AHSNs take bold ideas and maximise their impact with dramatic results which lead to lasting change.

* All figures since start of AHSN licence in 2013
Through partnership building, collaboration with academic institutions and the NHS, and bespoke support for industry, the AHSNs represent the single-best vehicle for innovation at pace and scale in this country. ABHI will continue to support this vital work.

CCGs can utilise the functions and expertise of AHSNs to support strategic commissioning, supporting the delivery of patient care that is outcomes focussed, utilises innovative approaches, and is informed by the latest evidence available. AHSNs through their partnerships with local industry, act as conduits that allow for the development of bespoke innovative solutions that will improve the delivery of care for local populations.

I am impressed with the work of the AHSNs’ pioneering new approaches to self-management with the voluntary sector and directly with patients.

Examples would be ‘ESCAPE-pain’, a structured education and behaviour change programme getting fantastic results in reducing the impact of chronic joint pain in people’s lives, now available across a number of AHSNs, and the ‘Communities of Practice’ such as those in patient safety, which really engage well with the patients they work with.

These programmes have demonstrated both good value and good patient outcomes.

Dr Amanda Doyle OBE and Dr Graham Jackson
Co-chairs of NHS Clinical Commissioners

Richard Phillips
Director Healthcare Policy, Association of British Healthcare Industries

Hilary Newiss
Chair, National Voices

Taken from ‘Supporting Strategic Commissioning: Clinical Commissioning Groups and Academic Health Science Networks’, May 2017

National Voices is the coalition of charities that stands for people being in control of their health and care. They work for a strong patient and citizen voice and services built around people, standing up for voluntary organisations and their vital work for people’s health and care. National Voices has more than 140 charity members and 20 professional and associate members, covering a diverse range of conditions and communities, and connects with the experiences of millions of people.

For more information about ESCAPE-pain, see the AHSNs’ Atlas of Solutions at atlas.ahsnetwork.com
Since their creation in 2013 Academic Health Science Networks (AHSNs) have forged a vital role in helping the NHS meet the challenges of 21st century health and care.

AHSNs find solutions to health and care challenges – individually and collectively they have made good use of their unique connections with the NHS, universities, industry, patients and the third sector. They have identified the best innovations and made sure these are rolled out at impressive pace and scale.

The 15 AHSNs which cover England find solutions to identified problems, from tapping into the pipeline of evidence-based research through to commercialisation of smart innovations.

In their first four years AHSNs have created effective regional networks able to deliver innovation and improvement within the NHS.

The NHS has huge potential to be creative and innovative yet the system as a whole is slow to adopt innovation and best practice. Academic Health Science Networks exist to speed up this process, to improve lives, save money and support economic growth.

Uniquely, AHSNs mobilise expertise and knowledge across the NHS and social care organisations, research institutions, third sector, patient groups and life sciences industry. Our regional partnerships are helping to deliver system transformation locally, in line with the Five Year Forward View and Accelerated Access Review.

The 15 AHSNs work together in ways unprecedented across health and care, delivering improvement at pace and scale.

AHSNs take bold ideas, maximise their impact with dramatic results leading to lasting change. This report captures some of the initial achievements of AHSNs since their creation in 2013 and demonstrates the potential for greater impact in the years ahead.

We are pleased with the progress achieved so far and recognise the opportunity to do much more to improve health and boost economic growth in the years ahead.

Please get in touch if you want to find out more about what we can do.

Liz Mear
Chair, AHSN Network
info@ahsnetwork.com

The 15 AHSNs work together in ways unprecedented across health and care, delivering improvement at pace and scale.
Case study 1: Fewer strokes due to optimal treatment of atrial fibrillation

What?
‘Don’t wait to anticoagulate’ is an innovative stroke prevention partnership between the NHS and industry focused on optimising treatment of atrial fibrillation (AF).

Why?
People with AF are five times more likely to suffer a stroke than people with a normal heart rhythm, and AF causes one in five of all strokes – over 12,000 strokes per year. People who suffer this type of stroke are less likely to survive and have worse outcomes than other stroke patients. Each AF-related stroke costs approximately £12,000 in the first year alone. Half of patients with AF are not receiving appropriate stroke prevention therapy, are unaware of their condition and are at risk of stroke.

Impact
In one region alone 256 potential strokes have been avoided through atrial fibrillation detection, potentially saving around £5.6m in NHS resources.
Case study 2: Better physical health for people with mental illness

What?
A physical health review template guides healthcare professionals through appropriate physical health checks for people with mental illness. This template helps to diagnose conditions including high blood pressure, diabetes and cardiovascular problems.

Why?
People with a serious mental illness are at risk of dying 20 years earlier than the general population. Many of these deaths are preventable if physical health problems are identified and treated early.

Impact
Over 600 organisations and 74 Clinical Commissioning Groups have adopted the template. Evaluation by the York Health Economic Consortium showed the incremental benefit of the health check intervention over 10 years to be £237 per patient. With 47,713 health checks, potential cost savings in one region alone are estimated to be £11.3 million over the next decade.

Earlier identification and treatment of physical health problems can reduce risk of premature death in people with serious mental illness.

Case study 3: Text messaging support for vulnerable young people

What?
An SMS messaging service that puts young people in touch with a school nurse, ChatHealth is an NHS innovation developed by a mental health trust.

Why?
It provides easy, quick and confidential advice for this hard to reach and vulnerable group of service users, using technology that they are comfortable and familiar with.

Impact
Within six months of being adopted for AHSN support, the service spread from 65,000 users in a single city to be available to 1 million young people nationally. It significantly increases the capacity of healthcare professionals to help many more young people: a single duty nurse is able to deliver up to 100 additional contacts every month, and 97% of all enquiries are wholly dealt with by the messaging nurses. In addition, teams implementing ChatHealth report increasing contacts from many more new service users across a broader range of issues – particularly hard to reach young people such as adolescent males, who are twice as likely to seek support via text as face-to-face.

It allows us to express ourselves in ways we couldn’t express to our friends – to know it’s confidential makes me open-up.” Service user
Case study 4: Improving nutrition in patients

**What?**
The Health Call Undernutrition Service changed a dietetic service from traditional outpatient appointments or home visits to a new digital service using telephone or web-based technology to monitor patients who are receiving nutritional therapies.

**Why?**
Poor nutrition is a common health problem and a serious condition which costs the English economy £19 billion annually. Untreated it increases the risk of illness, clinical complications and death. Around one in three people admitted to hospital or care homes in the UK are found to be undernourished or at risk of undernourishment.

**Impact**
The project has been delivered in two regions to date with the service used by 1,700 patients producing savings of £255,000. AHSN support includes funding, evaluation and dissemination.

Poor nutrition costs the English economy £19 billion annually. This initiative has been used by 1,700 patients, saving £255,000.

Case study 5: Better diabetic foot ulcer imaging

**What?**
A new 3D wound imaging and information system called Silhouette® is being developed by a partnership including an AHSN and two companies. It enables accurate, routine diabetic foot ulcer treatment to be delivered closer to home.

**Why?**
It is vital that all patients with diabetic foot ulcers receive regular treatment and check-ups. At least 6,000 people with diabetes have leg, foot or toe amputations each year in England, many of which are avoidable. Currently these check-ups take place in acute hospital outpatient clinics. Evidence shows that community-based multidisciplinary teams can improve diabetic food ulcer outcomes, including fewer amputations and improved quality of life and mortality.

**Impact**
Moving 30% of treatment sessions to community clinics could reduce overall diabetic foot ulcer service costs by 15-20%. Projected annual savings across one region alone are up to £1.8 million. New business has been secured with both UK and international companies (Entec Health and Aranz Medical). Spread across the NHS is under way through the support of AHSNs. Implementation is rapid and straightforward.

Spread across the NHS is under way through AHSNs. Projected annual savings across one region alone are up to £1.8 million.
AHSNs are uniquely placed to unlock the power of frontline innovation, saving lives and money. We bridge gaps and strengthen connections between research, life sciences industry and healthcare.

AHSNs cross traditional sector boundaries and strengthen partnerships with industry partners so that innovative technology makes a difference to more patients more quickly.

AHSNs have helped create over 500 jobs, engaged hundreds of commercial innovators, and leveraged many millions of pounds of investment.

AHSNs work with many national bodies including the Association of British Healthcare Industries (ABHI), Association of the British Pharmaceutical Industry (ABPI), British in Vitro Diagnostics Association (BIVDA) and the BioIndustry Association (BIA). Locally each AHSN works with many commercial and development organisations such as MediLinks and Local Enterprise Partnerships.

The case studies below illustrate the impact that AHSNs have already had in spreading innovation, many supported by SBRI Healthcare and the NHS Innovation Accelerator. Many more can be found in the AHSN Atlas of Solutions in Healthcare at atlas.ahsnnetwork.com. All 15 AHSNs support local innovators. Their contact details can be found at the end of this document.
Case study 1: Reducing emergency surgery mortality rates and improving patient care

What?
The Emergency Laparotomy Collaborative (ELC) is a care bundle developed to improve care for patients undergoing emergency laparotomy surgery, reduce mortality rates, complications and hospital length of stay.

Why?
Emergency laparotomy is a major surgical procedure, with 30,000-50,000 performed annually in the UK. However, a 2012 study found 14.9% of patients die within 30 days of surgery, rising to 24.4% over the age of 80. Over 25% of patients remain in hospital more than 20 days after surgery, costing the NHS over £200m annually.

Impact
The risk adjusted mortality rate fell by 18% in the first three months and length of stay fell by 8.5% (1.5 days). Four in every five patients now have a senior surgeon and anaesthetist present in theatre and 75% of the sickest patients are now in theatre within two hours of decision to operate. The ELC now includes three AHSNs and 24 NHS trusts (covering 28 hospitals) with further spread planned.

The risk adjusted mortality rate fell by 18% in the first three months and length of stay fell by 8.5% (1.5 days).
Case study 3: Online support for patients with COPD

What?
myCOPD is an online system which helps people with COPD manage their condition more effectively. Healthcare professionals are provided with a dashboard to allow them to plan, monitor and manage patients remotely. It was developed by My mHealth Ltd, and has received support from AHSNs via the NHS Innovation Accelerator (NIA) programme and is part of the Innovation and Technology Tariff (ITT).

Why?
COPD is the second most common cause of hospital admissions costing £800 million annually.

Impact
The myCOPD platform has shown to correct 98% of inhaler errors without any other clinical intervention, reducing acute hospital admissions and improving the quality of patients’ lives. This platform has benefited over 32,000 patients to date, enabling average first-year savings of £200,000 per Clinical Commissioning Group area.

“What last year, before using myCOPD, I had 12 exacerbations. This year I have had just two. I now know when and how to take my medication, when to use my rescue pack and perform my rehab exercises most days.” Patient

AHSNs are supporting wider use of PneuX. This will lead to more lives saved and savings for the NHS.

Case study 2: Preventing hospital-acquired pneumonia

What?
PneuX is a device which stops ventilator-associated pneumonia – the leading cause of hospital-acquired mortality in intensive care units. It was invented by clinical entrepreneurs who saw the patient need. The device uses a cuffed ventilation tube which prevents leakage of bacteria to the lungs which is a problem associated with all standard tubes. PneuX has received support from AHSNs via the NHS Innovation Accelerator (NIA) programme and is part of the Innovation and Technology Tariff (ITT).

Why?
Ventilator-associated pneumonia affects up to 20,000 patients each year. It has a 30% mortality rate and costs the NHS £10,000-£20,000 for each episode.

Impact
A randomised controlled trial in 240 high risk patients having cardiac surgery found that PneuX was associated with a significant reduction in ventilator-associated pneumonia incidence compared with a standard endotracheal tube (10.8% compared with 21%).

This innovation is available free to NHS trusts in England under the new Innovation and Technology Tariff (ITT). AHSNs are supporting wider use of PneuX through the ITT. This will lead to more lives saved and savings for the NHS.

AHSNs are supporting wider use of PneuX. This will lead to more lives saved and savings for the NHS.
Case study 4:
Minimally invasive cost-effective treatment of enlarged prostate

What?
UroLift® is an innovative, cost-effective, non-invasive treatment for enlarged prostate. It takes less than 30 minutes, targeting the problem area with increased accuracy. It can prevent lengthy unnecessary stays in hospital and leads to better outcomes and healing. UroLift® has received support from AHSNs via the NHS Innovation Accelerator (NIA) programme.

Why?
Benign Prostatic Hyperplasia (BPH) affects more than one in three men in their 50s, and 80% of men over 70. There are 20,000 BPH procedures each year (average inpatient stay of three days) costing the NHS £54 million. A further £109 million is spent on complications that need additional hospital care.

Impact
Adoption of UroLift® in 40% of surgical patients is estimated to save 24,000 bed days and 8,000 hours of theatre time per year if scaled nationally. It also reduces the requirement for outpatient follow-up, potentially saving over 8,000 appointments nationally. The procedure’s reduced risk of complications produces savings expected to exceed £22m. A special payment for this innovation is available to NHS trusts in England under the new Innovation and Technology Tariff (ITT).

Case study 5:
Better care for women who develop diabetes during pregnancy

What?
An innovative digital monitoring system developed by researchers and engineers with frontline clinicians is helping women who develop diabetes during pregnancy to better manage their condition and make fewer hospital visits.

Why?
Gestational diabetes mellitus (GDM) affects about one in ten pregnancies, approximately 100,000 women across England every year – and numbers are rising. It can lead to complications for mother and baby. Careful monitoring of blood glucose levels is vital for successful management. Conventional treatment involves a combination of paper diaries and fortnightly check-ups in hospital. These can be time-consuming and stressful.

Impact
Feedback from testing with almost 2,000 women within one AHSN region demonstrated many benefits including better glucose control and a 25% reduction in clinic visits. One unit estimated the time saving as an hour each day. AHSN support helped secure a commercial partner (Drayson Technologies) in February 2017 opening up real opportunities for accelerated spread following further testing and development at four locations across England.

AHSN support helped secure a commercial partner, opening up real opportunities for accelerated spread.
The immense value to the NHS of the collective knowledge and experience of AHSNs built up since 2013 is increasingly recognised. AHSNs are ready to take this to the next level – the relationships we have forged with partners in all sectors within our regions in our first licence period ensure we are well placed to make an even bigger impact over the next five years.

As demonstrated in this document, AHSNs have a proven track record for identifying the innovations that will have the biggest impact if adopted nationally. AHSNs are increasingly seen as ‘go to’ bodies for spreading innovation widely and rapidly, matching proven solutions with needs identified by the NHS and patients.

AHSNs already play a significant role in national and regional programmes, such as Test Beds, Vanguards, Global Digital Exemplars, Healthy New Towns and many digital health programmes. AHSNs also provide effective joined up leadership in patient safety and better diagnosis and management in conditions such as atrial fibrillation.

While continuing to work with local partners on solutions to local challenges, AHSNs are also ideally placed to lead and support key national developments and programmes such as precision medicine and genomics.

The 2016 Accelerated Access Review (AAR) recommends a strengthened role for AHSNs around the adoption of innovation at scale, supported by significantly increased investment.

NHS England’s recently published ‘Next Steps on the Five Year Forward View’ sets out the roles that AHSNs will continue to play in supporting commissioners to create the sustainable NHS of the future. In particular, it recognises how our experience, expertise and knowledge can assist Sustainability and Transformation Partnerships with issues such as demand moderation, system flows, quality and safety improvement and accelerating the deployment of new technology.

AHSNs’ partnerships with test beds, vanguard sites and primary care will be crucial as the health and care system evolves and moves towards greater sustainability with new models of care.

There is also huge potential for AHSNs to strengthen the support offered to industry innovators, aligning with future national strategies for industry, medtech, biotech and informatics.

This report demonstrates the impressive collective impact of AHSNs during their first five-year licence period. We are excited by the opportunities to do much more in the years ahead.

Keep in touch with the latest developments at: atlas.ahsnnetwork.com
The AHSN Network

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