NHS
University Hospitals Birmingham
NHS Foundation Trust

Greener communities Healthier lives

Sustainable healthcare
for Birmingham and Solihull

Building healthier lives

A bit about us

University Hospitals Birmingham NHS Foundation Trust (UHB) is one of the largest teaching hospital trusts in England, serving a regional, national and international population.

We provide care across four main hospital sites: Birmingham Heartlands Hospital, the Queen Elizabeth Hospital Birmingham, Solihull Hospital, Good Hope Hospital in Sutton Coldfield and also provide other acute and community services across the city.

The trust in numbers

2 million outpatient attendances

The highest number of outpatients under our care in England

370,000 admissions

The highest number of inpatients under our care in England

10,000 babies

The largest maternity service in the West Midlands, delivering over 9,600 babies a year

22,000 staff

The largest employer in the West Midlands

£1.6bn annual turnover

The second largest trust in the country by turnover

400,000 A&E attendances

The second highest number of A&E attendances with 3 major A&E departments Pre-Covid-19

15,600 patients in research studies

At the leading edge of innovation, with patients able to benefit from participation in research studies

2,600 beds

The highest number of beds for a single trust in the country with four hospital sites

50,000 members

A community of members, supporting our engagement with the local population

£410m NHSE income

Deliver some of the most specialised services in the country

Our hospitals use over
217,400
Mwh in gas and electricity a year[1],
the same as powering over
13,400 homes a year.

Our staff currently commute over
85 million
kilometres by car each year[2],
which is the equivalent of making over
2.5 million
journeys across our local
health economy every year
(from Longbridge to Tamworth).

Our environmental impact

We produce over
6,200
tonnes of waste a year[4],
the same as filling over
50,100 household wheelie bins.

Our sites use around
690 million
litres of water a year[3],
which is the same as filling around
1.8 million 25m swimming pools.

[1] 2017/18 ERIC data [2] Health Outcomes Travel Tool [3] 2017/18 ERIC data [4] 2017/18 ERIC data (includes 1,241 of recyclable waste)

Our achievements so far

Reduced our energy consumption by **11.8%** and our carbon footprint by **15%** for the whole of UHB between 2007/2008 and 2017/2018.

Reduced our single occupancy car journeys at the QEHB site by **33.5%** between 2003 and 2018.

Increased active travel to work (walking, jogging and cycling) at the QEHB site by **4.5%** between 2003 and 2018.

We now have **19** locations around UHB with **solar panels installed**. Since their introduction in March 2014, they have saved more than **1,100 tonnes** of CO_2 and generated enough energy to power the equivalent of **682** homes for a year.

As part of our **carbon offsetting** and commitment to biodiversity, between 2016 and 2019, we planted 1 hectare of **wildflowers**, 20 square metres of **woodland species** and 5 **fruit trees**. We have involved over **1,500 volunteers** over 200 sessions.

Each year the trust generates over **1,200 tonnes** of reusable and recyclable material.

98% of staff **agree** that supporting the environment is important.

Our staff are committed to being more sustainable

When asked how frequently staff were able to be environmental sustainable at work:

80% agreed they were efficient with the amount of water they used

73% agreed they were able to frequently recycle products

68% agreed they frequently turned off lights and electrical equipment

Our committment to improving Air Quality: West Midlands Air Quality Improvement Programme (WM-Air) [1]

Through the Birmingham and Solihull Sustainability and Transformation Partnership (STP), UHB participates in WM-Air, a five-year initiative to support the improvement of air quality, and associated health, environmental and economic benefits, in the West Midlands.

Air pollution in the West Midlands affects some 2.8 million people, reducing average life expectancy by up to 6 months, and is responsible for economic costs estimated at £860m per year.

Launched in January 2019, WM-AIR will provide an improved understanding of pollution sources and levels in the region. It will support the application of these to specific case studies across the West Midlands, ranging from major infrastructure projects, such as HS2, to making effective use of Green Infrastructure across the city.

As part of the project, the air quality across our sites is being measured, with the aim of understanding what mitigating actions might be necessary to improve air quality for our patients, staff and visitors.

Chair's foreword

As one of the largest NHS foundation trusts in the country and one of the largest employers in the West Midlands, we have a responsibility to work sustainably and to set a positive example for our staff, patients and the community. Our vision is to build healthier lives and that means looking after our environment and thinking about the impact we have on the health of our community.

We already have a good track record in many of the areas outlined in this strategy, but the sustainability challenges facing our society are now so significant that we are committed to doing more to ensure that we are adopting sustainable practices across our organisation.

Covid-19 is fundamentally changing how will deliver health and care services, with important implications on our environmental sustainability, such as the way we deliver outpatient and emergency care. As we work to reset the way we provide services in response to the pandemic, we have a unique opportunity to provide our patients, staff and wider community with services which contribute to a green and sustainable environment.

The trust will lead on delivering the strategy, but we can't do it on our own. We will encourage and support each and every member of staff to play their part. Anyone can make a difference, no matter how small or big the change. And we will work in partnership with other healthcare organisations, our local authorities and the West Midlands Combined Authority, our academic partners, our suppliers and the voluntary sector, to deliver this strategy.

Rt Hon Jacqui Smith

Introduction

The NHS is responsible for an estimated 6.3% of England's total carbon emissions, and 5% of total air pollution.[2]

Collectively the NHS has taken great strides in reducing its environmental impact – the carbon footprint of health and social care has reduced by 19% since 2007, despite a 27% increase in activity.[3] It may also turn out that the Covid-19 pandemic will have a very real impact on the NHS's environmental footprint, potentially reducing its contribution to air pollution and carbon emissions, as organisations rapidly adopt digital and community based models of care.

However, we could go further still, and sustainability is more than just about reducing carbon emissions. It is about both the social and environmental impact we have through the services we provide to patients and communities.

This document is our five-year Sustainable Development Management Plan (Green Plan) and is a demonstration of our commitment to this area of work.

It sets out our strategy and objectives for delivering sustainable healthcare across Birmingham, Solihull and South Staffordshire, in line with national climate change targets and the NHS Long Term Plan.

How this strategy has been developed

In 2018 we set up a sustainability working group with key corporate teams and clinicians across the Trust to shape the plans for sustainability at the Trust. This group has been used to shape priorities within the strategy, and will be a key group in supporting implementation.

In 2019, we conducted a Trust-wide survey to understand where staff thought the Trust could be doing more to support sustainability and be a positive example for staff. Just under a thousand staff responded, providing us with a rich source of information and ideas. We have also undertaken a comprehensive evidence review to explore the case for change and to identify the most effective interventions, including learning from leading NHS trusts and from our academic partners.

Corporate teams from across Estates, Facilities, Procurement and Travel and Transport have developed the specific recommendations within the strategy and will develop action plans to support the implementation. We have also tested the strategy with a number of key external partners, such as Birmingham City Council and the University of Birmingham.

Drivers for change

Building healthier Lives

We have a responsibility, as an Anchor Institution[4], to play an important role beyond the boundaries of our hospitals and community services, in contributing to a greener, healthier and more sustainable city, and in supporting our staff, patients and communities to realise that low carbon lifestyles can have a positive impact on health and wellbeing. This is what our **corporate strategy** to build healthier lives is about. Include footnote/hyperlink?

We have some of the highest levels of inequality in the country. In Birmingham, 440,000 people live in the 10% most deprived areas in England. There is a nine-year gap in the life expectancy of the most advantaged and disadvantaged in the city.

Environmental and social factors often go hand in hand. Increases in chronic mental illness conditions such as obesity, diabetes, asthma, hypertension and heart disease can in part be caused and exacerbated by environmental factors. Disadvantaged communities are also more likely to experience multiple health impacts associated with poor quality environments, for example through air pollution, lack of access to green space or poor quality housing.

This matters because almost 30% of preventable deaths in England are due to non-communicable diseases specifically attributed to air pollution (see page 22).[5] Air pollution in Birmingham alone can be linked to 900 deaths per year and the city is currently in breach of legal limits for nitrogen dioxide, with the second highest levels in England after London. The shocking impact of this is that primary school children who grow up in Birmingham could lose up to half a year of their lives due to illegal levels of air pollution.[6]

Climate change targets

The Climate Change Act (2008) requires organisations to demonstrate a substantial reduction in carbon emissions by 2050, against a 2007 baseline:

2020: 34% (this target is reconfirmed in the NHS Long Term Plan)
2025: 50%
2030: 64%
2050: 80%

In June 2019, the UK government amended the 2050 target, committing to reducing greenhouse gas emissions to net-zero by 2050 in light of new technologies now available.

However, based on current performance, the NHS is not going to meet these targets. It is estimated that by 2020, we would still be producing over 25 megatons of CO_2 emissions compared to a required 17 and this would level off at around 25 megatons by 2050, compared to a required 7.[7]

Accurate performance measurement against these targets is challenging, as an organisation's impact needs to take account of carbon emissions both from direct consumption (e.g. gas and electricity) as well as indirect consumption (e.g. procurement, staff, visitor and patient travel).

These targets not only matter because they are statutory obligations, but because failure to tackle this has a very real impact on the health and wellbeing of our patients and communities.

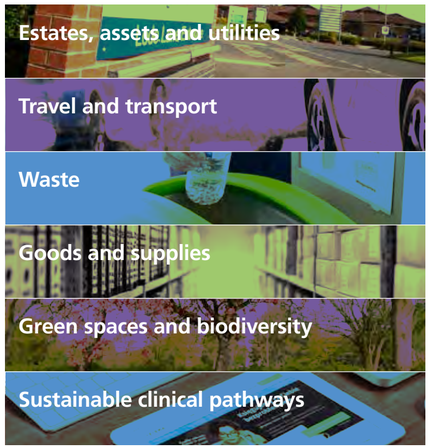
What we want to achieve

Being at the forefront of delivering sustainable healthcare, by reducing our environmental impact, protecting the natural environment and enhancing social value, speaks directly to our vision to Build Healthier Lives and our organisational strategy.

Our sustainability objectives are to:

- Maximise the benefits of being one of the largest trusts to significantly influence social and environmental issues for Birmingham, Solihull and South Staffordshire.
- Redesign healthcare in a way which supports the development and delivery of more integrated and sustainable models of care
- Empower our staff to put sustainable and environmental issues at the heart of their work, giving them the necessary tools, resources and training to make responsible decisions.
- Measure and report on the Trust's progress against statutory targets.
- Manage our buildings and resources in the most effective way to minimise our environmental impact.
- Work in partnership with other local government and NHS organisations through the Birmingham and Solihull sustainability and transformation partnership (STP) and voluntary sector to deliver shared sustainability objectives.

Our strategy is organised around six priority areas outlined below. They set out our aims, proposed actions and how the success of those actions can be measured:



Estates, assets and utilities

Across our sites, we consume a substantial amount of gas, electricity and water:

- 217,400Mwh in gas and electricity a year, the same as powering over 13,200 homes a year.
- Around 690 million litres of water a year, which is the same as filling around 1.8 million 25m swimming pools.

We have successfully achieved the interim climate change targets between 2007/2008 and 2017/18 by reducing our direct energy consumption by 11.8% and carbon footprint by 15% across the trust. Given that over the same period we have experienced a 59% increase in emergency admissions, this reduction is notable. We have also moved to renewable energy contracts across our main sites from April 2020, which will further decarbonise our operations

These reductions have primarily been achieved through site rationalisation, the conversion of the boiler house to gas from coal at our Queen Elizabeth Hospital site and the move to Combined Heat, Power and Cooling Plan (CHP) at our Heartlands, Good Hope and Solihull sites. We have also installed solar panels in 19 locations across our sites – since their introduction in March 2014, they have saved more than 1,100 tonnes of CO_2, enough energy to power 682 homes for a year.

However, if the Trust is to meet forthcoming climate change targets in 2025, 2030 and 2050 (figure 1), a broader approach to sustainability is required.

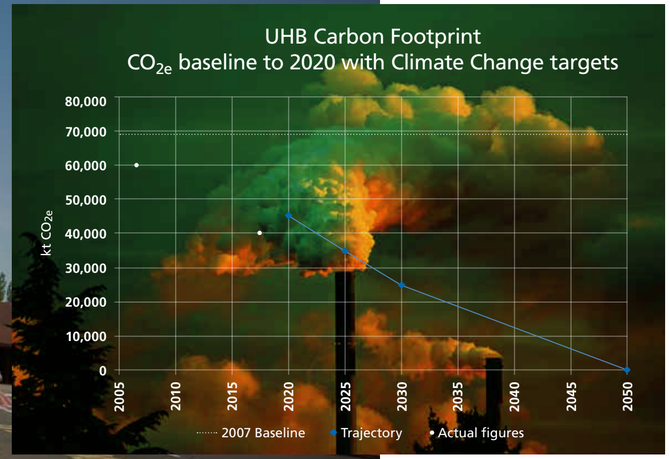


Figure 1: Trust carbon footprint against climate change targets

What
do we want to achieve?

Continue to reduce our carbon footprint, in line with national climate change targets.

Improve monitoring, measurement and understanding of our energy consumption and utilities.

Support staff to understand their environmental impact and how to reduce their impact in the workplace.

Put sustainability at the heart of our Estates strategy, adopting energy and water conservation measures for all our capital projects, including new builds and major refurbishments.

Ensure compliance with environmental legislation and best practice.

How
will we achieve it?[5]

Baseline and benchmark current performance, identify opportunities for improvement and seek to align with best practice within the sector.

Develop ambitious targets to reduce energy and water consumption. This will be underpinned by a focused action plan of targeted schemes which seek to improve efficiency.

Collaborate, engage and share knowledge across corporate and divisional teams, our PFI contractor and other NHS organisations and external experts.

Inform and educate staff, patients and visitors about how their actions affect energy and water consumption.

Respond quickly to maintenance events which lead to energy or water waste.

Assess life cycle costs of energy and water when purchasing new equipment and use this as criteria in decision-making.

Include minimum standards for sustainability when leasing buildings or undertaking refurbishments and new developments.

How
to measure how we are doing?

Annual Estates Return Information Collection (ERIC) returns

Utilities consumption and cost reports

Proportion of energy from renewables

[5] Our aspirations in this section need to be managed alongside our existing contractual requirements, under our PFI contract at QEHB.

Travel and transport

The NHS accounts for almost 10 billion journeys each year – around 3.5% of all road travel.[8] There are reports that a quarter of England's hospitals and third of its GP practices are above the World Health Organisation's limit for pollution.[9]

As a large and complex Trust, with multiple sites across Birmingham and Solihull, the transport of our goods, services, staff, patients and visitors has a significant impact on local air quality, congestion and health. For example, prior to Covid-19, UHB staff commuted over 85 million kilometres by car each year[10] – that is the equivalent of making over 2.5 million journeys across our local health economy (from Longbridge to Tamworth) every year, or over 100 journeys to the moon and back.

Prior to the pandemic, we had around 2 million outpatient attendances, the vast majority of which were face to face, creating patient and visitor traffic to our sites. Even converting a third of these outpatient virtual consultations, in line with the ambition in the NHS Long Term Plan, we could reduce the cumulative distance travelled by over 7 million kilometres, and save around 3,000 tonnes in CO2 emissions a year (figure 2). (keep reference). And, as we redesign services to respond to the pandemic, treating many more patients remotely, in the community and away from hospital, we have the potential to reduce carbon emissions associated with outpatient activities even further.

Our digital transformation plans - many of which have been accelerated during the pandemic - include using virtual consultations ubiquitously, supporting staff to work productivity at home, more comprehensive adoption of Ask A&E, our new digitally provided symptom checker, and our vision for delivering diagnostics in more accessible locations, are key to this sustainability programme.

Figure 2: Health outcomes of travel tool (HOTT) scenarios: UHB CO_2 Emissions

The Sustainable Development Unit's health outcomes travel tool

The SDU's Health Outcomes of Travel Tool (HOTT) helps NHS organisations measure the impact their travel and transport has in environmental, financial and health terms.

HOTT is a tool that allows the quantification of impacts (such as air and noise pollution, road traffic incidents and greenhouse gases) from different travel sources to allow the creation of a plan and targeted initiatives to reduce the NHS's impact from travel and transport.

Air pollution: the facts

Air pollution impacts upon human health from before birth to old age. According to the Global Burden of Disease, one component of outdoor air pollution (fine particulate matter), is the fifth leading risk factor for death in the world, accounting for 4.2 million deaths (7.6% of total deaths).

In the UK, air pollution is responsible for an estimated 6 million sick days every year, with estimated total economic costs of £20 billion.[12] Exposure to particulate matter (PM) and nitrogen dioxide (NO2), predominantly associated with road vehicle emissions, is expected to cause 2.4 million new cases of disease in England between now and 2035.[13] This has a very real impact in demand for NHS services – air pollution can cause up to 36,000 deaths a year, and over 20,000 respiratory and cardiovascular hospital admissions a year[14]. For example, air pollution is estimated to lead to around 1,000 asthma admissions from 2014-2016 in children in London, 10% of all asthma admissions in children in London.[15]

Exposure to air pollution has been linked to a wide range of poor health outcomes including asthma, COPD, coronary heart disease, stroke, and lung cancer, with emerging evidence showing impacts on low birth weight, diabetes and neurodegenerative diseases such as Alzheimer's and Parkinson's Disease.[16] For example, there are around 115,000 hospital admissions for COPD annually[17], of which 5,000 could be attributed to some air pollutants.

Children, pregnant women, older people and those with chronic health conditions are among the most vulnerable to the harmful effects of air pollution.[18] This means that air pollution exacerbates health inequalities across the population.

The World Health Organisation (WHO) advocates an annual limit for PM2.5 of 10 µg/m3 to encourage sustainable reductions as no level is considered safe for human health. It has been estimated that reducing PM2.5 by just 1 µg/m3 across England in one year would save NHS and social care budgets £1.38 billion by 2035, avoiding 40,312 cases of COPD, 9,253 cases of asthma and 4,171 cases of lung cancer between 2017 and 2035 in England (Figure 3).

Figure 3: Opportunity cost of air pollution: Cumulative new cases of disease **avoided** by 2035 for 1 µg/m³ reduction in $PM_{2.5}$ England

Source: Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution. May 2018.

We have identified improving air quality as a key enabler in our STP strategy[19] and we are working with Birmingham and Solihull councils to improve public transport, cycling and walking infrastructure.

We are also a partner for the West Midlands Air Quality Improvement Programme, led by the University of Birmingham, which supports the improvement of air quality, and associated health, environmental and economic benefits across the region (See page 2 for more information). We will also be playing an active part in supporting the introduction of Birmingham's Clean Air Zone in 2020.

Birmingham City Council have published an Emergency Birmingham Transport Plan in response to the pandemic, setting out a wide range of emergency measures to support walking, cycling and public transport throughout the city, providing a unique opportunity to plan for a green, sustainable recovery after Covid-19. We are committed to working with the Council to deliver these ambitions, supporting our staff to work from home wherever possible, prioritising active travel for patients and staff for those needing to come to our sites, and minimising the environmental impact from our operations, through switching our fleet to hybrid and electric vehicles.

We have been running a biennial travel survey for our Queen Elizabeth site together with the University of Birmingham with the aim of understanding staff journeys to and from work. Between 2016 and 2018, there has been an 8% reduction in single occupancy car commutes and a 4.5% increase in active travel since 2003.

We have also introduced park and ride facilities and a frequent shuttle service between our sites, with the aim of reducing the number of staff car journeys to and from our sites. We are also supporting the Transport for West Midlands (TfWM) and the West Midlands Rail Executive (WMRE) redevelopment of the University Train station, improving infrastructure to allow many more people access the QEHB site on public transport.

Although we don't yet have any empirical information regarding the air pollutant levels at our sites since the start of the pandemic, we have seen substantial reduction in staff, patient and visitor travel, and are likely to have seen a positive impact on air quality in response. As we start to redesign our services for the future in response to Covid-19, we are working through how to monitor and measure air pollutant levels in future and the steps that can be taken to reduce risks for our visitors, patients and staff.

What
do we want to achieve?

Keep a significant proportion of our outpatient appointments as telephone or video consultations.

Reduce the amount of business travel across and between our sites.

Reduce demand for car parking and single occupancy travel.

Work with suppliers to increase the efficiency of deliveries and to minimise the associated carbon emissions.

Increase active travel and use of public transport by staff, service users and public.

Cut business mileages and fleet air pollutant emissions by 20% by 2023/24, in line with the NHS Long Term Plan.

Reduce NO2 and PM concentrations at our Trust sites in accordance with legal limit values (NO2) and to progress towards WHO recommendations (PM2.5)

How
will we achieve it?

Continue to roll-out our outpatient transformation programme to remove unnecessary physical journeys to outpatient appointments.

Continue to invest in trust wide facilities for teleconferencing, video conferencing and homeworking to reduce business travel.

Support TfWM and WMRE redevelopment of University train station.

Support staff to consider different options for travel to and from work, including the wider use of Faxi, an innovative car sharing app.

Continue to provide comprehensive inter site staff shuttle to support staff travelling between sites.

Promote forms of active travel, including walking, running and cycling routes; and across our sites provide sufficient secure lockers, changing and shower facilities.

Operate ‘green fleets’ across our organisation, ensuring that any new vehicles are electric or hybrid, where those options are available, and that we phase out diesel engines.

Set progressively lower emissions standards for any external suppliers from whom we procure services.

Explore roll-out of electric charging points available to staff and visitors across our sites.

Improve the dissemination of public transport information and information about air pollution to staff and patients/visitors e.g. in appointment letters.

Improve our understanding of how staff and patients travel to our sites, including extending the biennial travel survey to all our sites.

Evaluate and monitor ourselves against the Clean Air Hospital Framework.

Continued on page 26

Continued from page 25

How
will we achieve it?

Work with the University of Birmingham to install air quality monitoring equipment (NO2, PM) at Trust sites to evaluate and monitor progress in air quality levels, identifying key pollutant hotspots suitable for additional intervention measures (i.e. no idling, green infrastructure).

Raise awareness of the harmful impacts of air pollution through initiatives such as Clean Air Day.

Explore feasibility of developing a Trust specific carbon offsetting scheme.

[6] The Clean Air Framework has been co-developed by Global Action Plan and Great Ormond Street Hospital. Available: https://www.globalactionplan.org.uk/clean-air/clean-air-hospital-framework

How
will we measure how we are doing?

Biennial travel survey

Health Outcomes Travel Tool

Carbon emissions from travel

Real-time air quality measurements on-site

Proportion of Trust fleet that is electric or hybrid, and provision of electric vehicle infrastructure

Clean Air Hospital Framework

Proportion of video and telephone outpatient consultations

Ask A&E usage

Waste

We generate large volumes of waste and have legal responsibilities to make sure that it is properly segregated, handled and disposed of.

UHB has always been at the leading edge of digital healthcare, and had the foresight to develop clinical information systems, such as PICS, reducing reliance on paper. From 2020, we will be rolling out many of the electronic systems to Good Hope, Heartlands and Solihull, reducing reliance on paper. From 2020, we will also start converting all appointment letters to electronic letters, minimising the paper we send to patients.

We already have a comprehensive waste recycling programme that, between April 2018 and March 2019, yielded 1,268 tonnes of reusable and recyclable material. Around 13% of our waste currently goes to landfill.

We have also signed up to the NHS plastics pledge, demonstrating our commitment to reducing single use plastics across our trust.

We also actively recycle through our clothing and food banks at our Queen Elizabeth site. Each year we generate around 2 tonnes worth of food and clothing for disadvantaged groups and communities.

Yet we know our staff feel particularly strongly about reducing waste. In our all-staff sustainability survey conducted in 2019, although 73% of staff reported that they were frequently able to recycle products, 59% thought we could reduce the amount of waste we produced.

What
do we want to achieve?

- Reduce the amount of single use plastics and amount of waste going to landfill.
- Reduce the amount of waste sent for incineration, the most unsustainable form of clinical waste disposal.
- Minimise the amount of waste created and promote recycling alternatives.
- Reduce the amount of food waste produced across our outlets.
- Influence suppliers and on-site retailers to reduce packaging.
- Improve our measurement and monitoring of waste streams.
- Work with local food and clothing banks to maximise donation opportunities for staff and visitors.
- Continue to build clinical information systems and processes to reduce paper wastage

How
will we achieve it?

- Inform and educate staff, patients, visitors and suppliers about what can be recycled, disposed, incinerated to ensure better segregation of waste streams at source.
- Dedicated recycling initiatives in key clinical areas about what can be safely recycled or reused.
- Replace single use products with reusable alternatives across our clinical and non-clinical areas where feasible, including through purchasing systems.
- Use our purchasing power wisely, by working with suppliers to procure products that minimise packaging use.
- Promote a culture of reuse and refurbishment of items where it is cost effective, rather than buying new.
- Reduce the amount of recyclable PVC in our clinical waste streams.
- Expand food and clothing donation points across Good Hope, Heartlands and Solihull hospitals

How
to measure how we are doing?

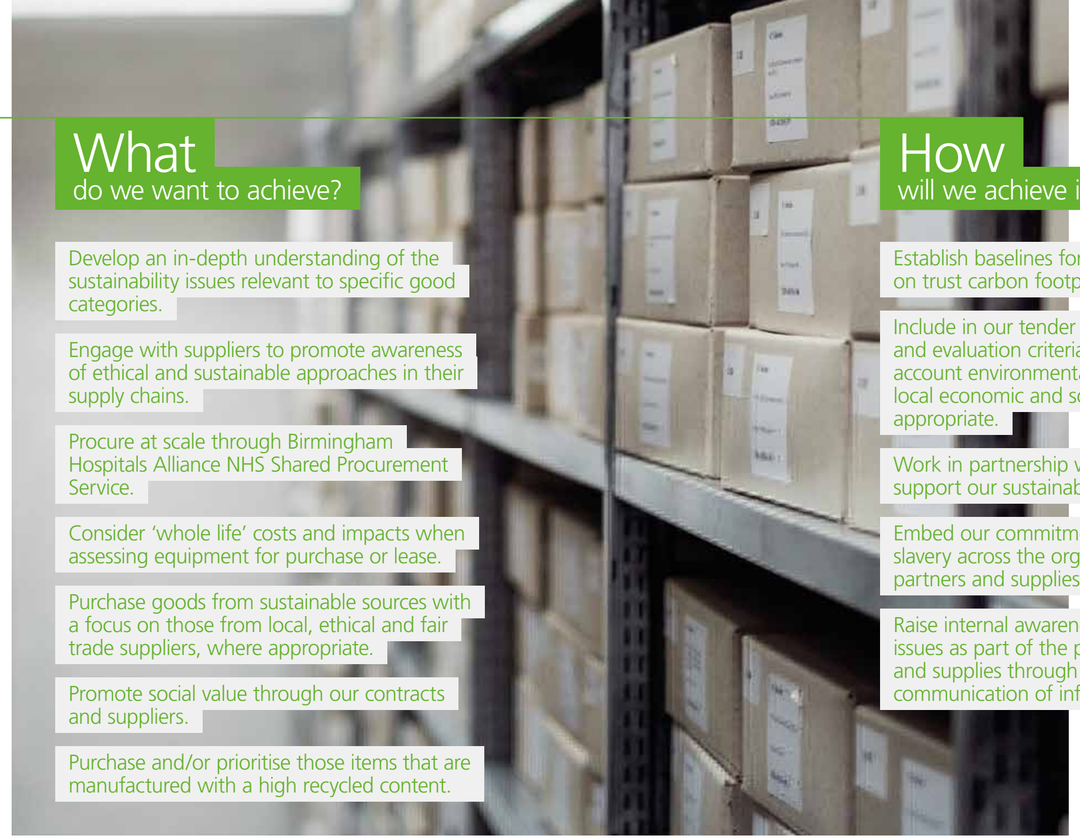
- Auditing of waste streams.
- Measure the amount of overall waste recycled.
- Proportion of products reused.
- ERIC returns.

Sustainable purchasing of goods and services

A significant proportion of carbon footprint in the NHS comes from procurement, so unless we buy and consume our goods and services in a more sustainable way, we will struggle to meet our climate change commitments. The Trust currently spends around £500 million a year on goods and services which provides us with an opportunity to use our purchasing behaviour to influence suppliers.

Although we now have less flexibility in how we purchase due to increased centralisation of procurement systems, we will use the Birmingham Hospitals Alliance NHS Shared Procurement Service to influence the national frameworks as much as possible.

We also have a responsibility, set out in the 2012 social value act, to derive as much social value from the goods and services we buy. The Birmingham and Solihull STP has already set up a social value policy and alongside this, sustainability criteria are a key consideration in the goods and services we purchase.



What
do we want to achieve?

- Develop an in-depth understanding of the sustainability issues relevant to specific good categories.
- Engage with suppliers to promote awareness of ethical and sustainable approaches in their supply chains.
- Procure at scale through Birmingham Hospitals Alliance NHS Shared Procurement Service.
- Consider 'whole life' costs and impacts when assessing equipment for purchase or lease.
- Purchase goods from sustainable sources with a focus on those from local, ethical and fair trade suppliers, where appropriate.
- Promote social value through our contracts and suppliers.
- Purchase and/or prioritise those items that are manufactured with a high recycled content.

How
will we achieve it?

- Establish baselines for impact of procurement on trust carbon footprint.
- Include in our tender processes eligibility and evaluation criteria that take into account environmental issues, sustainability, local economic and social value factors as appropriate.
- Work in partnership with our supplies to support our sustainability priorities.
- Embed our commitment to tackling modern slavery across the organisation and with partners and supplies.
- Raise internal awareness of sustainability issues as part of the purchasing of goods and supplies through the promotion and communication of information.

How
to measure how we are doing?

- Procurement carbon footprint

Green space and biodiversity

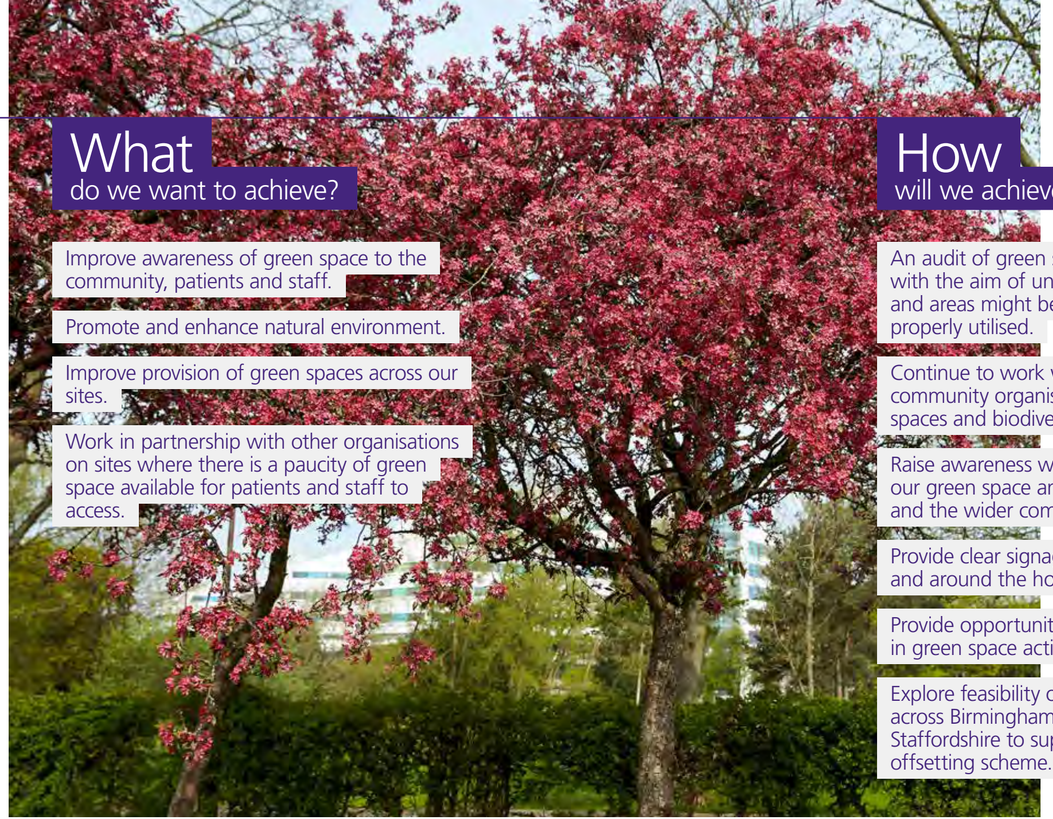
As an NHS Foundation Trust, we have been at the forefront of promoting and using our green spaces and supporting biodiversity.

Together with the Conservation Volunteers (TCV), we have used our green spaces' fruit trees, nest boxes, wildflowers, beehives and exercise spaces to encourage physical exercise, social prescribing and biodiversity.

Between 2016 and 2019, we have planted 1 hectare of wildflowers, 20 square metres of woodland species and 5 fruit trees. We have involved over 1,500 volunteers over 200 sessions. The produce we grow is then used by volunteers to distribute amongst staff.

Some of our sites are well provisioned in terms of green spaces, such as the Queen Elizabeth site and the new Homeward Centre at Good Hope, but there is more we need to do to ensure that all our respective staff, patients and communities have access to green areas.

Not only is this important for environmental sustainability, but encouraging our staff and patients to embrace more active lifestyles, will support the modal shift in travel and transport we are looking for.



What
do we want to achieve?

- Improve awareness of green space to the community, patients and staff.
- Promote and enhance natural environment.
- Improve provision of green spaces across our sites.
- Work in partnership with other organisations on sites where there is a paucity of green space available for patients and staff to access.

How
will we achieve it?

- An audit of green spaces across the Trust, with the aim of understanding which sites and areas might be under provided for or not properly utilised.
- Continue to work with partners and local community organisations to enhance green spaces and biodiversity.
- Raise awareness with staff and patients of our green space and encourage patients, staff and the wider community to access our sites.
- Provide clear signage to local green areas (in and around the hospital).
- Provide opportunities for staff to get involved in green space activities.
- Explore feasibility of planting more trees across Birmingham, Solihull and South Staffordshire to support a Trust carbon offsetting scheme.

How
to measure how we are doing?

- Staff awareness of green spaces
- Frequency of planting events

Sustainable clinical pathways

Transforming clinical pathways represent some of the greatest opportunities for improving our sustainability, through empowering and encouraging staff to design, develop and implement quality improvement.

We already know that our outpatient transformation programme will lead to a significant reduction in our carbon emissions, as will our wider digital transformation ambitions.

There is also more clinicians can do to support more sustainable use of resources – for example, a shift to lower carbon inhalers would deliver a reduction of 4% and a further 2% could be delivered through transforming anaesthetic practices.[7]

Some forms of care also have particularly high environmental costs, for example, one year of kidney dialysis is equivalent to seven return flights between London and New York.[8]

What
do we want to achieve?

- Embed sustainability as part of our quality improvement strategy and approach.
- Take sustainability factors into account when redesigning care pathways.
- Improve understanding of key carbon hot spots within the organisation.
- Embrace new and existing digital technologies to reduce the environmental impact of care, prevent ill health and manage long-term conditions.

Globally, pharmaceuticals contribute to a large proportion of healthcare-associated greenhouse gas emissions. The sustainable development unit suggests that in 2012, a fifth of greenhouse gas emissions from the NHS in England were attributable to pharmaceuticals, and 11% to medical devices.

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How
will we achieve it?

- Carry out a clinical hot-spot audit to identify where improvements can be made.
- Provide carbon footprint information about key drugs and their alternatives to support clinicians in their decision-making.
- Develop a sustainable anaesthesia programme, raising awareness of the impact of anaesthetic gases on the environment and taking actions to reduce this, subject to clinical effectiveness and suitability.
- Design a clinical engagement programme to help clinicians understand how practices can improve sustainability, including exploring a roll-out of a green ward and/or theatre competition.

How
to measure how we are doing?

- Quality improvement initiatives
- Patient feedback
- Carbon footprint from anaesthetic gases per patient
- Staff awareness levels

Reporting and governance

We will report annually against this strategy to highlight the main activities delivered throughout the year, and look to monitor ourselves against the sustainable development assessment tool framework. We will also continue to submit data through the ERIC, a mandatory data collection for all NHS trusts required by the Department of Health and Social Care, and our Annual Report.

Any new proposal brought forward under the strategy will require approval in line with the Trust Scheme of Delegation / Standing Financial Instructions. Proposals will be fully assessed from a value for money perspective, including our procurement processes, to ensure that we are delivering both a sustainable improvement as well as a return on investment.

We recognise that clear governance and leadership is required to deliver this strategy. The key forums and areas of the organisation responsible for overseeing and delivering this strategy are:

- **The Board:** The Board offers senior level leadership, supports implementation and ensures alignment with the organisation's values, culture, strategy and operations. Progress is communicated annually to the Board. The lead for sustainability is the Chief Innovation Officer
- **Network reference group:** Sustainability reference group is a monthly meeting, bringing together interested clinicians and corporate teams to share, learn and contribute to sustainability plans.
- **Estates, Facilities and Procurement:** These teams sit within the transformation, corporate nursing and finance functions respectively, and provide project delivery and expertise on the sustainability programmes across UHB
- **Subsidiary company and PFI:** Our facilities subsidiary company and our PFI operator have a crucial role to play in implementing some of the aspirations included in this strategy.

Next steps

This document will shape our sustainability priorities over the next five years. Delivering this strategy will be a shared endeavour, with each and every member of staff able to play their part in contributing towards sustainability.

Communication and engagement will be key to driving behaviour change across the whole organisation. By communicating what we are doing both within and outside the organisation and supporting staff to understand what is in their gift to do, we can position ourselves as an exemplar organisation for sustainable healthcare.

The challenges we face and solutions we propose are not unique but we are in a unique position in the region as a very large Trust to affect change. We will leverage our scale by working together with our STP and academic partners to deliver these priorities, to improve the lives of our patients, our staff and the wider communities we serve.

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