The AHSN Network

NHS

Patient safety in partnership

Our plan for a safer future 2019-2025: Progress report

June 2023

Contents

The Academic Health Science Network's (AHSN Network) plan for patient safety was published in September 2019 in response to *NHS Patient Safety Strategy: Safer culture, safer systems, safer patients* (2019).

The strategy acknowledges the work of Patient Safety Collaboratives (PSCs) – commissioned through and hosted by England's 15 Academic Health Science Networks (AHSNs) – as a key improvement and delivery arm for the National Patient Safety Improvement Programmes (NatPatSIP).

Introduction

The AHSN Network comprises 15 AHSNs across England, established by NHS England in 2013 to improve health and generate economic growth in regionally distinct ways. We are commissioned by NHS England and the Government's Office for Life Sciences (OLS).

We support the NHS Patient Safety Strategy though our Patient Safety Collaboratives and are a key delivery arm. We are also a partner in the NHS Accelerated Access Collaborative, which brings together key organisations to streamline the adoption of new innovations in healthcare. In 2021, we launched our five-year strategy where we set out our ambition to support the NHS through an increased emphasis on health outcomes, our innovation pipeline, and by using our knowledge and learning to build and embed greater momentum for NHS pathway transformation.

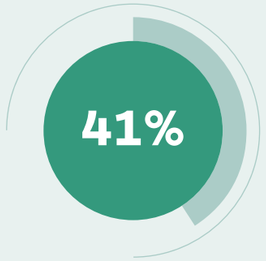
Over the last 12 months, the NHS has focused on recovery and restoration following the COVID-19 pandemic. Key lessons from the pandemic have helped us better understand the inequalities experienced by vulnerable groups in society, with a particular lens on patient safety.

The NHS Core20PLUS5 framework helps focus our attention, but we must not lose sight of the fact that there are also inequalities in both the proportion and risk of harm. Our pipeline programmes look to understand where we can make impact and reduce the inequalities gap. Our outcomes framework details the quality domains and pays particular attention to opportunities to improve safety and reduce harm.

The Institute of Global Health Innovation (*National State of Patient Safety 2022: What we know about avoidable harm in England*) noted in the 15 years prior to the pandemic, there were significant achievements in reducing the prevalence of specific types of patient harm. The concerted efforts of healthcare workers, and the impetus provided by national campaigns, led to dramatic reductions in some areas of harm.

> "We support the NHS Patient Safety Strategy though our Patient Safety Collaboratives and are a key delivery arm."

As of July 2021,



of maternity services in England were rated as

‘inadequate’
or
‘requires improvement’

for safety by the Care Quality Commission

In 2020, there were estimated to be between

19,800 and 32,200

cases of

‘probably avoidable’

significant harm to patients in primary care each year

In 2020, it was estimated that

237 million

medication errors

occur in England each year, contributing to more than

1,700 deaths

This shows how data can provide not only a means of measuring improvements, but also the stimulus for acting in the first place, when high levels of harm or unwarranted variation exist. We cannot overlook the effects the Covid-19 pandemic has had on safety and how we might need to address these differently in future.

Source: Institute of Global Health Innovation

The AHSN Network remains committed to supporting the NHS Patient Safety Strategy. We work closely with our commissioners, system partners and front-line teams to support the delivery of improvement programmes, developing pipeline programmes and innovations and providing insight and real-world evaluation, in order to develop the future safety improvements we need.

We have developed tangible measurement plans to demonstrate outcomes and impacts of our programmes and these impacts are now beginning to emerge. The data has helped us focus on where the need is and demonstrates improvements over time. This is critical when resources are stretched and staff morale low.

Data has helped us concentrate our understanding of health and safety inequalities and as a result we have developed programmes to support reducing these gaps such as PERIPrem for preterm babies and their mothers, our cardiovascular programme optimising blood pressure, and reducing the use of high-dose opioid prescribing.

We are supporting front-line teams to deliver improvements by increasing the capability of quality improvement expertise through our coaching and training as well as supporting Integrated Care Systems (ICSs) and their boards to deliver the national safety improvement programmes through a new PSC support offer.

Natasha Swinscoe
Chief Officer Lead
Patient Safety

Continuously improving patient safety

Improve our understanding of safety by drawing insight from multiple sources of patient safety information.

People have the skills and opportunities to improve patient safety, throughout the whole system.

Improvement programmes enable effective and sustainable change in the most important areas.

Insight

Measurement, incident response, medical examiners, alerts, litigation.

Involvement

Patient safety partners, curriculum and training, specialists, Safety II.

Improvement

Deterioration, spread, maternity, medication, mental health, older people, learning disability, antimicrobial resistance, research.

A patient safety ***culture***
A patient safety ***system***

A summary of the NHS Patient Safety Strategy (page 18)

When we launched the Patient Safety Strategy in 2019, we recognised that achieving this required a multi-faceted approach. Building on the foundations of patient safety culture and effective patient safety systems, we committed to three strategic aims: improving our understanding of safety, supporting people to engage with patient safety, and a focus on making meaningful improvements to patient safety.

The AHSN Network, through the work of the Patient Safety Collaboratives in delivering the national safety improvement programmes, have been instrumental in this journey. And we can now demonstrate impact that amounts to hundreds of deaths avoided, thousands of episodes of harm prevented, and hundreds of million pounds saved.

A new landscape is emerging with the formation of ICSs, the existence of patient safety specialists, and the advent of the Patient Safety Incident Response Framework (PSIRF). One which focuses on a systems approach to patient safety and builds on the learning from the Covid-19 pandemic.

The continuing development of ‘learn from patient safety events’ (LFPSE) supports systems thinking, by identifying and mitigating risks across the system. Safety improvement effort needs to focus increasingly on local activity; PSCs, through their expertise in supporting system leaders and experience of working across organisational boundaries are in a unique position to drive this change.

Aidan Fowler
NHS National Director
of Patient Safety

Our vision

Our ambition remains to support the delivery of the NHS Patient Safety Strategy and therefore our vision is aligned to the national strategy:

‘for the NHS to continuously improve patient safety.’

In line with the AHSN Network strategy, we will achieve this by seeking to achieve:

‘a substantial increase in the adoption and spread of innovation across health and care systems.’

The national strategy does not set a target, but looks for opportunities to be safer. It estimates that there is potential for a minimum of 928 extra lives saved and £98.5 million in treatment costs saved.

The NHS Patient Safety Strategy aims to save

1,000 extra lives

and £100 million

every year from 2023/24 excluding litigation costs

The AHSN Network continually strives to support the strategy ambition and is making a significant contribution to this aim.

What have we achieved?

Managing deterioration in care homes

Working with

11,621

care homes to support the safer care of residents

Preventing up to

57,000

emergency admissions

Over

1.2 million

views of our deterioration management training films for care home staff on YouTube

Maternity and neonatal

Saving up to

465

babies' lives through optimal cord management

Preventing up to

385

cases of cerebral palsy

Tracheostomy care

Average reduction in length of stay of

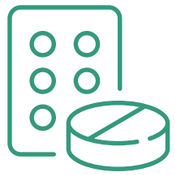
33 days

per admission from improved tracheostomy care, saving an estimated

£1.92 million

per hospital

Medicines safety



21,516

fewer people per month with chronic non-cancer pain have been prescribed opioids for more than three months

3,337

moderate or severe harms from medicines prevented

Saving up to

347

lives

Mental health

Working to reduce over

19,000

restrictive practices in England each year

261

mental health and learning disability wards actively involved with the reducing restrictive practice work

Data accurate as at 25 May 2023

Health inequalities

The release of Core20PLUS5 increased focus on the wider determinants of health such as education and poor housing, which are seen to widen the health gap.

Evidence has identified when people are already negatively affected by unfavourable social determinants of health seek care, healthcare itself may exacerbate health inequalities rather than mitigate them (Wade et al, *Action on patient safety can reduce health inequalities*, 2022).

Our Innovation for Health Care Inequalities Programme (InHIP) will continue, supporting systems to adopt evidence-based innovations to narrow healthcare inequalities, addressing the five key clinical conditions set out in Core20PLUS5. We are working directly with ICSs to identify and respond to population health needs.

In 2018, more than one in four of all live births in England and Wales were to mothers born outside the UK and 13% of all babies born in 2013 to 2017 belonged to a Black, Asian or minority ethnic (BAME) group. Black women are five times more likely to die during pregnancy. Asian or Asian British babies have a 73% increased risk of neonatal death compared to white babies. Mortality figures are the 'tip of the iceberg', indicating a higher level of morbidity (MBRRACE-UK, *Saving Lives, Improving Mothers' Care*, 11 November 2021).

We have learned from implementing previous national programmes that focusing on health inequalities can result in better outcomes. PReCePT, an AHSN national programme between 2018 and 2020 to offer magnesium sulphate to mothers in premature labour, reduces the risk of babies developing cerebral palsy.

The four English regions with the highest levels of socio-economic deprivation, according to the Marmot Review (2019) were all well below the average national magnesium sulphate uptake levels for foetal neuroprotection in 2016 and 2017. In 2020, after the full implementation of PReCePT, each of the poorest regions were within 1-2% of the national average of 85%. The gap between most and least deprived regions was closed.

Our new maternity and neonatal programme PERIPrem is also showing marked improvements in outcomes, and is another example where targeted interventions can close the inequality gap.

The LeDeR (Learning Disability Mortality Review) report highlights the poor health outcomes experienced by people with learning disabilities and the challenges they and their families and carers have in identifying signs of health deterioration early and preventing health problems. This is being addressed through the Patient Safety Collaboratives' work with care homes, which includes homes that support people with a learning disability or autism.

We are also supporting the reduction of high-dose opioids through our medicines safety improvement programme. Using Public Health management data, we have been able to identify areas of high deprivation and high use of opioids in order to focus our efforts and support systems to improve.

Delivering safer care

> "Patient safety remains a central priority and guiding principle for all AHSNs"

The AHSN Network has been working towards a unified strategy that will guide all fifteen AHSNs and their Patient Safety Collaboratives, with a common purpose, ambition and priorities.

As well as specific programmes of delivery, patient safety is a cross-cutting theme throughout the strategy. Over the following sections, this patient safety plan reflects on how our work is focused by the three strategic aims set out in the diagram below, in order to make a positive contribution to the aims of the NHS Patient Safety Strategy.

Our purpose

Transforming lives through health innovation.

Our ambition for 2021-26

To achieve a substantial increase in adoption and spread of innovation across health and care systems.

Our strategic aims for 2021-26

- **Multiply our scale and depth of impact through outcomes-led programmes.**
- **Building a high-impact national innovation pipeline.**
- **Establishing the AHSNs as a national authoritative voice on transforming health through the spread of innovation.**

Innovation in patient safety supports each of the aims of the AHSN Network strategy.

Strategic Aim 1

Multiply our scale and depth of impact through outcomes-led programmes.

- **We will deliver patient safety programmes that align with ICS priorities based on national and local drivers.**
- **We will deliver outcomes supported by a comprehensive measurement strategy that will maximise our impact across the health and care system.**

Current AHSN programmes

These national programmes have specific patient safety outcomes. AHSNs have been working over the last two years on increasing their spread and adoption.

Cardiovascular disease (CVD)

Cardiovascular disease, such as heart disease and stroke, is a leading cause of death in the UK, responsible for a quarter of all mortalities each year (source: British Heart Foundation).

High blood pressure and cholesterol are leading risk factors for CVD. Both are highly treatable and can substantially lower the risk of disease. The NHS Long Term Plan has highlighted CVD as a key area for saving lives over the next ten years. We are supporting this through the implementation of frameworks within Primary Care Networks, optimising clinical care and self-management and improving patient access to relevant therapies.

CVD disproportionately affects people in deprived areas, who are four times more likely to die prematurely from CVD (source: Public Health England). We're developing case finding initiatives to ensure those most in need are being reached, and reduce health inequalities.

1. **Blood Pressure Optimisation**
   AHSNs are working to lower these CVD risk factors through our Blood Pressure Optimisation (BPO) programme, supporting primary care.
2. **Lipid management and Familial Hypercholesterolemia**
   This programme delivered by the AHSNs is working collaboratively with healthcare professionals to reduce instances of cardiovascular disease.

Problematic polypharmacy

In England, over 1 billion prescription items are dispensed every year. As more people live longer with multiple long-term health conditions, the number of medicines they take often increases. This can lead to risks from not taking them all correctly taking too many, or the wrong combination.

Problematic polypharmacy adds a cost to the healthcare system and diminishes quality care for the patient – and most of this is entirely preventable.

The AHSN Network national polypharmacy programme is creating clinical, multi-stakeholder communities of practice across England, hosted by AHSNs, to tackle problematic polypharmacy locally.

Tackling medication-related harm has a positive impact of people's safety by reducing the risk of kidney damage, bleeds, confusion and falls, and addiction.

- **1,270** health and care professionals attended **eight** NHS Business Services Authority / AHSN Network joint webinars.
- **19 ICBs** have selected one or more polypharmacy comparator therapeutic area to focus on in partnership with their AHSN:
  - Anticholinergic burden on people aged 75 and over
  - Non-steroidal anti-inflammatory drugs (NSAIDs) and drugs that can cause or complicate acute kidney injury
  - Multiple anticoagulants
  - Five or more analgesics
  - Multiple medicines with a hypotensive effect

Transforming Wound Care

In 2019, there were an estimated 739,000 leg ulcers in England with estimated associated healthcare costs of £3.1 billion each year. The biggest proportion of the burden of wound care is due to lower limb wounds.

The AHSN Network's Transforming Wound Care national spread and adoption programme aims to ensure all patients with lower limb wounds receive evidence-based care which leads to faster healing of wounds, reduced likelihood of recurrence, and more effective use of health and care resources.

The programme uses the evidence, learning and recommendations from the National Wound Care Strategy Programme (NWCSP).

Early modelling indicated that improving lower limb wound care would release 11% of community nursing time and reduce spend on dressings. In five years we can expect a 30% reduction in leg ulcer prevalence.

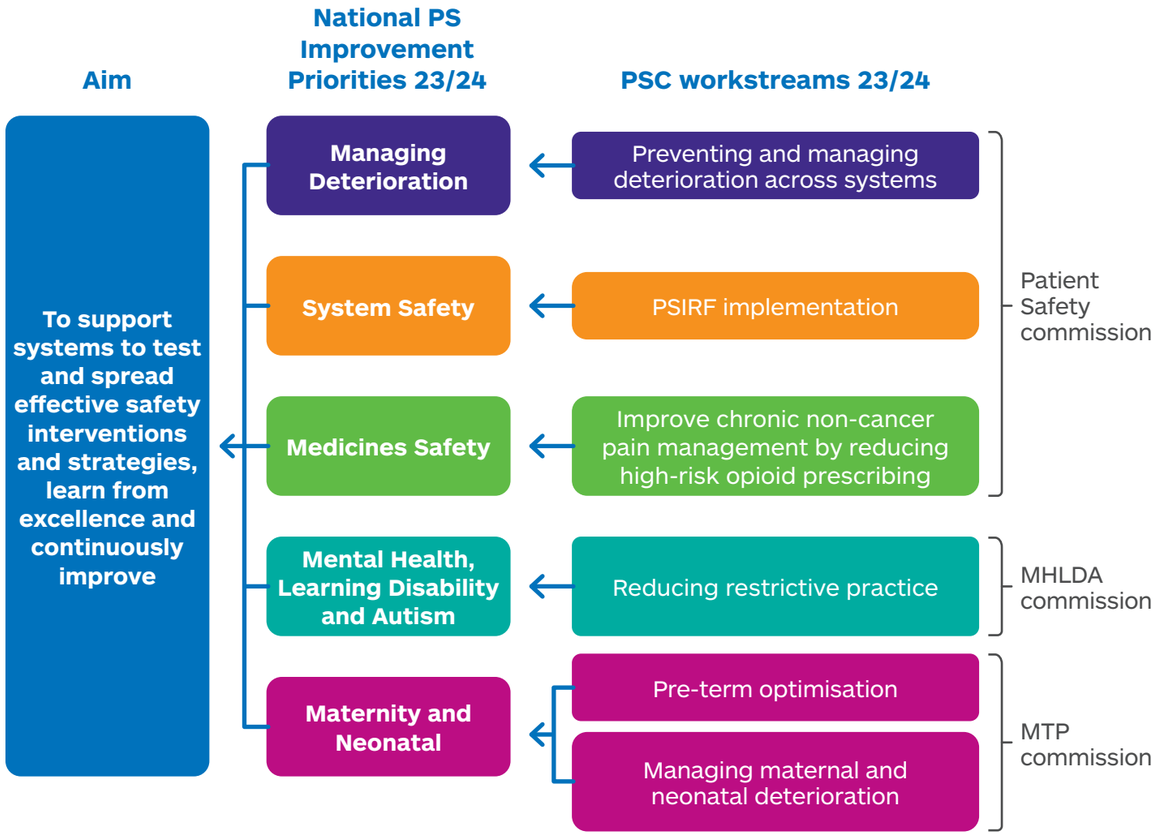
More effective care of lower limb wounds contributes to people's safety by providing faster assessment and treatment, which reduces instances of wounds becoming worse and lowers the risk of infection.

- The programme is working with **8** test and evaluation sites across **7** AHSNs.

National Safety Improvement Programmes

Through the programmes commissioned by NHS England, the AHSN Network is well-placed to make a direct and significant contribution to the NHS Patient Safety Strategy. Our approach is that patient safety should be woven throughout our wider improvement and innovation agenda.

Full integration with the AHSN Network programmes, supported by good quality improvement methodology, research and evaluation, can be sustained under the right conditions: cultural readiness, effective leadership and building quality improvement capability. The current programmes which Patient Safety Collaboratives are delivering in their respective AHSNs are shown in the 'driver diagram' below.



Managing deterioration

We have been working with system partners to improve the Prevention Identification, Escalation and Response (PIER) for physical deterioration in a number of healthcare settings over the last three years. The first part of this work was to support the adoption of deterioration tools across a number of health and care systems:

Managing Deterioration in Care Homes

Working with

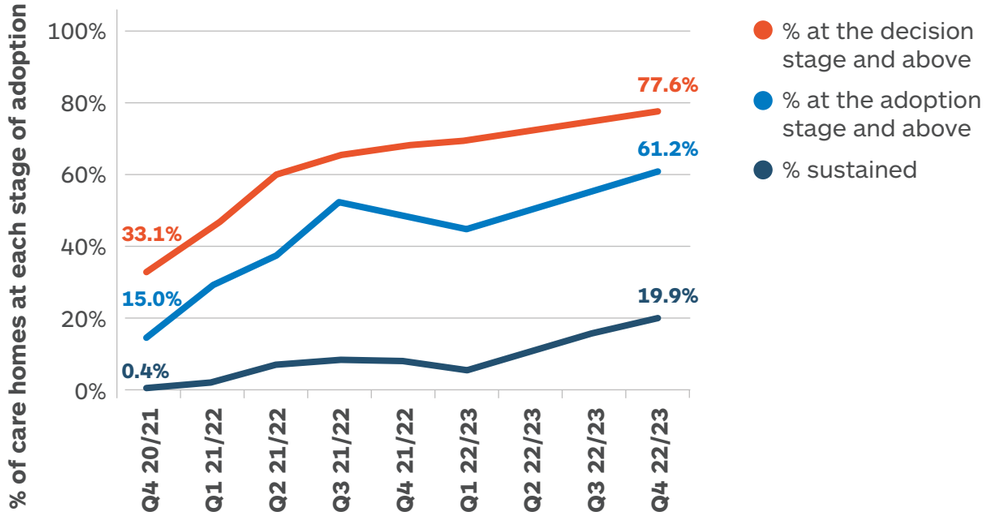
11,621

care homes to prevent up to

57,000

emergency admissions

Percentage of care homes at different stages of adoption*



*National percentage of care homes at different stages of adoption (Stage 3: Decision, Stage 5: Adoption, Stage 7: Sustained). *Note that this metric is cumulative and reflects the total number of care homes at each stage in each quarter.*

We are working with 11,621 care homes and have supported 9,164 of them so far to implement a deterioration tool for their residents. This helps the identification of physical deterioration early and improves communication and escalation to a healthcare professional.

Outcomes and impact

As a result, we have seen residents being monitored more frequently and appropriately escalated for ongoing care and treatment.

> We could see she was deteriorating and she received the help she needed quickly. We had the evidence that she was not well. It's easy when you have the evidence.
>
> **Care home staff member**

Benefits of using a deterioration tool

- Reduction in safeguarding referrals
- Financial savings to care home and to the system
- Increased staff confidence
- Digital tools enable data to be shared between care professionals
- Improved safety of care home residents
- Training sustained with the development of online resources and training modules
- Improved communication between care professionals and care sectors

Forecasted national impact

The forecast / extrapolation model (based on data from the West Midlands region) has shown that in the 9,164 care homes where a deterioration management tool has been adopted, it has the potential for the following impact:

Time period: Jan 2021 to March 2023 (forecasted)

Reduction in 999 calls	Reduction in emergency admissions	Reduction in total length of stay (bed days)
-40,005 (-5.5 per care home)	**-57,815** (-7.9 per care home)	**-624,385** (-85.2 per care home)

These reductions could have a material impact to the quality and experience of care received by residents, and could exhibit cost savings to the system if the West Midlands approach was replicated across all 15,140 care homes in England.

Digital platforms for the management of deterioration

The AHSN Network is also supporting the use of digital solutions in the management of deterioration. Eastern PSC ran a pilot based on using a telehealth system, using Whzan Blue Box, to inform clinical teams. 33 residential care homes across seven clinical commissioning groups (CCGs), representing 1,600 beds, took part to measure the impact of using deterioration tools across the region.

Initial findings demonstrate financial savings in excess of £200,000 over a six-month period. Staff reported improvements in responsiveness of clinical teams through use of the digital equipment, and an increased feeling of empowerment to support residents remaining in their place of choice. Training was co-designed with the Whzan team to ensure standardisation across the care homes and delivered virtually to enable flexible access for care home and GP staff.

The pilot period saw a reduction of 73 (15.75%) conveyances.

Extrapolation of the cost savings during the pilot suggests the potential savings over 12 months could be over £400,000.

This is based on 2.5% of care homes in the East of England. If coverage reached 80% of care homes, the potential cost saving would be well over £12 million. The net saving over three years is around £34,000 per care home.

> Staff wish they had this sooner as it could have prevented hospital admissions. They now have more understanding on signs of deterioration so will be able to act sooner once they spot these signs. Very useful piece of equipment, user-friendly, easy to use – they could have saved someone's life if they had it last year.
>
> **Care home manager**

Maternity and neonatal

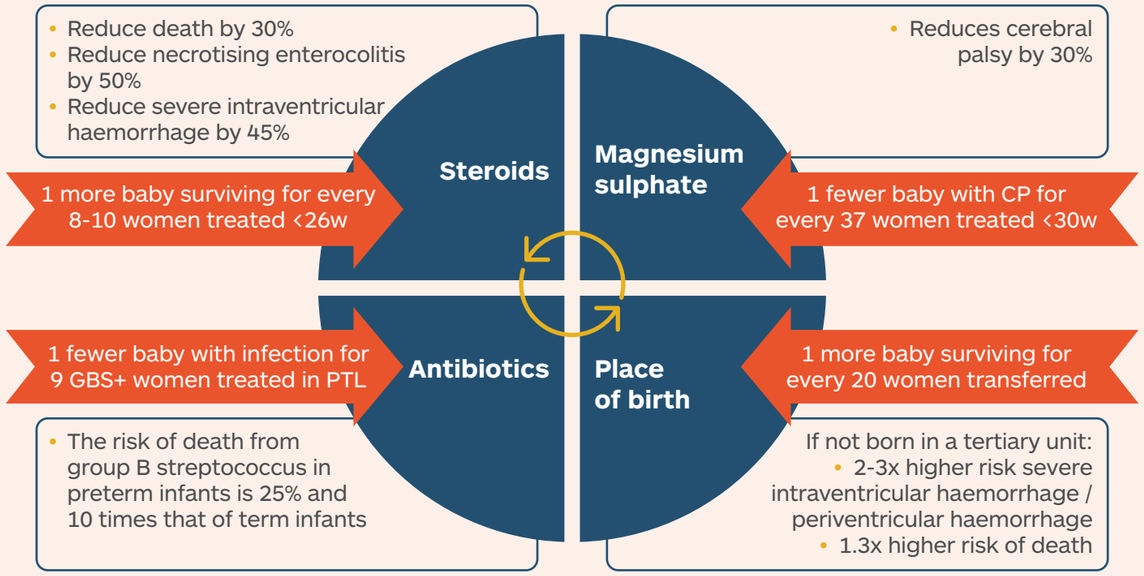
We are supporting the adoption of the optimisation of the pre-term infant care bundle. This consists of seven interventions which are known to improve the safety of pre-term infants. The diagram below demonstrates four of the seven elements where impact has been calculated. There is ongoing work to determine the impact of the remaining elements.

Improving the care of premature babies has:

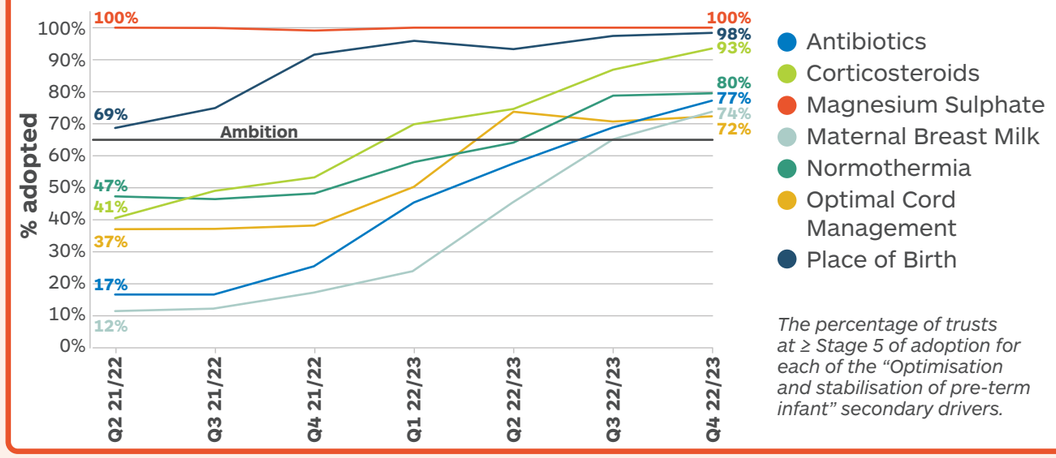
Saved up to **465** lives*

Prevented up to **385** cases of cerebral palsy**

* Optimal cord management has saved up to 351 lives since April 2020 and the use of antibiotics has saved 7 lives
** Data from the start of $MgSO_4$ work in 2016



The percentage of trusts adopting each of the optimisation secondary drivers



The percentage of trusts at ≥ Stage 5 of adoption for each of the "Optimisation and stabilisation of pre-term infant" secondary drivers.

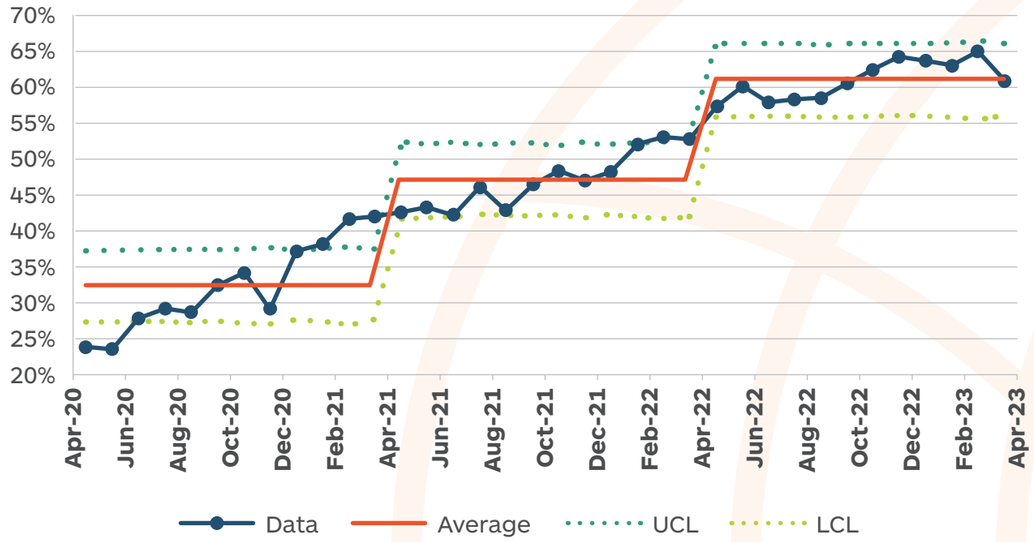
Outcomes and impact

We are now seeing the impact of the adoption of pathways of care across maternity units.

Optimal cord management

Optimal cord management has contributed to saving the lives of up to 465 babies

- Optimal cord management (OCM) reduces death in premature babies by nearly a third [1 2]
- With all premature babies born at less than 34 weeks gestation, wait at least 60 seconds before clamping the umbilical cord
- 12,515 babies have received OCM since April 2020
- The number of babies needing to receive OCM to prevent death is approx. 30 - 50



14,270
mothers have benefitted

Magnesium sulphate

Magnesium Sulphate treatment prevented cerebral palsy in up to 385 babies

The AHSN Network spread the use of magnesium sulphate in women in pre-term labour. The evidence base supported a reduction in cerebral palsy.

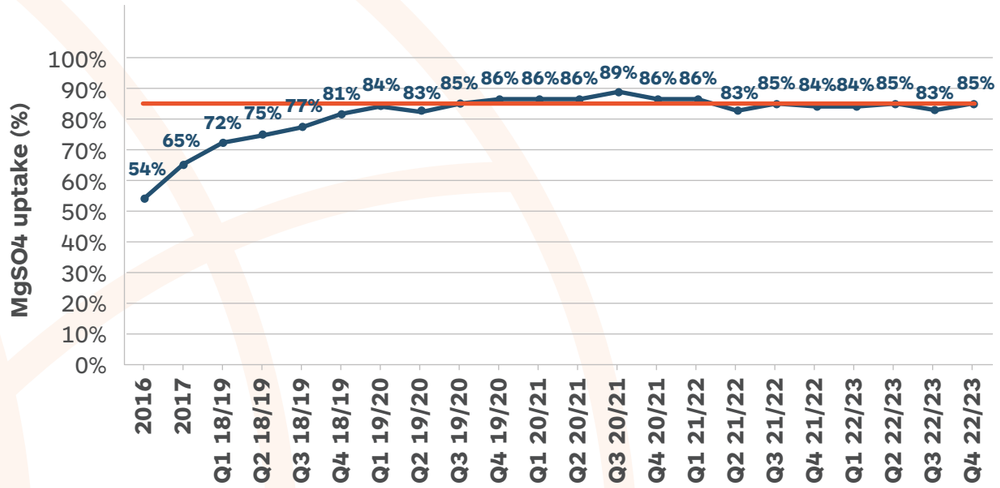
The programme was called PReCePT and ran across all maternity units in England for two years.

After this period the Patient Safety Collaborative supported the magnesium sulphate pathway in maternity units through the optimisation bundle for pre-term infants, part of the maternity and neonatal safety improvement programme.

This has resulted in a sustained adoption of 100% units and around 88% of eligible women/babies receiving $MgSO_4$ across the country.

This work is commissioned by NHS England.

Since 2016, this work has resulted in financial cost avoidance of between £308m and £385m.



Medicines safety

For the period from January to November 2022:

21,516
fewer people per month with chronic non-cancer pain have been prescribed opioids for more than three months

3,337
moderate or severe harms from medicines prevented

Saving up to
347
lives

Opioids are a highly effective class of analgesics and, when used carefully, for a time limited period, are of great benefit to many people living with pain. The Faculty of Pain Medicine has advised that increasing opioid doses above 120mg/day morphine equivalent is unlikely to yield further benefits but exposes the patient to increased harm. Despite this, a review by Public Health England (2019) showed that in 2017 to 2018, 540,000 adults in England were prescribed opioid pain medicines for three years or more.

National Institute for Health and Care Excellence (NICE) guidance states that opioids should not be offered to manage chronic non-cancer pain as the harms outweighs the benefits.

We have developed a whole-system approach to reduce harm from opioids and help people live well with chronic non-cancer pain.

The ambition of this programme is that by end of March 2023 Patient Safety Collaboratives (PSCs), working with a minimum of 15 ICSs will collectively achieve the following outcomes:

- 30,000 fewer people prescribed oral or transdermal opioids (of any dose) for more than three months.
- Of these, 4,500 will have been prescribed a high dose at baseline and have now stopped opioids.

24 ICSs are being supported through the whole systems approach framework by the 15 PSCs. A further eight ICSs are being supported via shared learning.

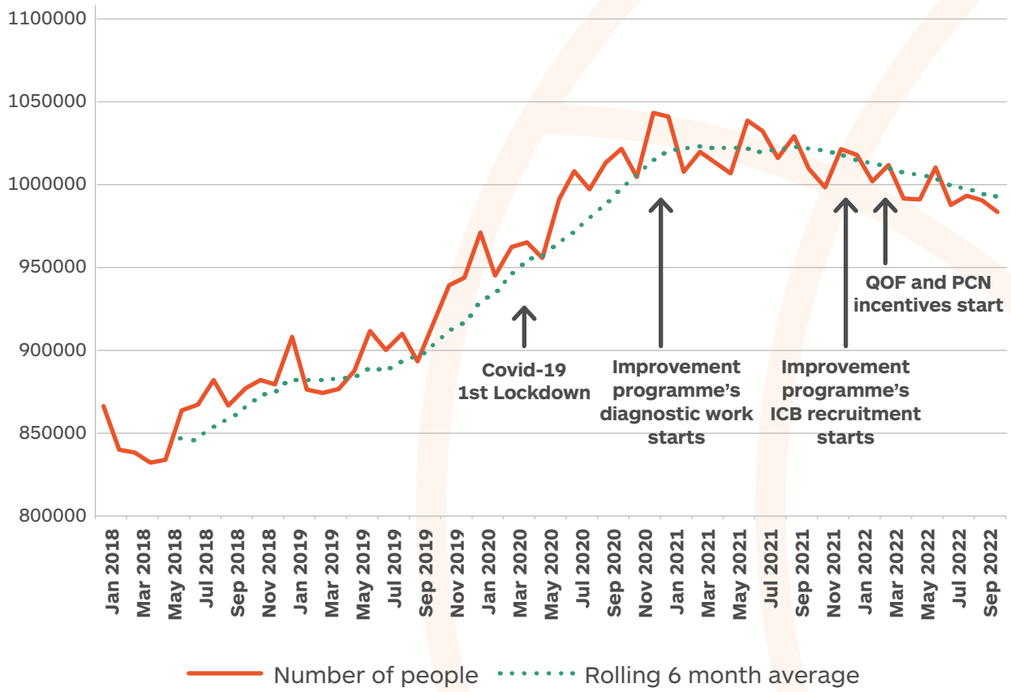
Outcomes and impact

Medicines safety improvement

Reducing opioid prescribing saves 347 lives

- Saving **347** lives over two years and **3,337** fewer cases of short-term harm each year as a result of fewer people with chronic pain being prescribed long-term opioid analgesics when compared to 2021.
- Patients report **better quality of life, less pain** and **less disability** as a result of improved care.

People prescribed oral or transdermal opioid analgesics in four or more consecutive months



Mental health

Restrictive practices cause both physical and psychological harm to patients and are often traumatising to an already vulnerable patient group. The use of restrictive practice can impact negatively on staff who either use restrictive interventions on patients themselves or who witness them.

There is large variation between services in rates of restrictive practice, and marked inequality in race, diagnosis, age and sex. The CQC's review, *The state of care in mental health services 2014 to 2017*, observed this large variation in practice, and the recently published Department of Health and Social Care's Mental Health Units (Use of Force) Act 2018 statutory guidance reports that there is still work to do.

The programme will continue to scale up and spread the reducing restrictive practice change package developed and refined for the Mental Health Safety Improvement Programme (MHSIP) by the National Collaborating Centre for Mental Health (NCCMH) in a national pilot collaborative, across a greater number of wards and organisations, for a further six months to September 2023.

The MHSIP supports staff and patients to work together to improve services and reduce the use of restrictive interventions in their wards. The PSCs are focusing on creating safer in-patient mental health and learning disability services by using a systematic quality improvement approach to reduce restrictive practices.

- 261 wards across England are actively engaged in the restrictive practice work, as well as all of the major private providers of NHS-funded mental health in-patient services.
- PSCs are directly supporting 13% of all wards in eligible trusts in England to use the reducing restrictive practice change package.

15%

reduction in traumatising restraint, seclusion & rapid tranquillisation restrictive practices was recorded in pilot work in 38 in-patient wards

Working with all Mental Health Trusts in England to prevent over

19,000

restrictive practices each year

Outcomes and impact

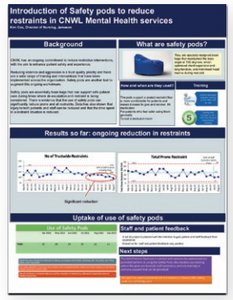
We are now seeing changes in the number of restraints, time in restraint, time between restraint, types of restraint used, and an increase in activities and patient engagement reflecting a positive cultural change at ward level.

Here are some examples of positive changes at ward level:

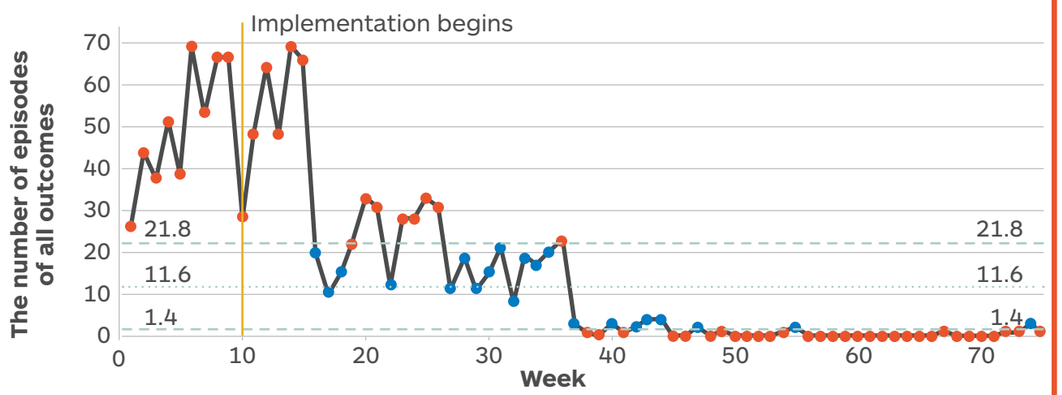
Central and North West London NHS Foundation Trust
By using safety pods the team has reduced the amount of restraints needed and improved safety for patients. The pods are essentially bean bags that can be used for de-escalation or when restraint is being considered. They are more comfortable for patients and make it easier to give and receive medication.

Lincolnshire Partnership NHS Foundation Trust
The team on Langworth Ward focused on improving the mealtime experience for their residents. It's gone from being chaotic and messy to being person-centred, relaxed and therapeutic. As many of their incidents of violence and aggression happened at mealtimes, it has reduced the need for restraint.

Southern Health NHS Foundation Trust
By working with the patients and staff on Juniper Ward, they agreed a package of eight areas to focus on, such as queuing for medication, the use of plastic cups, and leave away from the ward. Since implementation began they have reduced the use of all restrictive practices from a peak of 70 per week to close to zero.



The number of restrictive practices over time (all three practices combined)



Reduction in restrictive practices over time at mental health wards supported by Wessex PSC

System safety

The aim of this workstream is to create optimal conditions for patient safety improvement across systems. We will achieve this by supporting the implementation of the new Patient Safety Incident Response Framework and developing safety improvement networks.

NHS England published the Patient Safety Incident Response Framework (PSIRF) in August 2022 outlining how NHS organisations should respond to patient safety incidents to facilitate learning and improvement.

The framework replaces the Serious Incident Response Framework, and represents a significant shift in the way the NHS responds to patient safety incidents. PSIRF centres on compassion and involving those affected; system-based approaches to learning and improvement; considered and proportionate responses; and supportive oversight.

> Working collaboratively with the PSC in supporting the transition to PSIRF has been of great benefit in terms of broadening perspective and quality improvement expertise to ensure maximum support for a complex project. An external source of support that sits outside of any assurance or regulatory function also promotes an open culture of learning and improvement as well as additional resource.
>
> **Clinical Quality and Improvement Team, Nursing Directorate, SE Region, NHS England**

> The Patient Safety Collaborative has been instrumental in facilitating cross-ICS workshops that have enabled all our providers to make connections with others, share best practice and the work they have already implemented in relation to PSIRF. By also linking into our local Patient Safety Network, the PSC leads have built relationships with our individual provider and ICB PSIRF leads, which has enabled two-way sharing of experience, information and resources.
>
> **Surrey Heartlands ICS**

> The support offered from the AHSN has been invaluable; the team are responsive and inclusive making great suggestions to pull pieces of work together and get workshops off the ground.
>
> **Head of Safety and Learning, Chief Nursing Officer's Directorate, NHS Kent and Medway ICB**

Tracheostomy care

Tracheostomies provide artificial airways for approximately 15,000 patients in England and Wales each year. These patients frequently have significant co-morbidities and care needs that span a range of treatment specialties and locations. However, previous studies have shown defects in tracheostomy care provision in hospital: a combination of inadequate equipment supply, undertrained staff and limited infrastructure result in avoidable harms to patients with corresponding economic consequences for the health system (Cook et al, 2011; B. A. McGrath & Thomas, 2010).

In 2020, the NHS England Safer Tracheostomy Care Safety Improvement Programme rapidly implemented three of the key interventions from the 20-site Improving Tracheostomy Care programme to 180 hospital sites across England.

Implementation occurred during the Covid-19 pandemic, a time when NHS England had significant safety concerns around managing the expected large numbers of new patients requiring tracheostomy in surge locations by staff who were not trained, resourced, or experienced in providing tracheostomy care. Routine and emergency care was anticipated to be delivered by staff drafted from a non-tracheostomy care background.

There was insufficient time to replicate the entire range of quality, safety and efficiency-based interventions from the ITC programme (the 'pilot') and with the most immediate priority being to ensure patient safety, three key safety elements of the pilot were incorporated into the safety improvement programme's tracheostomy care toolkit:

- A standardised tracheostomy daily care bundle.
- Bedhead signs with key information about the procedure to support rapid communication in an emergency.
- Standardised 'bedside' tracheostomy emergency equipment available at all times.

Improving tracheostomy care with an average reduction in the total hospital length of stay of

33 days

per admission,

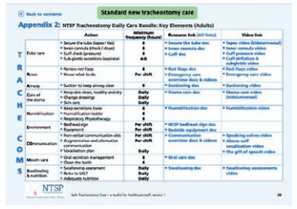
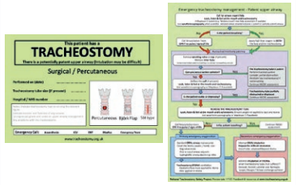
and an estimated saving of

£1.92m

per hospital

in England

These are the three tracheostomy interventions in detail:

Safety Intervention	**Standardised tracheostomy daily care bundle** – locally agreed at individual organisation level, including local/regional Critical Care Network	**Bedhead signs** for patients, which include patient-specific key details of the tracheostomy along with the **emergency care algorithm**	**Standardised 'bedside' tracheostomy emergency equipment**
Rationale	The National Tracheostomy Safety Project (NTSP) reviewed critical incidents that have occurred involving tracheostomy or laryngectomy care. Recurrent themes and potential solutions were refined by national multidisciplinary consensus into nine key elements to ensure high quality, safe care.	Bedhead signs detail key information about the indication, type and date of a tracheostomy, along with details of how to manage the upper airway in an emergency, and who and how to call for help. They communicate essential information about the patient to staff who are caring for them.	There have been many incidents recorded in hospital lifts, corridors and remote departments where a blocked or displaced tube could not be managed due to a lack of immediately available equipment. Any clinical area caring for patients with a tracheostomy must have emergency equipment immediately available at all times and it must accompany the patient wherever they go during their hospital stay.
Resource			

During the period of the programme (April 2020 to March 2022) the number of sites implementing all three interventions had increased to 85%, from 136 to 164 out of 192 sites.

An evaluation has concluded that the three interventions led to an average reduction in total hospital length of stay of 33 days per admission 12 months after the introduction of the safety improvement programme. This corresponds to a potential reduction of over £27,000 per admission, with significant resources saved over the course of the programme, corresponding to a potential saving of over £1.9 million per hospital over 12 months (McGrath et al 2023, *Estimating the potential benefits of a patient safety quality improvement scheme introduced at scale in NHS hospitals in England*, publication pending).

Strategic Aim 2

Building a high-impact innovation pipeline to support economic growth.

- **We will work with our partners to identify and develop local innovations that improve safety.**
- **We will test, evaluate and spread innovations that have the potential to reduce harm and improve safety.**

Our connections to academia include Patient Safety Research Centres (PSRCs) and the Applied Research Collaboratives (ARCs), with whom we have a joint AHSN/ARC post. They help to both identify the evidence and research that can lead to new programmes of work for piloting and testing, and also to evaluate those programmes in small 'test of change' areas before they are ready for wider adoption.

New AHSN programmes

The AHSN Network strategy has identified four clinical areas in which to develop our pipeline. This includes patient safety as a key lens through which we test, develop and scale new ideas and work programmes.

- **Respiratory**
- **CVD**
- **Mental Health**
- **Maternal and Neonatal health**

The clinical working groups will develop a programme of work based on a landscape review:

1. Develop view of landscape

Output: Documented landscape review

2. Create a programme aim and scope

Output: Documented programme aim, scope and objectives

3. Identify innovations

Output: Long-list of innovations

3. Screen innovations

Output: List of mature innovations proposed for due diligence

List of less mature innovations with potential to support

They will then put forward candidate programmes and innovations, following a due diligence process for regional spread. We will look for the potential safety opportunities using this outcome framework:

Outcome domains

Maternity and Neonatal Health

Three maternity and neonatal health programmes have already passed the due diligence process. At this time other clinical areas are in development.

PERIPrem: Perinatal Excellence to Reduce Injury in Preterm birth

The PERIPrem care bundle has 11 evidence-based elements, designed to reduce preterm brain injury and mortality by at least 50%.

PERIPrem was co-produced by the West of England and South West AHSNs, and the South West Neonatal Operational Delivery Network in the South West NHS England region.

An independent, mixed-methods evaluation was performed and demonstrated an improvement in adherence to 10 of 11 elements, and in babies receiving the complete bundle of interventions. Within the clinical perinatal teams there were significant improvements in team function, situation monitoring and communication.

The qualitative evaluation identified enablers in the domains of staff capability, motivation and opportunities from interviews with implementing clinical teams. Outcomes improved for preterm babies in the South West during the PERIPrem implementation year, with a 37% reduction in severe brain injury and a 28% reduction in mortality, compared to baseline rates (2014-2019).

The combined effect is likely to achieve at least a 50% reduction in mortality and severe brain injury if fully implemented. A reduction in preterm deaths will also significantly reduce the infant mortality rate, which is higher than expected when compared to similar high-income nations in Western Europe.

If replicated across England the estimated benefit is likely to be:

- **280** fewer infant deaths per year
- **370** fewer babies suffering severe brain injury (ultimately cerebral palsy), with associated projected lifetime health and social care savings of at least **£300 million** per year.

Reference: Glover Williams A, Tuvey S, McBain H, et al, *Perinatal excellence to reduce injury in preterm birth (PERIPrem) through quality improvement*, BMJ Open Quality 2022)

PERIPrem won

‘Best National/ Regional Project’

at the

2022 BAPM Gopi Menon Awards

PERIPrem is a bundle of perinatal interventions that will contribute to a reduction in brain injury and neonatal mortality across the South West of England by optimising:

- **Place of Birth**
- **Antenatal Steroids**
- **Antenatal Magnesium Sulphate**
- **Intrapartum Antibiotic Prophylaxis**
- **Optimal Cord Management**
- **Normothermia**
- **Early Maternal Breast Milk (MBM)**
- **Caffeine**
- **Probiotics**
- **Volume Guarantee (VG) or Volume Targeted Ventilation (VTV)**
- **Prophylactic Hydrocortisone**

Birmingham Symptom-specific Obstetric Triage System (BSOTS)

There is no standardised system within maternity to treat pregnant women who attend with pregnancy related complications or concerns. Women are often seen in the order in which they arrive. The underlying good health of the maternity population may mask the severity of maternal illness, and no assessment of the condition of the unborn baby reinforces the need for a specific maternity system.

West Midlands AHSN, NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) West Midlands, and The Birmingham Women's and Children's Hospital (BWC) started working with clinicians and public representatives in 2013 to develop a standardised assessment system called BSOTS – Birmingham Symptom-specific Obstetric Triage System.

The system involves completion of a standard clinical triage assessment by a midwife within 15 minutes of the woman's attendance, which defines clinical urgency using a four-category scale. This guides timing of subsequent assessment and immediate care (if required) using algorithms. Documentation is provided to support and standardise completion of the clinical tasks required, along with multidisciplinary training for clinical teams. This ensures that variation in treatment and outcomes is minimal and that participating maternity triage departments are working cohesively.

An initial evaluation at BWC showed that BSOTS increased the number of women seen within 15 minutes of attendance to maternity triage from 38% (159/421) to 53% (209/391). The system also appeared to reduce the time between attendance to medical review for those who required it.

92

obstetric units have now implemented BSOTS across England, and it has also spread to Australia.

B	Birmingham
S	Symptom-specific
O	Obstetric
T	Triage
S	System

Evaluation by NIHR CLAHRC West Midlands demonstrated that BSOTS:

- Significantly improved number of women assessed with 15 minutes of arrival (particularly red/amber)
- Is likely to improve safety for women and babies
- The system has strong inter-rater reliability suggesting it offers a reliable method of triaging women
- All the midwives reported that BSOTS training had improved their knowledge and confidence

This maternity triage system has now spread from the West Midlands to other AHSNs demonstrating the potential to scale up evidence-based innovations through our networks.

Black Maternity Matters

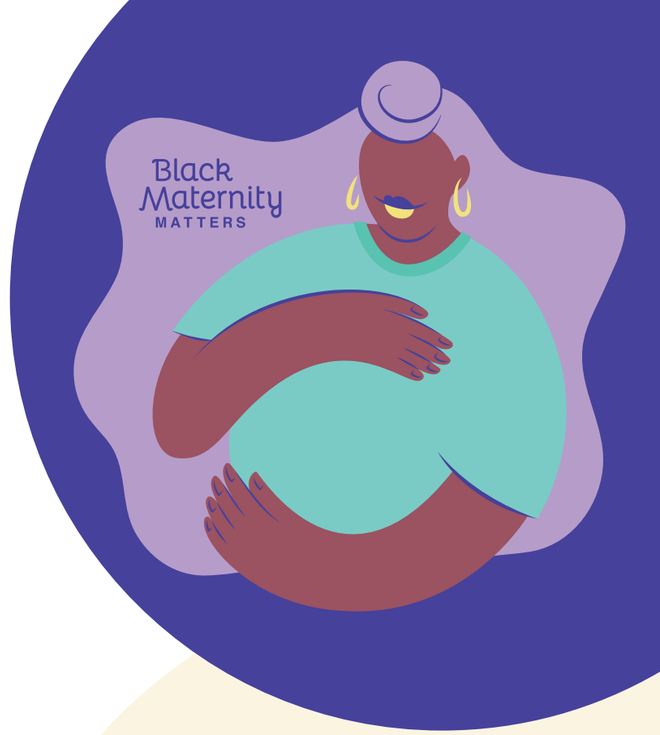
This programme supports black mothers and staff involved in the perinatal period of their care. This is being tested in the West of England AHSN and focuses on:

- Implementing an innovative, expert-led approach to anti-racist training.
- Reducing poor outcomes and experience for women racialized as black.
- Translating learning into quality improvement and transformation projects on the ground.
- Expanding skills, capability embed learning.
- Increasing psychological safety and trust.

The first evaluation has been completed and demonstrated positive experiences of staff and black mothers from the training.

- Training participants had overestimated their cultural competency at the start of the training programme (Dunning-Kruger effect of cognitive bias).
- At the end of the training, all 11 participants overwhelming showed an increase in the knowledge and skills associated cultural competency.
- Training participants increased their understanding of how racism impacts health inequalities, and were able to transfer this knowledge to their work context.
- The style and focus of learning on anti-racism has the potential to cause discomfort, but training participants felt this was part of a necessary journey.
- The training helped participants improve key understanding, knowledge, and awareness of the impacts of racism. This has the potential to act as a catalyst for change of what they can do differently in their spaces and how to use their powers to make a difference.

The Black Maternity Matters pilot was one of nine projects around the country to be awarded funding from the Health Foundation through its Q Supporting local learning funding programme.



> We don't just want a 'snapshot' 20 minutes' training on a mandatory study day. It needs to be ingrained; the information needs to be made meaningful for people. It's important to do it over a period of time.
>
> We've been doing this course a day a month over six months and it means we've got all that time for self-reflection in between to really understand how to go forward. This is what makes it valuable for people.
>
> **Training participant**

Three more cohorts have been recruited, and further evaluation into the outcomes and impacts of the training is being conducted.

Locally supported safety innovations

AHSNs are able to test and evaluate an innovation in one area, before using the pipeline process to expand uptake to other AHSNs or propose them for national adoption.

Stop Before You Block

Inadvertent wrong-sided peripheral nerve blocks are uncommon but can have serious consequences, including complications from the unnecessary block such as nerve injury and local anaesthetic toxicity.

East Midlands AHSN is supporting a simple human factors designed innovation.

The new Stop Before You Block poster prompts the blocker to hand over the tray and pause before blocking, providing the cognitive space to reaffirm the correct site. This simple and effective process will support anaesthetic teams to mitigate the effects of distractions, time delays and obstruction of marked sites (by blankets), to reduce the risks of wrong-sided blocking.

The tray reminds the blocker and assistant to STOP at the point just prior to blocking. The poster provides clear guidance whilst the tray, in the hands of the blocker and assistant, reinforces this message.

Strategic Aim 3

Establishing the AHSNs as an authoritative voice on transforming health through the spread of innovation.

- **We will continue to develop partnerships in the safety domain where we can influence, offer expertise and share our work.**
- **We will strengthen our place in the system as recognised patient safety experts.**

We work proactively with a wide range of stakeholders to help influence the patient safety agenda, shown in the diagram on the next page. AHSNs also work closely with their local health and care systems at a strategic level, and Patient Safety Collaboratives convene Safety Networks to work together on the delivery of the national safety improvement programmes.

Strategic partnerships: we are part of the system architecture

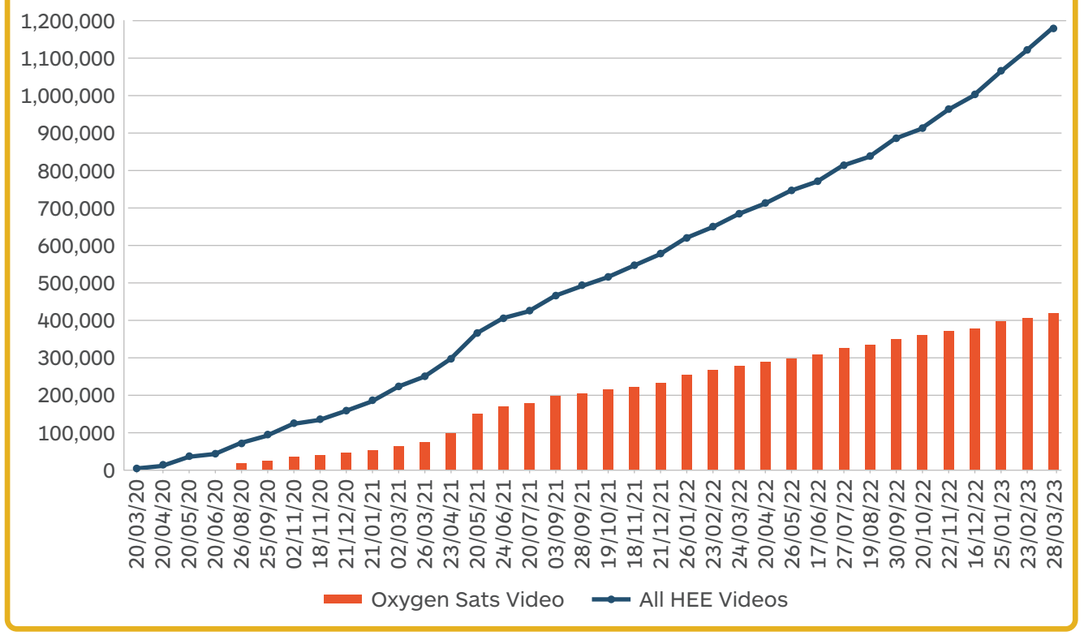
Training for care home staff

We created a training programme for care home staff, including a series of 21 training videos aimed at those who care for residents at risk of deterioration, with seven videos specific to learning disability services. The films are around three minutes each and describe how to take measurements from residents correctly (such as blood pressure and oxygen saturation), how to spot the soft signs of deterioration, and prevent the spread of infection.

The videos have so far collectively received over 1.2 million views.

They were produced in 2020 as a collaboration between Wessex and the West of England Academic Health Science Networks and Hampshire, Southampton and Isle of Wight CCG, and funded by Health Education England (HEE).

Viewing Figures (for 21 HEE YouTube Deterioration videos



Wellbeing resources

A growing focus on wellbeing has led people to be more aware of their physical and mental health. The AHSN Network has updated its wellbeing resource to include a selection of new materials to support the wellbeing of individuals and teams.

From physical exercise and creativity to emotional resilience and the power of kindness, there's advice and tips for everyone.

The pack curates a wide range of resources from a range of organisations, with sections including staying well, mindfulness, mental health, body movement, and access to support.

Download the pack here.

Culture toolkit

A practical guide on patient safety culture has been co-developed by the AHSN Network and NHS England, and is currently being tested. This will be published later in the year.

Its aim is to provide teams with an understanding of how to create and nurture a positive safety culture, with some theory on how to shift the culture. It includes many improvement tools and examples of ways to make changes and learn fast.

React To

AHSNs have developed a number of resources and products which support multi-disciplinary training such as the React To series of training resources for care homes, developed by East Midlands AHSN.

This year, two new resources have been published on quality improvement and managing deterioration.

With funding through the Q community by the Health Foundation and NHS England, East Midlands AHSN worked with a small group of care homes from across the region to develop React To Quality Improvement. React To Deterioration comprises two videos and links to additional resources, further reading and training. You can find more details here.

Conclusion

We are pleased to be able to support the NHS Patient Safety Strategy and contribute to the ambition of saving lives and money. Our work across the AHSN Network is wider than the delivery of the National Patient Safety Improvement Programmes and in alignment with our AHSN Network strategy will mean we can measure our collective impact and develop a pipeline of programmes for the future.

We are grateful to our system partners who have engaged with us to enable improvement to flourish despite the effects of the pandemic and continued winter pressures. Whilst there is always more to do we can see some examples across our network of innovative programmes and quality improvement. With a focus on reducing inequalities we will strive to deliver programmes that are of benefit to all, and aim to decrease the inequalities gap.

To find out more and get involved, contact your local Academic Health Science Network.

> Patient safety must remain high on the agenda of all NHS and social care organisations in these changing times. As we have shown in this update, a range of AHSN Network projects happening all over the country is not only making care safer, but is also having a positive impact on the recovery from the Covid pandemic and helping to reduce demand in primary and secondary care.
>
> We know there is a huge amount of enthusiasm and dedication among the many health and care professionals we support, and through this patient safety plan we look forward to continuing working with our partners to make a difference.

Professor Gary Ford
Chair of the AHSN Network

Acknowledgements

This plan was created in 2019 and has been updated in consultation with many internal and external stakeholders. It represents the ambition of all 15 AHSNs as a national AHSN Network. We would like to thank everyone who has contributed and shared their work for this update.

The**AHSN**Network

Contact us

East Midlands
www.emahsn.org.uk

Eastern
www.eahsn.org

Greater Manchester
www.healthinnovationmanchester.com

South London
www.healthinnovationnetwork.com

North West London
www.imperialcollegehealthpartners.com

Kent Surrey Sussex
www.kssahsn.net

North East and North Cumbria
www.ahsn-nenc.org.uk

North West Coast
www.innovationagencynwc.nhs.uk

Oxford
www.oxfordahsn.org

South West
www.swahsn.com

UCLPartners
www.uclpartners.com

Wessex
www.wessexahsn.net

West Midlands
www.wmahsn.org

West of England
www.weahsn.net

Yorkshire and Humber
www.yhahsn.org.uk

www.ahsnnetwork.com

info@ahsnnetwork.com

@AHSNNetwork The AHSN Network