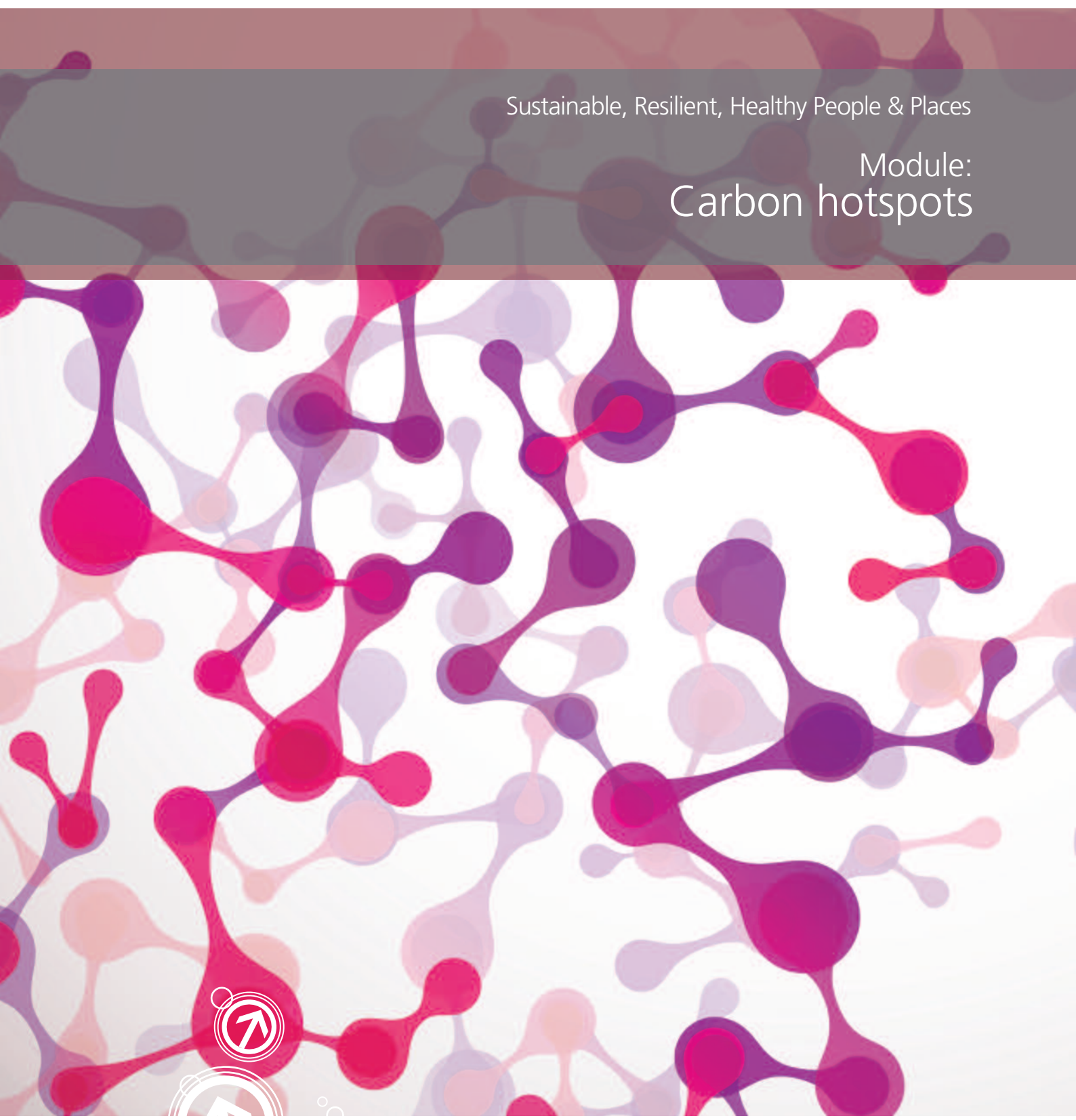



Sustainable, Resilient, Healthy People & Places

Module:
Carbon hotspots



Module: Carbon hotspots



Vision: Targeted action in areas where the carbon footprint is high helps to reduce environmental impacts and mitigate the risk of unmanageable climate change

The measures of success by 2020 are:

Organisations understand and reduce carbon emissions in areas of their operations with the highest carbon footprint

Opportunities are explored for cross agency and sector action to reduce carbon emissions

Carbon emissions are monitored and publicly reported

Existing good practice on delivering ambitious carbon reduction is shared and adopted across the system.

Introduction

The health of the environment and of people is damaged by pollutants released and resources used in delivering care. Reducing carbon dioxide equivalent emissions is a useful proxy measure of reduced environmental impact.

The Intergovernmental Panel on Climate Change Assessment Report 5 (IPCC AR5)¹ released in September 2013 reinforces the scientific basis for taking action to accelerate progress on reducing man-made carbon emissions to protect health both now and in the future^a.

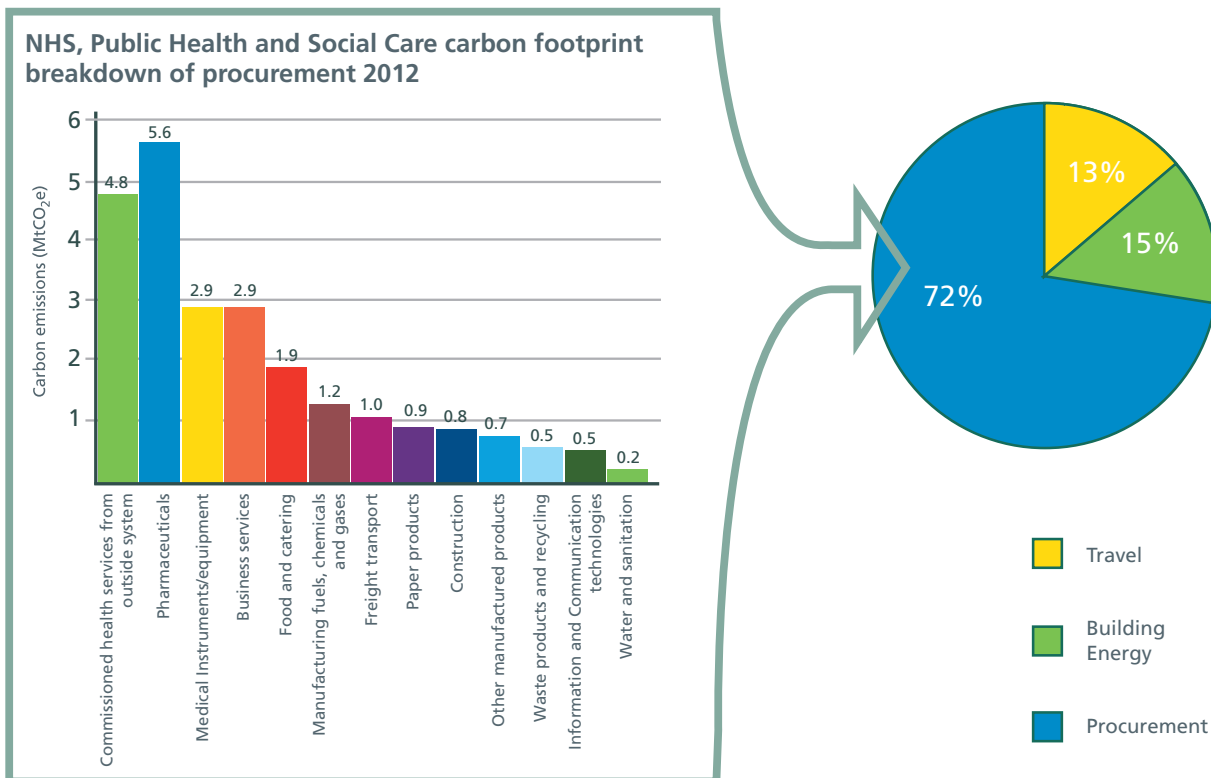
The world's first combined health, public health and social care carbon footprint for a national health system estimates the health and care system carbon footprint to be 32 million tonnes of carbon dioxide equivalent (MtCO₂e)².

To protect the wellbeing of the UK population the NHS, public health and social care system has set an ambitious goal to reduce carbon dioxide equivalent emissions across building energy use, travel and procurement of goods and services by 34% by 2020².

Given the progress already made between 1990 and 2013 there is still a 28% reduction required to align with the Climate Change Act target of a 34% reduction by 2020³.

a The IPCC is a scientific body under the auspices of the United Nations (UN). It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change.

NHS, Public Health and Social Care carbon footprint breakdown 2012



Breaking down the carbon footprint demonstrates **three key areas** to focus carbon reduction activity.

Clearly procurement is a major contributor with 72% of the health and care system carbon emissions². Looking at the constituent parts of the procurement carbon footprint in more detail shows that pharmaceuticals and medical instruments are areas worthy of specific attention. Such high emission areas are sometimes referred to as carbon hotspots.

Commissioned services from outside the system, business services and other procured items also generate significant carbon emissions. Influencing providers and suppliers to improve social and environmental performance (including carbon reduction) through procurement is therefore important and dealt with further under the "commissioning and procurement" module⁴.

This module is divided into three parts that focus on:

1. Pharmaceuticals, medical devices and gases
2. Energy
3. Travel and transport

"Opportunity exists to make a real and sustainable difference to the impact upon the environment if everyone in the system that creates, distributes and uses pharmaceutical products takes focussed action on carbon hot spots"

Helen Gordon - Chief Executive
Royal Pharmaceutical Society

1. Pharmaceuticals, medical devices and gases

Pharmaceutical products represent 16% of the entire health, public health and social care system carbon footprint and 9% relates to medical devices and equipment². This figure includes the manufacture, packaging, distribution, use and disposal of items and so emphasises the need for every part of the system to consider how best to reduce emissions in this important area.

The Sustainable Development Unit, in collaboration with the pharmaceutical and medical device industry, has developed guidance for the sector to assist in more standardised carbon footprinting and identification of areas for reduction⁵.

A bold commitment to reducing carbon emissions can be taken by encouraging all suppliers to use this guidance to identify carbon hotspots in their operations and take action to significantly reduce the emissions of the sector.

Supply side action needs to be simultaneously supported by demand side initiatives to reduce the number of pharmaceuticals and medical instruments purchased. All prescribers and users of resources can help drive this change.

One category of pharmaceuticals, the hydrofluorocarbons group are used as a propellant in Metered Dose Inhalers. They alone account for 5% of the carbon footprint with an estimated footprint of 1.4 MtCO₂e².

Medical gases used as anaesthetics (Nitrous Oxide, Desflurane, Isoflurane and Sevoflurane) are also potent greenhouse gases. Combined they account for 1.7% of the NHS, public health and social care carbon footprint. The majority of these emissions take place in an acute healthcare setting and it is estimated that they form 5% of the carbon footprint for organisations in this setting².

Inhaler recycling

73 million inhalers are used in the UK every year and over 63% are placed in domestic waste bins after use, most ending up in landfill. Inhaler manufacturer GlaxoSmithKline (GSK) in partnership with pharmacies across the UK runs an inhaler recycling scheme called 'Complete the Cycle'. Rather than throwing used inhalers away they can be returned to pharmacists. By the end of 2012 over 90,000 inhalers were collected with an estimated carbon saving of 629 tonnes of CO₂. The scheme is supported by Recycle Now, the Royal Pharmaceutical Society and National Pharmacy Association⁶.

"The financial and environmental case for cutting carbon has never been stronger. The cost of energy and resources is rising rapidly, and the IPCC's 2013 AR5 report provides clear evidence on the negative impacts of unmitigated climate change on future health and prosperity. Given these factors, the UK health and social care system should lead by example, cutting energy and carbon in its own operations and encouraging suppliers and stakeholders to follow that lead."

Richard Rugg - *Managing Director*
Carbon Trust Programmes

The Climate Change Act 2008⁸

The Climate Change Act (2008) was introduced to ensure the UK cuts its carbon dioxide equivalent emissions by 80% by 2050 against a 1990 baseline and to ensure that the Government's programme for adaptation enables the UK to prepare effectively for the potential impacts of climate change.

Carbon Reduction – The interim targets for reductions in carbon dioxide equivalent emissions to meet the Climate Change Act are a 34% reduction by 2020 and a 50% reduction by 2025.



The Green Bag Scheme keeps it together

Patients can find it hard to keep track of their medicines and may misplace them, especially if attending hospital regularly. A simple solution has been adopted in many areas. Patients are issued with a re-useable, re-sealable and highly distinctive Green Bag to bring their already prescribed drugs with them when they have to come into hospital. It is a way of ensuring that the transfer of patient drugs and medication is carried out in a safe and controlled manner that is simple for all to use and understand. It makes life easier for patients and staff as well as reducing wastage⁷.

2. Energy

Energy usage represents 15% of the health, public health and social care system carbon footprint². Action in this area can contribute to reducing emissions, energy bills and energy demand. This is particularly important in view of fluctuating resource prices, increasing energy demands across the world, the need to reduce greenhouse gas emissions and to ensure a secure and resilient supply.

Experience across the system suggests that the following three principles can help guide action:

Reduce unnecessary usage. Reducing unnecessary usage is almost always cost effective, and can be achieved through technological approaches and influencing behaviours. Training and educating staff, service users and the public to reduce energy usage can be a relatively simple and cost effective intervention.

Increase energy efficiency. With energy costs rising, energy efficiency is now seen as an optimal way of saving money. Initiatives to improve efficiency can often generate financial savings with relatively short payback periods. These actions often require the installation of new more energy efficient technologies into the estate or the refurbishment of existing technologies to ensure they operate more effectively. Organisations can use various mechanisms to fund upfront capital costs. For instance, a number of private organisations are willing to fund initial costs and recoup the investment through guaranteed savings thereafter.

Increase amount of low carbon energy. Understanding opportunities where care facilities and devices can utilise alternative energy sources should be explored and implemented where appropriate.

3. Travel and transport

Travel and transport form 13% of the health, public health and social care carbon footprint². Delivering health and care services involves a lot of moving people and goods about. This includes staff travelling to work, service users travelling to care sites, staff travelling to see service users and goods being transported to and between sites.

The proportion of travel will vary according to the models of care used. For example, the delivery of services in cities and delivery in more rural areas will require different approaches. The type of care setting, for instance social care, self-care, primary, secondary or tertiary care will also have an impact. Improving access can be done in ways that reduce the environmental impact of health and care related travel and transport. This has multiple benefits:

- Increased levels of physical activity among staff and others, arising from a shift to active travel
- Reduction in local toxic air pollution and traffic noise
- Improved patient experience and better value for money e.g. the move to telehealth
- Improved road safety and influence on other drivers to comply with speed limits, arising from widespread use of on-board telematics.



Investing in efficient power generation

East and North Hertfordshire NHS Trust needed to spend £1.3 million to repair its heating and hot water system at the Lister Hospital in Stevenage. With an ambition to create a low energy, sustainable estate the Trust decided to invest in a Combined Heat and Power Plant (CHP). This efficient heat and power system is cheaper to run and emits far fewer greenhouse gases than a conventional system. The project was funded through a 15 year Energy Services Company Contract (ESCo) where the contractor designs, installs, owns, operates and maintains the CHP plant. The Trust pay a monthly charge and are guaranteed financial and carbon savings. It also limits the initial financial outlay for the Trust. The £2.7 million project went live in December 2012 and will reduce energy bills by £650,000 a year and the Trust's carbon emissions by 3,620 tonnes equating to around 20% of total emissions⁹.

Three areas of action are suggested to start making progress in lower carbon travel and transport:

Increase active travel (cycling and walking) and use of public transport by staff, service users and the public.

Active travel aims to encourage and create opportunities for staff, service users and visitors to travel by alternative means than by car. This can be achieved by increasing travel choices in ways that make alternative modes of travel safe, fair and accessible to all. Active travel can create health co-benefits as well as reducing carbon emissions. The National Institute for Health and Care Excellence (NICE) has developed specific guidance for increasing active travel¹⁰.

Reduce unnecessary travel. Exploring and understanding different approaches to delivering care and linking people together has the potential to significantly reduce travel and create more resilient systems of care. The way in which people choose to interact with each other and with services has changed over recent years. This means that technology in particular has the power to transform the care experience by changing how professionals, service users and carers interact with each other to deliver services.

Minimise pollution from necessary travel. A good starting point in reducing the environmental impact from travel and transport is reducing unnecessary travel. However, there will inevitably be some movement of people and goods required such as ambulances to transport emergency admissions, some community services, or the delivery of goods and products to care locations. Where travel is identified as necessary the health and care system can try to minimise harm to the environment and the health of local people by using lower carbon alternatives.



Cycle improvement facilities

West Hertfordshire Hospitals NHS Trust has more than doubled the number bike of parking spaces as well as improved showers, lockers and bike repair facilities as part of a scheme to encourage more active travel for staff, patients, visitors and carers. The scheme forms part of a wider BIGHERTSBIGIDEAS programme run by Hertfordshire County Council with funding from the Department for Transport's Local Sustainable Transport Fund. The work helps ease local car-based congestion, reduces car-parking problems for hospital staff and visitors, improves health and cuts carbon emissions¹¹.

“Active travel really is a miracle treatment – for the individual and the planet. As well as reducing carbon it cuts air pollution and noise, and protects against Coronary Heart Disease, strokes, type-2 diabetes, certain forms of cancer and mental ill-health. Staff, visitors and many patients could reap these benefits if we act to make the environment more walking and cycling friendly.”

Malcolm Shepherd - Chief Executive
Sustrans

This document is one of a number of modules supporting the “Sustainable, resilient, healthy people and places – a sustainable development strategy” (www.sduhealth.org.uk/sds). For further information, guidance notes, tools and good practice to support the delivery of this module visit www.sduhealth.org.uk/focus

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Responsibility for the content of this document lies with the Sustainable Development Unit.

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