a 'Serious Incident Community of Practice' which supports staff, patients and their families in learning; and a 'Human Factors in a box' training package including training on appreciative inquiry, communication and supporting the "second victim".

Our plans for 2019/20

Preventing deterioration and sepsis

Continue to focus on deterioration across all care settings with the aim of improving recognition, escalation and management of the patient. This year the focus is in non-acute settings testing the use of NEWS2 and Soft tools in the recognition of deterioration. At the same time, we will strive to improve communication and safety netting to ensure increased safety across the healthcare system.

Maternity and Neonatal safety

The Kent, Surrey, Sussex Maternal and Neonatal Health Safety Collaborative Local Learning System creates a safe space for delegates to learn from each other, define what works well and why; cutting through hierarchy and bureaucracy to rapidly spread improvements. With the programme now in its final year of a three-year programme, it is expected that the three Local Maternity Systems, finally in place, will support the PSC with a new system level project and succeed as PreCePT has done this past year.

Medicines safety

The programme will focus on improving medicines safety in care homes and problematic polypharmacy through medications reviews in these discrete care settings. The work will build on our existing work in this discipline, including reducing problematic polypharmacy and the transfer of care around medicines.

Adopt and spread

We'll be driving work around these four national priorities, with KSS AHSN leading the national delivery of ELC and COPD:

- PReCePT helping to reduce cerebral palsy in babies through the increased antenatal administration of magnesium sulphate (MgSO4) to mothers during preterm labour, costing from £1 per individual dose. With the project in its second year, we expect to reach and sustain a >85% uptake over the year
- ED Checklist the checklist helps to standardise and improve the delivery of basic care, including the assessment of vital signs and level of pain in the first hour of admission in emergency departments, leading to escalation of concerns in a timely manner
- COPD bundle the care bundle describes six high impact actions to ensure the best clinical outcomes for patients admitted with Chronic obstructive pulmonary disease
- Emergency Laparotomy improve standards of care for patients undergoing emergency laparotomy surgery, reduce mortality rates, complications and hospital length of stay, while encouraging a culture of collaboration and embedding QI skills to ensure sustainability of change.

Spread and adoption

With a commitment to Transforming Lives Through Innovation, KSS AHSN is passionate about supporting new ways of working and delivering real change to the healthcare system. We focus on two projects from our patch that are now making their presence felt on a much grander scale.

Emergency Laparotomy

Collaborative

From an initial trial at Royal Surrey County Hospital NHS Foundation Trust, KSS AHSN is now leading on the national spread and adoption of the Emergency Laparotomy care bundle.

Emergency laparotomy is a common surgical procedure that carries a high risk of the patient dying within 30 days of surgery. Each year 30-50,000 operations are carried out, with over a quarter of patients remaining in hospital for more than 20 days.

Through its Emergency Laparotomy Collaborative, KSS AHSN has been instrumental in developing a care bundle that has been proven to improve outcomes, and is now being rolled out across the AHSN Network.

The journey started in 2015, when the Royal Surrey County Hospital NHS Foundation Trust developed an evidence-based emergency laparotomy care bundle.

This was rolled out across four hospitals as the ELPQuIC project. Data collected over an eight-month period found

crude 30-day mortality rate for all patients was reduced by 25% and risk-adjusted hospital mortality rate reduced by 42%.

With the support of the Health Foundation, and led by KSS AHSN's Emergency Laparotomy Collaborative, this care bundle (now known as the ELC care bundle) was implemented in 28 hospitals within three AHSN regions: Kent Surrey Sussex, West of England and Wessex, using the IHI breakthrough series methodology.

Initial results showed that the roll-out of the care bundle across 28 hospitals successfully reduced average length of stay by 1.3 days and reduced crude in-hospital 30-day mortality rate by 11%, when comparing baseline period with the improvement period.

In Kent Surrey Sussex alone, we estimate that 79 lives were saved during the 24-month programme.

The project has now been chosen by NHS E and the AHSN Network as one of seven projects to spread nationally. It is estimated that 26,500 patients will have benefited from the programme by the end of March 2020.

Jo Wookey, Senior Programme Manager at KSS AHSN, is leading the national roll out of the project.

"ELC has been a great success across the three AHSNs that ran the initial project, and we're thrilled to now be leading on its national roll out," she said.

"The key issue when spreading a project nationally is not to impose a hard set of rules, but to have enough flexibility within the project to ensure that it can take into account regional variations.

"Each AHSN is following the same approach in terms of collecting data, peer support and sharing learnings. However, which elements of the care bundle are delivered remain flexible, to allow for regional differences.

"Interestingly, what we've seen is that while the actual care bundle can look different in different locations, as the long as the collaborative principles behind it are the same, then the approach works."



Technology Integrated Health

Management (TIHM)

TIHM involves citizens and the public and private sectors to harness the possibilities of modern wireless technology for the health and social care sector.

It does this through the use of network of internetenabled devices installed in the home in combination with artificial intelligence. These alert clinicians when a participant with dementia needs support, helping them to live in their own homes for longer.

KSS AHSN has been involved with TIHM from the outset, bringing together a consortium in 2013 that included Surrey and Borders Partnership NHS Foundation Trust, Alzheimer's Society and the University of Surrey's Al Machine Learning team.

From that multi-million pound winning bid (KSS AHSN's first), TIHM has proven itself as a landmark project in a number of ways – it is regarded as the most promising of the Wave 1 NHS Test Beds and has received numerous awards, including the 'Improving Care with Technology' category in the HSJ Awards.

The success of the project's first phase enabled the University of Surrey to secure an additional £1m of funding from NHS England and the Office for Life Sciences in September.

The TIHM project has also put the University of Surrey Al Machine Learning Team, led by Professor Payam Barnaghi, on the map as a leading player in dementia research.

In April this year it was announced that they would be collaborating again with Alzheimer's Society. Together, the Medical Research Council, Alzheimer's Society and Alzheimer's Research UK have provided £20m for a new Care Research and Technology Centre at Imperial College London. It has six themes, with the University of Surrey leading two of them.

Guy Boersma, Managing Director of KSS AHSN, was involved in the initial funding bid back in 2013 and said he was thrilled to see the project's extension through additional funding.

"The TIHM team is taking an innovative approach to support those with dementia, and their carers, and I'm thrilled that KSS AHSN has been able to play a part in helping them to develop this work," he said.

"The new Care Research and Technology Centre is a hugely exciting development for the University of Surrey, and we're delighted to see its expertise in this field recognised by such a prestigious project.

"Having such a strong new Research Centre gives us a whole range of new opportunities to help people maintain independence and live longer in their own homes."

18/19 Our year in a snapshot

In the year that the NHS turned 70 and launched its new Long Term Plan, health and social care was never far off the political or news agenda. Things were equally busy at Kent Surrey Sussex Academic Health Science Network, as these headline statistics from our Annual Review show.

2,225 patients benefitting

RESPIRATORY

Improving the quality, availability and accessibility of respiratory services.

 2,225 patients benefited from the Respiratory care bundles, with patients receiving an average of a day's length of stay reduction since 2014

7,992 traces

ATRIAL FIBRILLATION

Increasing the identification, timely review and rate of appropriate anticoagulation offered to patients with AF in order to reduce the number of AF related strokes and improve patient outcomes.

- 7,992 traces were taken using mobile FCG 1 Lead devices
- 793 possible AF results detected
- Equating to approximately 32 AF-related strokes being saved

1,400 patients benefitting

ELC

Improving standards of care for patients undergoing emergency laparotomy surgery.

- 100% of KSS sites are running the **Emergency Laparotomy Programme**
- More than 1,400 patients benefited due to the implementation of the ELC care bundle
- This is a potential ROI of £684,506
- 26,500 patients to benefit nationally by end March 2020

sites implementing

TRANSFER OF CARE AROUND **MEDICINES**

Improving the way patients' medicines are managed on discharge.

 Ten sites are in the implementation phase of the TCAM programme, ready for patients to start benefitting in 2019/20

100%

of maternity units adopting

PReCePT

Helping to reduce cerebral palsy in babies through the increased antenatal administration of magnesium sulphate (MgSO₄) to mothers during preterm labour.

- 100% of maternity units are running the PReCePT programme
- 237 mothers were given MgSO₄, a 78.5% uptake, meaning an additional 50 babies benefitted from the previous year

products spread/used

INNOVATION EXCHANGE

Supporting healthcare innovation to spread faster and wider across the country.

- Increasing uptake of eligible sites by 16 (94%) to deliver over 7,600 products, uses and innovations into service in 18/19, including:
 - 3,370 SecurAcaths
 - 2.016 Endocuff Visions

1,100 patients benefitting

ESCAPE-PAIN

An evidence-based, group rehabilitation programme for patients with knee and/ or hip osteoarthritis.

- 25 sites are adopting the ESCAPE-Pain pathway
- More than 1,100 patients benefited during 2018/19
- This is a potential ROI of £1,129,029

164

GP practices implementing

PINCER

An audit tool that searches GP practice computer systems to identify patients being prescribed medicines that are commonly and consistently associated with medicine errors.

 164 GP practices implementing PINCER solution, with more coming online in 2019/20 and patients due to start benefitting imminently

innovators

BRIDGING THE GAP

A range of services to support industry to work with the NHS.

82 innovators participated in either a Market Insight Briefing, an Innovation Surgery, a one-to-one meeting or a combination of these sessions, receiving more than 900 hours of support

13

RWVs scoped, 8 complete

REAL WORLD VALIDATION

Bringing a Quality Improvement approach to data analytics.

 13 real world validations scoped and 8 completed in year, enabling further spread and lessons learned for various products and services.

*The***AHSN***Network*





Our funders

KSS AHSN is one of 15 Academic Health Science Networks in England. Our main funding comes from:

- NHS England
- NHS Improvement
- Office for Life Sciences
- NHS Digital

- Health Education England Kent Surrey and Sussex
- Interreg France (Channel Marche) England
- AHSN Network

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