

Oxford



Academic Health
Science Network

REVIEW OF 2014/15



OUR VISION

Best health for our population and prosperity for our region

OUR MISSION

To bring together universities, industry and the NHS to improve the health and prosperity of the Oxford region through rapid clinical innovation adoption

OUR FOUR LICENCE OBJECTIVES

Focus on the needs of patients and local populations

Speed up the adoption of clinical innovation into practice

Build a culture of partnership and collaboration

Create prosperity

OXFORD AHSN BY NUMBERS

£5 billion annual NHS spend

3.3 million people

65,000 NHS employees

2,000 GPs

550 healthcare and life science organisations

326 GP practices

12 Clinical Commissioning Groups

12 district and county councils

11 NHS Trusts

9 universities

5 areas – Bedfordshire, Berkshire, Buckinghamshire, Oxfordshire, and Milton Keynes

4 Local Enterprise Partnerships

Chairman's introduction

I am privileged to introduce the Oxford Academic Health Science Network's review of progress and achievements in our second operating year.

It is to the team's credit that we now have over 100 workstreams progressing, addressing all four of the [NHS England licence objectives](#). On behalf of the Partnership Board, I would like to congratulate everyone (Gary Ford, his team, and all our partners and stakeholders) for their hard work and commitment which has contributed to this considerable progress.

The social and economic environment for healthcare in which we all operate remains challenging. We face increasing demand, higher expectations, rising costs and gaps in staff recruitment and retention. At the same time, we must improve quality and productivity.

Oxford AHSN is fortunate to be home to some of the nation's best academic and clinical minds with a powerful history of innovation. We host arguably the largest life science cluster in Europe. We sit close to the heart of the UK, and enjoy a higher than average standard of living. But we must not forget that there are areas of deprivation, that healthcare delivery is variable, and that there is a lot of room for improvement.

Innovation adoption can provide answers to a seemingly insoluble situation. In this complex world, innovation needs the right people around the table – the NHS, healthcare providers and commissioners, academics and researchers, industry, and patients.

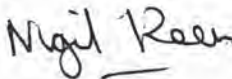
It's our job to make this happen.

I am very pleased that the Cabinet Office review and the NHS improvement architecture review indicate support for the AHSNs' important role in improving regional health outcomes and economic growth. The improvement architecture review, to which Oxford AHSN contributed, provides a structure to reduce duplication and increase alignment of the multiple structures supporting NHS organisations and improving service quality.

The review is likely to recommend that the 15 AHSNs lead coordination and alignment of improvement work across the regions.

NHS England assures us that Year 4 and 5 funding will allow us to continue the important work that we and our partners have started.

Sir Jonathan Michael, Chief Executive of Oxford University Hospitals NHS Trust, retires later this year. I would like to take this opportunity to pay tribute to Sir Jonathan's vision and leadership in establishing the Oxford AHSN, and to his Trust which continues to be a very supportive host. We wish Sir Jonathan well in his retirement and look forward to working with his successor, Dr Bruno Holthof.



Nigel Keen
CHAIRMAN, OXFORD AHSN

CLINICAL INNOVATION ADOPTION



Oxford AHSN's Clinical Innovation Adoption Programme chose eleven projects from more than 200 candidates for adoption in 2014/15

- Better detection and management of atrial fibrillation (AF) in primary care
- Community-based asymptomatic AF detection screening using hand-held electrocardiograms
- Intermittent pneumatic compression sleeve stockings to reduce DVT risk in stroke care
- Portable bladder scanners to reduce risk of catheter-acquired urinary tract infection
- Use of guidance and consistency in drug use for Alzheimer's disease
- Electronic blood transfusion management to improve patient safety
- Intra-operative fluid management to speed patient recovery from surgery
- Best practice rheumatoid arthritis treatment
- Support Hope and Recovery Online Network (SHaRON) eating disorders recovery support
- Improved management of patients with advanced or metastatic renal cancer
- 'GDm-health' remote blood sugar level monitoring for pregnant women with diabetes



Chief Executive's review

The last year has been a challenging one for our NHS partners operating within flat funding budgets.

In that context I pay tribute to the continuing and increasing engagement and support of our partner organisations who have worked together to improve the health of our three million population.

Our focus remains on supporting the development and adoption of clinical innovations that improve patient outcomes and add value. The [Oxford AHSN](#) is fortunate to have a wealth of academic and industry capability that our NHS partners can draw upon and work with to improve patient outcomes and experience across the region.

Our programmes are now starting to gain a better understanding of variations in care and outcomes across our healthcare services and identifying where innovation can improve patient outcomes.

With the establishment of our [Patient Safety Collaborative](#) team at the end of this year all of our seven programmes and themes are now fully staffed and operational. Our review of the strategic priorities of our NHS partners demonstrated significant misalignment between commissioners and providers in some areas such as prevention, identifying opportunities for improved system-wide working.

We were pleased that the [NHS England Five Year Forward View](#) report acknowledged the increasingly important role that innovation and technology will play in improving patient care and sustaining our healthcare system.

We now have a framework which informs our own business plan with its focus on breaking down barriers between physical and mental health, secondary and primary care, health and social care. Our programmes are already working with key partners across these boundaries.

Following publication of the Five Year Forward View and changes that will follow the NHS England review of the NHS improvement architecture it is timely to review our strategic plans. During 2015 we will produce a Five Year Strategic Plan for the Oxford AHSN.

Looking forward we are collaborating with [Wessex AHSN](#) in the development of a bid to be an NHS England Test Bed for 'combinatorial innovation'. Our theme is "Keeping people well and out of hospital – using precision medicine, digital health and diagnostics for better outcomes".

I thank our Chairman, Nigel Keen, the Oxford AHSN Board and my team for their support during the past year. Finally, I would like to pay particular thanks to Sir Jonathan Michael and Oxford University Hospitals NHS Trust for their expertise and unwavering support as host to the Oxford AHSN. Sir Jonathan's leadership was critically important in establishing the AHSN and we wish him well in his retirement later this year.



Professor Gary A Ford, CBE FMedSci
CHIEF EXECUTIVE OFFICER, OXFORD AHSN



Operational overview

Our second year has been memorable for its energy, engagement and progress.

Our core team has grown to around 40 engaging closely with thousands of people and hundreds of organisations around and beyond the region across 100-plus workstreams.

At the end of April 2015, we published a 128-page [Annual Report for 2014/15](#), available to download from our website. This Annual Review summarises some of our many achievements (see Highlights opposite).

Partnership working and collaboration underpin the AHSN concept and change programmes. To succeed, we must engage with a critical mass of individuals drawn from the 65,000 NHS staff, a similar number working in technology-led industries and many thousands of healthcare academics and university life scientists across our region. To this end, we closely monitor the level of engagement across all our workstreams. We are delighted to be working with colleagues outside our region, e.g. Frimley Park Hospital and Great Western Hospitals NHS Foundation Trust.

Our [e-newsletter](#) continues to grow in popularity. Each programme has its own communication plan to target particular stakeholder groups and support delivery of project milestones.

The financial outturn for the year is in line with forecasts. We regularly review programme risks and escalate unresolved issues to the Oxford AHSN Board as necessary.

Looking forward, we expect 2015/16 will be another very busy year.

We will focus on delivering against our business plan.

We have expanded our communications team and will work harder to involve more people, particularly patients.

We will work with our partners to embed our work into local plans to ensure we meet the needs of local organisations.

Data are key to engagement. The [Informatics team](#), [Best Care Clinical Networks](#), [Clinical Innovation Adoption](#) programme and Patient Safety team working together will produce the data to guide more meaningful conversations on improvement, innovation adoption and evidence the need for change.

I would like to thank everyone in our expanding network who is putting the interests of patients first and working so diligently. We would not have come so far without the commitment of all our partners, stakeholders and staff that together make up the Oxford AHSN.

Dr Paul Durrands, ACA, CMILT
CHIEF OPERATING OFFICER, OXFORD AHSN

2014/15 HIGHLIGHTS



Best Care Clinical Networks

- **ANXIETY & DEPRESSION:** regional recovery rates improve c.9% (target 5%).
- **CHILDREN'S:** Paediatric care report now under discussion by Clinical Commissioning Groups and providers to address variation of admission rates.
- **MATERNITY:** Implementation of standardised protocols for pre-term labour saved at least one mother and premature baby.
- **FELLOWSHIPS IN EVIDENCE BASED HEALTHCARE:** first cohort of seven regional clinicians nearing the end of their first year.

Clinical Innovation Adoption

- Implementation of remote monitoring for pregnant diabetic women in three Trusts and plans for four more (See *Case Study 1*).
- Intra-operative fluid management benchmarking brings potential enhanced post-operative recovery to 47,000 patients in our region (See *Case Study 2*).
- All six acute NHS Trusts now use intermittent pneumatic compression sleeves on immobile stroke patients to reduce thrombosis and mortality.

Research and Development

- Universities and NHS Trusts working together to make our region more attractive for clinical research to improve patient care.

Wealth Creation

- Commercial team achieved widespread engagement with industry, and Local Enterprise Partnerships. These effective relationships underpinned a regional bid to host the Precision Medicine Catapult. Innovate UK indicated that the Oxford AHSN-led bid was very strong.
- Active support for companies to develop winning SBRI bids bringing £7.3m funding.
- Savings of more than £8m per annum identified by carbon and energy reduction feasibility studies in six NHS trusts and universities (*Case Study 3*).

Informatics

- Excellent support to Best Care, Clinical Innovation Adoption and Patient Safety.
- Advances in harmonising Information Governance and improving interoperability of patient data across the region.

Patient Engagement

- Patients and lay members are now actively involved in most of our workstreams. Patient experience is adding valuable insights e.g. in the fields of medicines optimisation and innovation adoption.
- Patient Leadership programme training patients and NHS staff in joint decision-making.

Patient Safety

- Patient Safety Collaborative team recruited, led by Professor Charles Vincent and Jill Bailey. Workstreams agreed and clinical leads secured. Patient Safety Academy training courses delivered.

Improving patient care

The Oxford Academic Health Science Network (AHSN) region comprises Oxfordshire, Buckinghamshire, Berkshire, Milton Keynes and Bedfordshire.

Tackling inequality in healthcare delivery

Reviewing Clinical Commissioning Group (CCG) and provider strategic plans to determine regional clinical priorities, we found significant variation between their individual priorities (see *Figure 1*).

In the Oxford AHSN Best Care programme report, [Variation in Paediatric Care in the Thames Valley](#) published in 2014, the Best Care [Children's Clinical Network](#) identified variation in admission rates for common paediatric emergencies in areas across the Oxford AHSN region (see *Figure 2*). We are working with commissioners and providers to improve care and reduce avoidable admissions of children to hospital.

"Doctors all do things a little differently. Even when there are well established national guidelines on a specific condition, we know that personal preference, patient choice, various other factors, all lead to a gradual build-up in that variation," commented report author Dr Craig McDonald.

He concluded, *"What you end up with, for a whole raft of reasons, are big variations in hospital admissions rates for common paediatric conditions, variations within hospitals on how to manage these conditions, and as a result, variation in outcomes."*

Children's Network nurses Liz Davis and Julie Wild worked with NHS England South to understand the reasons behind the wide variation in children's flu vaccination uptake in the previous season. After consulting with all professionals involved in children's health across the region, they made recommendations to improve uptake for the 2015/16 extended flu programme. Early signs are promising.

Dedicated Clinical Networks deliver results

Standardisation improves patient safety and saves lives. Our [Clinical Networks](#) play an important role securing consensus and implementation of standards and protocols across the region.

Supported by our Informatics team and partners' IT teams, we are implementing an inter-Trust data-sharing platform enabling foetal ultrasound scans to be viewed in hospitals across the region. This could only have been achieved with the cooperation of many stakeholders.

[Healthy Minds](#), a talking therapies service for people with depression and anxiety disorders, is run by Buckinghamshire Primary Care Wellbeing Service. A review by our [Anxiety and Depression Clinical Network](#) team led to a service redesign, based on patient feedback, which increased recovery rates from 50 to 65% – well above the national average and among the best in the country.

CASE STUDY

Saving Lives

One woman and her baby in our region probably owe their lives to the work of our [Best Care Maternity Clinical Network](#) which has implemented a guideline to increase the frequency that women in possible preterm labour are rapidly transferred to an obstetric service with a neonatal intensive care unit where they can be best looked after.

On arrival at Oxford's John Radcliffe Hospital from a local unit, the mother was found to have advanced sepsis. Due to her prompt transfer this was identified and treated quickly, before she became severely unwell. Both mother and baby are now doing well.

"Clinical improvements improve standards that save lives." **Mr Lawrence Impey, Clinical Network Lead**

FIGURE 1: Strategic priorities of commissioners and providers, based on 2012/13 strategic plans

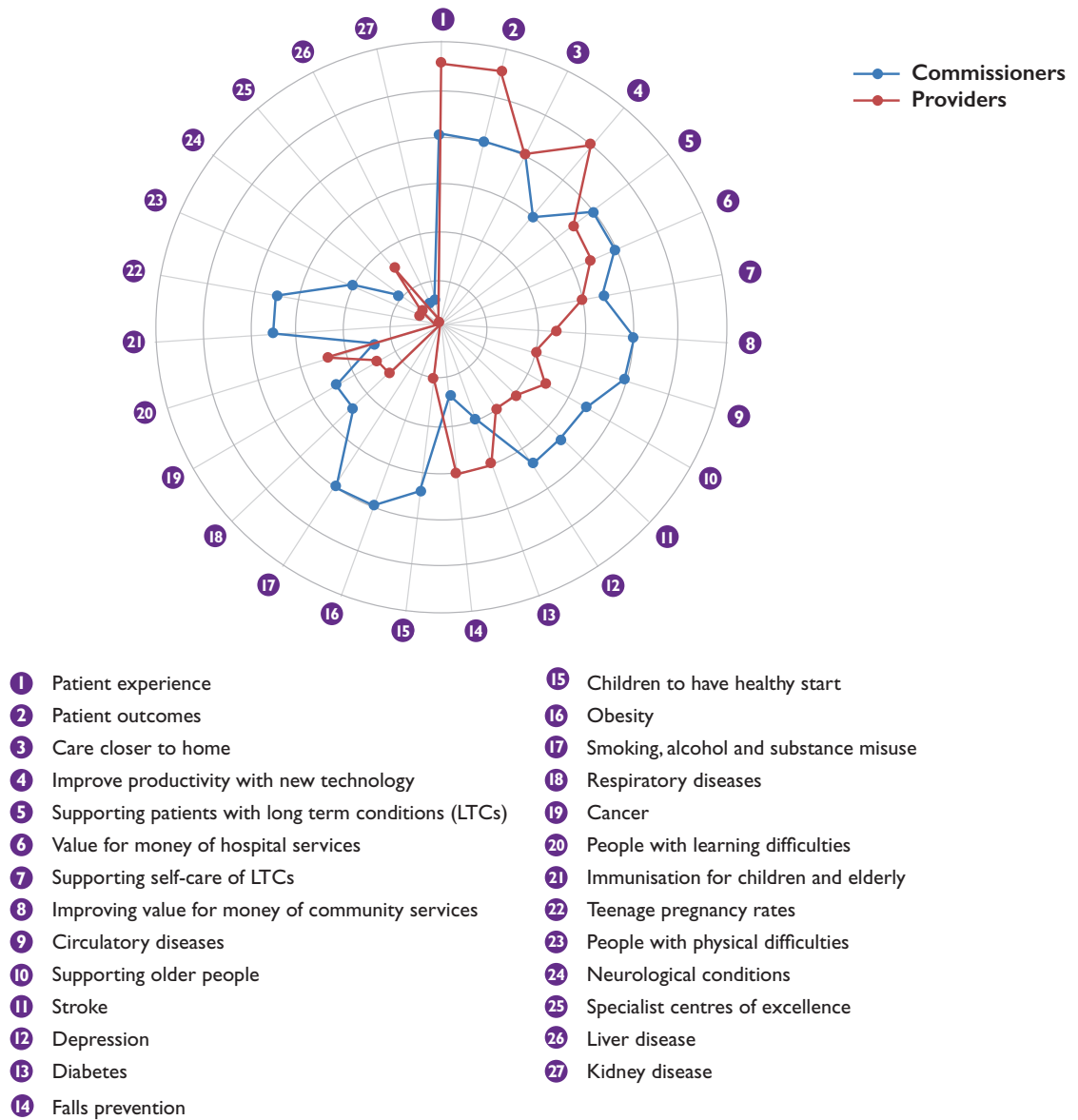


FIGURE 2: Variations in admission rates for five areas of child health in the Oxford AHSN

	Gastroenteritis	Bronchiolitis	Asthma	Pneumonia	Fever/sepsis (0-4 years)	Fever/sepsis (5-17 years)
Aylesbury Vale	Orange	Orange	Green	Orange	Orange	Orange
Bracknell and Ascot	Green	Green	Green	Orange	Green	Orange
Chiltern	Orange	Orange	Green	Orange	Red	Orange
Milton Keynes	Red	Red	Orange	Orange	Red	Red
Newbury and District	Green	Orange	Green	Orange	Green	Green
North & West Reading	Orange	Green	Green	Orange	Orange	Green
Oxfordshire	Green	Orange	Green	Green	Green	Orange
Slough	Red	Orange	Green	Red	Orange	Red
South Reading	Orange	Orange	Green	Orange	Orange	Orange
Windsor, Ascot & Maidenhead	Orange	Orange	Green	Orange	Orange	Orange
Wokingham	Green	Orange	Green	Orange	Green	Green

Red: >2SD above national average. Orange: within 2SD of national average. Green: <2SD below national average.



Data, data, data

Identifying the root cause of variation needs a lot of data. Sharing personal information, harmonising the mountains of disparate data needed for statistical accuracy, and extracting meaningful conclusions are all difficult and sensitive tasks.

We rely on the skills of our expert Informatics group to negotiate data access, collate and search information to identify sources of variation for all our clinical projects. Data Guardians – senior medical officers who oversee all procedures affecting access to person-identifiable health data – joined an inaugural Information Governance (IG) forum. Attendees endorsed our proposed process for producing an IG Framework agreement.

The Best Care [Out of Hospital Care](#), [Diabetes](#), and Anxiety and Depression Clinical Networks use the data visualisation model, which runs on browser and iPad platforms, to illustrate variation in service delivery. As an example of the power of this approach, the two screen grabs above show regional variation in hospital admissions of patients over 65 years with ambulatory care sensitive conditions.

The information can be shown as actual percentages of patients by CCG or how CCGs rank across the region.

CASE STUDY 1

Clinical Innovation Adoption

IMPROVED MANAGEMENT OF DIABETES DURING PREGNANCY

Reduced risks for mother and baby

Up to 18 in every 100 pregnant women develop diabetes. Untreated, this can lead to complications for mother and baby before and after birth.

Careful monitoring of the mother's blood sugar levels is vital for successful management. Standard practice is for the woman to record her blood glucose levels up to six times a day with fortnightly check-ups in hospital.

Up to 6,000 pregnant women across our region could benefit from improved blood glucose control and fewer hospital visits each year.

REMOTE MONITORING

Professor Lionel Tarassenko and his team at the University of Oxford's [Institute of Biomedical Engineering](#) have developed a Bluetooth-enabled blood glucose meter and smartphone app ([GDm-health](#)) enabling patients to pass on readings in real time via a secure internet link. Data are reviewed by diabetes specialists who can swiftly contact the patient if treatment is needed. The result is better management and fewer tiring, time-consuming and expensive hospital appointments.

INCREASED SPECIALIST CLINICAL CAPACITY

GDm-health was used in an initial trial with 52 pregnancies led by Dr Lucy Mackillop, Consultant Obstetric Physician at Oxford University Hospitals (OUH). Participants rated the technology as 'reliable', 'convenient' and suited to their lifestyles.

App usage increased efficiency, freeing up 25% more specialist clinical capacity.

Oxford AHSN helped the [award-winning project](#) – a collaboration between OUH and the University of Oxford – extend to hospitals in Reading and Milton Keynes. Others are following suit. A randomized, controlled pilot trial involving around 200 patients is ongoing. Funding is from the National Institute for Health Research [Oxford Biomedical Research Centre](#).



“...it was handy to know that I was in constant touch with somebody and that I would get a message if there was something to worry about. Without the kit I wouldn't have known my results and what my diet was doing to my levels. I would have had to follow a more rigid diet. We live about an hour away so having fewer appointments as a result of using this kit helped a lot.”

Vanessa Galli-Wara, patient

Rolled out nationally, app use could generate cost savings of up to £14m each year.

CASE STUDY 2

Clinical Innovation Adoption

BENCHMARKING THE ADOPTION OF INTRA-OPERATIVE FLUID MANAGEMENT

Getting better sooner

Maintaining a patient's optimal fluid status during or immediately after surgery minimises post-operative complications and contributes to better recovery. Several intra-operative fluid management (IOFM) technologies are available. Data on suitability for different patient groups or procedures are lacking.

THE BENCHMARKING EXERCISE

A collaboration with the [NHS Benchmarking Network](#), participation of NHS England (NHSE) and funding from [NHSE Regional Innovation Fund](#) was set up to:

- understand NHS and industry barriers to adoption
- increase speed of adoption across our region
- create a business planning tool for providers and commissioners
- inform national policy

Anaesthetists and theatre nurses from all hospitals across our region and Central Manchester hospitals provided data.

IOFM PRACTICE VARIES WIDELY

Data (comparing practice for over 460 procedures against CQUIN guidelines) presented at the National Theatre Benchmarking Conference, London, in March 2015 showed:

- For emergency laparotomy, all six responding Trusts used IOFM
 - For total spleen excision, half (3 of 6) Trusts “usually” used IOFM, the other half “sometimes”
 - For breast reconstruction using abdominal flap, only one of four Trusts responded “always”
- Of concern, 83% respondents reported inaccurate readings or other equipment problems

NHS BENCHMARKING

We are sharing our findings with participating Trusts and other AHSNs, with the intention that NHS Benchmarking includes the IOFM benchmark in the National Theatre Benchmarking Project for national roll out later in 2015. 47,000 people across our region's 3.3 million population could benefit.



A potential NHS saving of £24.3 million

“...support from clinicians in all of our hospitals has been key to the success of this project.”

Professor Gary Ford
Chief Executive, Oxford AHSN

“...it has been wonderful to collaborate with colleagues across the Network. They feel it is a useful innovation and adopted it because they feel there will be good outcomes.”

Dr Emmanuel Umerah
Anaesthetist and Deputy Medical Director,
Frimley Health NHS Foundation Trust

Innovation into practice

“...our values haven't changed, but our world has. So the NHS needs to adapt to take advantage of the opportunities that science and technology offer patients, carers and those that serve them.

To spread ideas right across the NHS means working collaboratively with all those who have an interest.”

Simon Stevens, Chief Executive, NHS England

Our [Clinical Innovation Adoption \(CIA\)](#) team

is dedicated to achieving rapid widespread adoption of locally effective solutions using a systematic ten-step approach – from establishing health need and evidence through to successful deployment.

Last year, the CIA team arrived at a shortlist of 11 adoption candidates after evaluating around 200 innovations for their potential benefits, impact on patient experience, local priorities and ease of implementation (see page 2).

In 2014/15, we held an open call to identify further innovations ready for implementation. Clinicians, managers and patients ranked ideas according to criteria including how they improve patient experience, outcomes and safety, clinical priorities, cost effectiveness and ease of implementation. Seven more projects are now moving along the adoption pathway.

CASE STUDY

Next generation compression sleeves reduce thrombosis and mortality

A large trial at the University of Edinburgh showed that intermittent pneumatic compression (IPC) sleeves worn by immobile stroke patients reduced the incidence of deep vein thrombosis and mortality. Our Clinical Innovation Adoption programme supported the adoption of IPC sleeves by all six acute NHS Trusts across our region. Use progressed from one Trust (Oxford University Hospitals) in April 2014 to all Trusts in the Oxford AHSN region by March 2015.

In Q4 2014-15, over 80% (126/155) of patients identified as needing IPC sleeves received them. One in five of all patients received IPC sleeves, more than twice the national Q3 figure of 9.6% from the Sentinel Stroke National Audit Programme. Our aim is to ensure all eligible hospital patients receive IPC sleeves by the end of 2015.

Patients, participation, safety and self-care

Providing best care to patients is why we're here. Our [Patient and Public Involvement, Engagement and Experience](#) (PPIEE) team champions patient and public involvement in governance, priority setting, teaching and education, identification of innovation need, and technology assessment. In collaboration with our Clinical Networks, the team ensures that the patient voice is represented, and that patients' experiences are recorded and used for quality improvement.

Patient participation

Genuine patient-centred care is becoming a reality. Our [Patient Leadership](#) programme encourages a cultural shift in the NHS, giving patients the tools to work as equal partners in decision-making. Patient representatives now work with senior NHS leaders to review patient pathways and revalidate doctors. Funding from Oxford AHSN, [Thames Valley and Wessex Leadership Academy](#), and [Thames Valley Strategic Clinical Network](#) (TVSCN) will train more leaders in 2015.

PPIEE is coordinated through the [Thames Valley and Milton Keynes Patient Experience Strategy Group](#) comprising Oxford AHSN, NHS England South, and TVSCN.

All our Clinical Networks have a PPIEE plan to involve lay partners and ensure measures important for patients are monitored.

Improving patient safety

[Patient Safety Collaboratives](#) (PSCs), one in every AHSN, are charged with creating a local system devoted to continual learning and improvement in patient care. [Our PSC](#), established in October 2014, is the umbrella and coordinator for the many important safety initiatives in our region. Its initial focus is on four high impact clinical programmes: standardised acute kidney injury care; sub-cutaneous insulin use; pressure ulcer avoidance; and the timely return of mental health patients following leave from inpatient wards.

The PSC has been appointed as a nominating organisation for the NHS England/Health Foundation initiative to recruit 5,000 safety champions by 2020. The programme connects people from across healthcare with relevant expertise to help spread improvement and encourage safer care for patients.

“...I saw a patient with personal experience of head and neck cancer noticeably increase in confidence and competence during the course of the programme. He was keen to improve community services for head and neck cancer based on personal experience and those of other patients. He had clear ideas but didn't know who to contact, where to begin or what to do to get these to happen. By the end of the programme, he understood how to find out who the key stakeholders and decision makers were, what information they would need and had the confidence to take forward his ideas.”

Mark Stone
Patient Experience Strategy Group Patient Representative



Digital healthcare

Better use of data and technology has the power to improve patient care and outcomes. Digital technology changes the way we do things, improves services, reduces costs and allows us to participate in decision-making. Our [Wealth Creation](#) team identifies new opportunities for leveraging regional strengths in this area. In 2014, they published an [App Development Roadmap](#) for smartphone app developers which is available to download from our website.

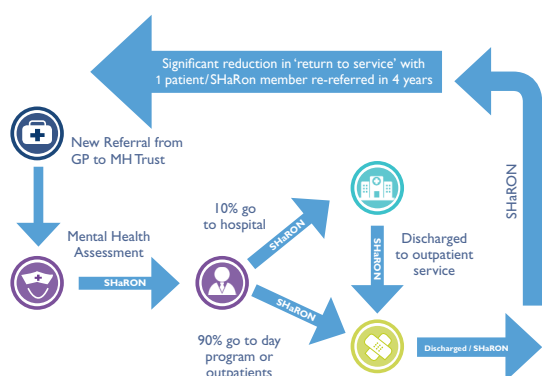
CASE STUDY

Support, Hope and Recovery Online Network (SHaRON)

SHaRON is a 24/7 online environment to aid recovery of people with eating disorders. Postings from over 400 service users are moderated and supported by clinicians and former service users who offer their own experiences to help other patients.

On the strengths of improved service quality and increased efficiency, Berkshire Healthcare has moved to a supported home treatment model.

The **Clinical Innovation Adoption programme** is supporting rollout to other NHS Trusts.



CASE STUDY



Improvement champions of the future

A unique collaboration between the University of Oxford's Centre for Evidence Based Medicine and our Best Care programme has created an **Evidence Based Healthcare Masters** (EBHC MSc) course.

Three nurses, a doctor, a physiotherapist, a pharmacist and a radiographer began a three-year part-time study programme in October 2014.

All live and work in the Oxford AHSN region. They are committed to becoming champions for using research and evidence to improve clinical practice in their workplaces.

Fellows are supported by Best Care Clinical Networks and **Health Education Thames Valley** (HETV).

CASE STUDY 3

Wealth Creation

IMPROVING OUR ENVIRONMENT, SAVING RESOURCES

Challenging national targets

The UK is committed to reducing greenhouse gas emissions by 34% up to 2020. As the most significant public sector contributor to climate change, the NHS has some of the greatest challenges in meeting these targets.

In one year, our region's NHS Trusts and universities spend over £60m on energy. Introducing energy-efficient technology and practices will lead to early wins.

SUSTAINABLE SERVICE DELIVERY

[Oxford AHSN](#) is coordinating regional efforts in the drive for sustainable service delivery. Our universities and NHS Trusts have agreed to combine experience and expertise to face this task together.

The aim is to identify, pilot and diffuse validated working practices and technology helping partners meet national guidelines, save money, benefit patients and staff, and preserve the environment.

COMMON ISSUES AND CHALLENGES

Sustainability consultants Zexu reviewed partner organisations' performance. They showed that optimising performance to benchmark values requires a 28% reduction of electricity consumption and 5% reduction of fossil fuels. This would return annual savings of £12m. Considering rising energy costs and a five-year implementation period, the total value at stake across the region is £77.5m.

The report identified potential annual savings of £8.7m from an initial investment of £32m in more sustainable, energy-efficient technology and practices.

Work is under way on four projects, identified as offering the greatest potential with combined savings of more than £5m, across six Trusts and universities in the region.

Feasibility studies producing evidenced business cases are progressing through the Carbon and Energy Fund.



“...carbon dioxide emissions attributable to the NHS in England are greater than the annual emissions from all aircraft departing from Heathrow Airport.”

SOURCE NHS

“...thanks to our involvement with the Oxford AHSN we have the opportunity to learn from the experience of other organisations and to benefit from external expertise tailored to our specific needs. We have already started to move forward with a major project to address energy use and sustainability within our hospitals.”

David Hounslea

Director of Estates & Facilities Management, Great Western Hospitals NHS Foundation Trust

Supporting enterprise

Contributing to economic growth

Our [Wealth Creation](#) team is tasked with leading Oxford AHSN's role to generate regional economic growth. Engaging with the NHS, industry and universities, we focus on accelerating uptake of proven healthcare technologies and services, stimulating business growth and demand for innovation.

Industry is a key source of innovation. However, understanding how a product or service concept might enhance patient care may be challenging.

We help industry and the NHS to understand and articulate each other's needs and requirements.

Industry learns how to develop products that will work in the healthcare environment.

The NHS learns how to be a better customer for industry by articulating its needs.

Innovation gets the best chance of adoption into clinical practice, delivering better patient care and bringing novel healthcare products or services to market sooner.



Milton Park Innovation Centre. © MEPC Ltd.

A compelling argument for inward investment

There are [550 life sciences companies in our region](#), arguably Europe's largest life science cluster.

Significant global life science clusters share a number of features. These include disease and clinical expertise, pools of innovators and entrepreneurs and ways of supporting them, access to capital and a multi-sector, healthcare industry presence. We have an important role to play in strengthening the regional opportunity across these key parameters.

The right environment

The local infrastructure – housing, transport, facilities, planning and education – must all be aligned to ensure the region is attractive for inward investment and a fertile ground for business.

We recognise our partners in the Local Enterprise Partnerships (LEP) as key collaborators in delivering economic growth. Each LEP is represented on the Oxford AHSN Partnership Board, at the heart of strategic decision making and vital in translating our need for regional development through their own contacts in local and national government.

Stimulating business growth

Arguably the most important success criterion for any business is ensuring that its products or services align with market needs. In the life sciences, where development costs are so high, product specifications should be assessed against patient need and treatment pathways as early as possible, definitely before seeking adoption into the NHS.

We offer innovators and industry help in understanding the UK healthcare market, using our NHS networks to research and test how a proposed product or service may be used in a particular circumstance.

New models

We are also enjoying success exploring novel innovation models for business opportunities. The [Structural Genomics Consortium](#) (SGC) is a public-private partnership championing open access research as a source of new medicines.

Oxford AHSN put together a strong business plan and core management team for KDM Therapeutics, an SGC spin-out. KDM is developing new therapeutic targets for chronic inflammatory and autoimmune diseases.

Gateway to funding

Access to capital is an essential ingredient for any emerging life science company. Our region was the top UK cluster for fundraising in 2014 securing \$221m in venture financing and \$485m on the public markets. Oxford AHSN takes a two-track approach – working with innovators and management teams to ensure their business plans make a solid case for investment, and promoting funding sources such as [Horizon 2020](#) and the [Small Business Research Initiative](#) (SBRI) funded by Innovate UK.

SBRI Healthcare is a well-established process connecting and funding innovative ideas from industry with public sector challenges. By supporting grant applications, we have seen SBRI investment totalling in excess of £7.3m in ten projects over the last two years.

Abingdon-based [Oncascan](#) secured £996k to develop its diagnostic test into a practical system for clinical laboratories to improve the management of patients with suspected cancer.

“...our current success in the SBRI contract was greatly assisted by our relationship with the Oxford AHSN.”

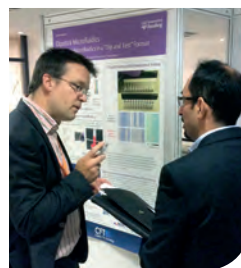
William Finch, MA CDipAF
MD, *Oncascan*

[Isansys Lifecare](#) secured £1m to continue developing their Patient Status Engine wireless monitoring platform for patients in hospital and at home. They will also be able to further work on a pulse oximeter which provides real time blood pressure monitoring.

“...the Oxford AHSN has helped Isansys in several different ways. One of them has been the interface with SBRI Healthcare and the projects we have been working on.”

Keith Errey
CEO, *Isansys Lifecare*

CASE STUDY



Making the right connections

Oxford AHSN helped University of Reading academics working on a rapid test to diagnose heart attack risk to make the right connections. A new company, **Capillary Film Technology** (CFT) was spun out. We introduced them to Dr Piers Clifford, a Bucks cardiologist voted one of the top NHS Innovators in 2014. Their collaboration developed over a series of events organised or sponsored by Oxford AHSN. CFT has now received funding totalling over £1m through SBRI Healthcare. Work is underway on a prototype going into clinical validation in 2016 in preparation for regulatory approval.

“This is a fantastic example of university research and innovation being transferred into industry to help solve real-world problems.”

Dr Alexander Edwards, CFT co-founder

Fostering a culture of innovation

People working day-to-day with patients on the NHS frontline are the most likely source of new ideas. The [2023 Challenge](#) is a competition inspired by junior doctors Alexander Finlayson and Edward Maile. They wanted to address a growing appetite for innovation among NHS trainees. We are supporting the challenge with [Health Education Thames Valley](#) (HETV) and the [Thames Valley and Wessex Leadership Academy](#).

“...it’s been a terrific experience and we’ve all learnt so much. But this is just the beginning – we now have to go on to deliver our idea into practice.”

Dr Angus Goodson

2023 Challenge finalist and co-inventor of a novel portable drug delivery device

CASE STUDY



Training entrepreneurs of the future

Our **Entrepreneur Programme**, a four-day residential course at Henley Business School funded by HETV, gives tools and practical help to would-be entrepreneurs looking to convert their ideas into viable commercial products and processes. Fifteen enthusiastic clinicians, healthcare workers and academics selected from local NHS Trusts and universities attended the first course.

One participant commented, “I can safely say, it’s the best course I’ve ever been on. If you offered me the chance to come back again, I’d bite your arm off for it.”

The programme continues in 2015-16.

2023



Finalists and judges at 2015's event



Regional strengths in diagnostics

Our region hosts a vibrant diagnostics cluster of about 80 companies. Eighteen companies operate globally, commanding 83% of the global market share. We have formed a regional Diagnostics Industry Advisory Council to facilitate interactions between the NHS and this important healthcare sector.

During the year, we hosted the British In-Vitro Diagnostics Association Point of Care (POC) Working Group.

Dr Dan Lasserson, Oxford AHSN's clinical lead for the [Best Care Out of Hospital Care Clinical Network](#), a GP and senior clinical researcher at the Department of Primary Care Health Sciences, University of Oxford, described how he had used innovations in POC diagnostic technology to deliver patients' blood test results minutes after arrival at the award-winning [Abingdon Hospital Emergency Multidisciplinary Unit \(EMU\)](#). Based on rapid results, the patients – often older and living with frailty – receive immediate best medical care.

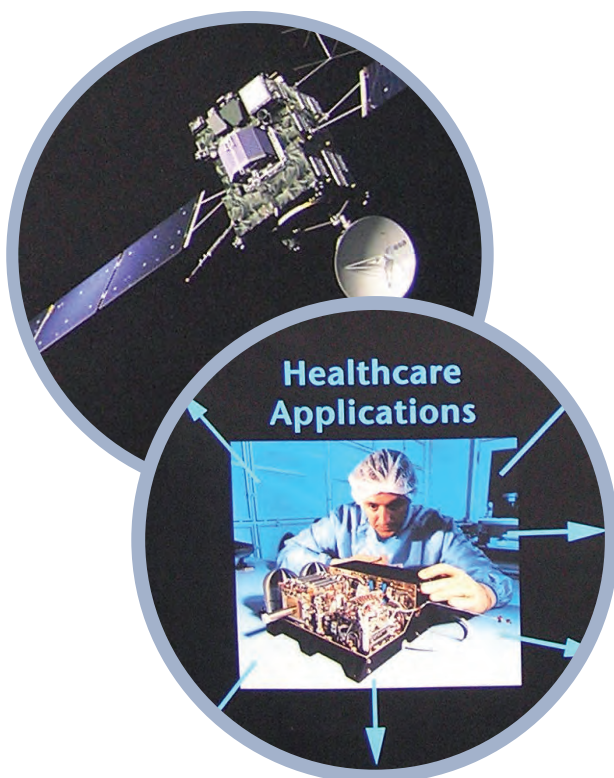
Cultivating collaboration

Long-term relationships between industry, our universities and the NHS create increased understanding and the opportunity to align needs and opportunities.

“...I have been working with Oxford Academic Health Science Network for just over a year now and they have transformed my understanding of the complex landscape that makes up the adoption of innovation into the health sector.”

I am an analytical chemist and technology developer from the space and planetary sciences sector with know-how and capabilities that could be of benefit. Having successfully translated our expertise to several other sectors, including an award-winning air monitoring system for future UK submarines, the health sector had proved both confusing and frustrating – a view I now know is shared by so many others already in the sector.”

Dr Geraint Morgan
FRAS MRSC, Open University



Strategic partnerships with global pharmaceutical companies

Our **Clinical Innovation Adoption** team

is working with Dr Piers Clifford at Buckinghamshire Healthcare NHS Trust and input from Boehringer Ingelheim to ensure two atrial fibrillation clinical care pathways are implemented across our region.

The pathways, one for better detection and the other for anti-coagulation stroke-risk management, are already implemented at Buckinghamshire and Berkshire CCGs.

When rollout is complete, we estimate that improved AF diagnosis and management could prevent up to 300 strokes annually in our area.

Buckinghamshire Healthcare NHS Trust's new cardiac rehabilitation service, award-winning [Care4Today™ Heart Health Solutions](#), is the result of a unique collaboration with Janssen Healthcare Innovation. Cardiac rehabilitation is one of the most clinically and cost effective therapeutic interventions in cardiovascular disease management.

The service helps patients who have suffered from a heart attack or heart-related condition to manage their own health and to avoid future attacks and hospital admissions.

Implementation of Care4Today™ in Buckinghamshire has seen patient enrolment increase from 53% to 82%. 72% patients complete their programmes, up from 53%.

The Clinical Innovation Adoption team is supporting rollout across the rest of our region.



© Janssen Healthcare

Supporting the Oxford Academic Health Science Centre

The Oxford Academic Health Science Centre (AHSC) is a nationally designated partnership of Oxford Brookes University, Oxford Health NHS Foundation Trust (OH), Oxford University Hospitals NHS Trust (OUH), and the University of Oxford embedded within Oxford AHSN. It combines the institutions' individual strengths in world-class science, translational research, training and clinical expertise to address 21st century healthcare challenges.

The Oxford AHSC pursues six themes

- 1 Big Data: delivering the digital medicine revolution
- 2 Building novel NHS, university and industry relationships
- 3 Modulating immune response for patient benefit
- 4 Managing the epidemic of chronic disease
- 5 Emerging infections and antimicrobial resistance
- 6 Cognitive health: maintaining cognitive function in health and disease

Oxford AHSN's role in the AHSC is to enable rapid uptake, adoption and translation of research outcomes, innovations and improvements in healthcare practice across the wider region. We engage in all themes but work particularly closely in 1, 2 and 6.

The AHSC has created a virtual institute for [Oxford Digital Health](#). Digital health programmes are being rolled out by the AHSN, and locally by OUH and OH, to support the management of patients with mental illness, chronic disease, gestational diabetes, and to track severely ill patients in an acute hospital setting. The virtual institute combines all the partners' expertise into a single programme to properly assess the extent of digital health programmes and coordinate as necessary.

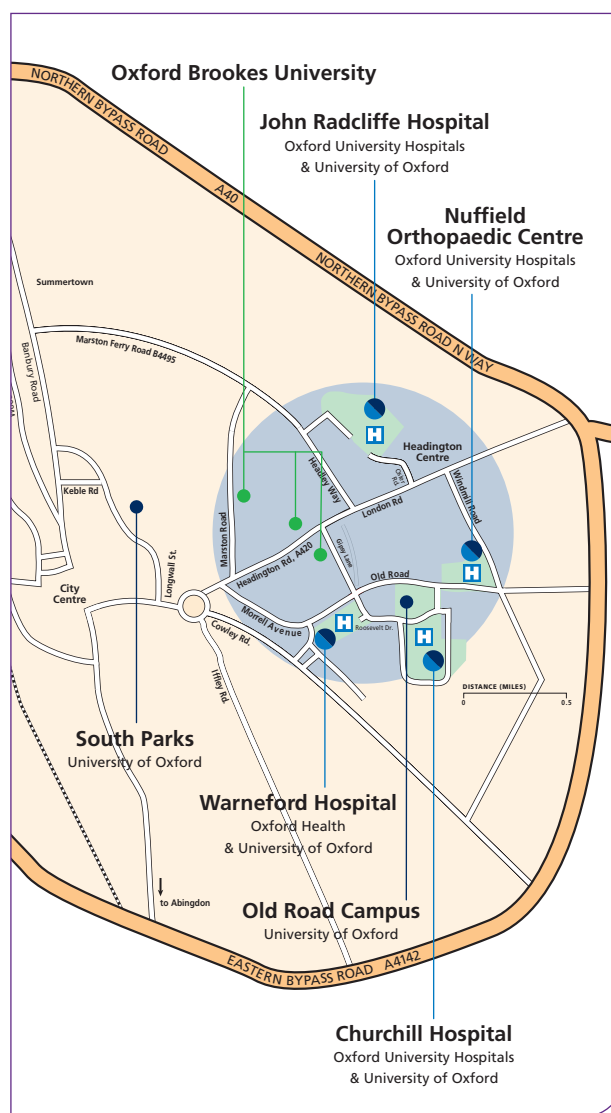


FIGURE 3: Oxford Health Campus



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