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Sustainable Development and Allied Health Professionals.

An Analysis.

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Abstract
This article considers the role of allied health and social care professionals in developing and delivering a low carbon or sustainable care service. It looks at the services in the light of international and national policy and guidelines and gives an overview of relevant legislation and targets. There is also discussion of the drivers for change as well as the aspects of health promotion, models of care and practice development. The personal and professional aspects of a sustainable lifestyle are raised for consideration.

Sustainable development and Allied Health Professionals

Introduction:

Whether we think of sustainability as an intrinsic part of our personal way of life, or, as something we should do if we have time, it is something that the Allied Health Professions (AHP) cannot ignore. ~~This article aims to stimulate thought and give some basic information so that professionals can take what they may need and add to their own work and lifestyle practices~~This article does not aim to be prescriptive about individual practice, given the diversity of services within health and social care. Rather it is designed to act as a stimulus for individual creative and context specific thought. Under the broad heading~~In the context~~ of sustainable development it will consider the 'why', with reasons and drivers for change in policy and guidelines to promote health and wellbeing. It will also illustrate some of the 'how' of implementation and hopefully encourage~~stimulate the~~ readers to apply this to their own ~~working and home environment~~ practice and personal environments.

Sustainability or sustainable development is a term we increasingly hear in a variety of contexts. It is also a term that may ~~have~~ seem~~ed~~ to have been~~be~~ overused and designed to manipulate and sell;~~,~~ such as 'healthy option' and 'good for you', and therefore open to misinterpretation.

The Brundtland commission in 1987 drew on the Native American philosophy of stewardship of the land for the future, and compiled a definition of~~for~~ sustainable

development which is widely accepted and used in organisations throughout the world. It is defined as:~~They define it as;~~

"Development that meets the needs of the present, without compromising the ability of future generations to meet their own needs."(Brundtland commission 1987). Sustainable development supports strong economic growth, while underlining the importance of protecting the natural resource base and the environment. Sustainable development is also inextricably linked to climate change and has become an increasingly powerful motivator as we gain more information and understanding of the negative human impact on the environment and climate.

Climate change is quoted as being "the biggest global health threat of the 21st century (Costello et al 2009. It has moved beyond a cosmetic lifestyle choice, to a necessity in just a few years. "There is a closing window of opportunity to mitigate the future impacts of climate change." (IPCC 2007). Permanent damage has already been done and it is no longer a case of making a few alterations at an individual level.~~,~~ T~~t~~here has to be major change~~s~~ and commitment at all levels;~~,~~ "less of the same is not an option" (Mortimer 2010). The changes to the environment and their implications are now systemic and in many cases irreversible. "A~~a~~daptation is the only response available for ~~the~~ impacts that will occur over the next several decades, before mitigation measures can have an effect. (Stern 2007)

The reality of the finite resources and the fragile nature of the environment we rely on are now evident to such an extent that governments are responding strongly. In the UK in 2008 the government brought together the energy policy from the department of business, innovation and skills with the climate change mitigation policy from the Department of Environment, Food and Rural Affairs (DEFRA) to form the

Department of Energy and Climate Change (DECC). The UK coalition government elected in 2010 reinforced this by stating that its commitment is to " be the greenest government ever" (DECC 2011). This has formed a major part of the government's "green agenda" and also links with their vision of "the big society".

Community is seen by governments, organisations, professionals and individuals, as an important element in the way forward to a sustainable lifestyle, and as such the changes have to be made systemically and habituated into everyday life. For example in order to establish an effective recycling system all elements need to work and be connected, from the house-holder to the consumer of the recycled product. People are increasingly seeing the profligate use of resources by people and organisations, as antisocial and unacceptable. Waste audits are now common in organisations, such as that conducted by the NHS in Cornwall (Tudor et al 2005). This found that staff training and awareness, in addition to policy and strategies had the potential to reduce waste by 20-30% and costs by 25-35%.

It has been well documented by classic social scientists (S Asch, 1955, B F Skinner, 1974) that as a society we behave in a way that we think other people in our specific social and cultural groups expect us to. Peer pressure and the need to conform and belong are powerful influences on behaviour. Equally behaviour can also influence individuals and groups by 'social norms' and 'peer pressure'. Likewise our patients/clients and service users are part of their own social groups or communities. The health of both the individual, community and the environment can be seen as a collective responsibility whatever that community's size, diversity or complexity. "Health is a collective value. One person's health should not and ultimately cannot, be maintained at the expense of another or through the extensive use of natural resources" (Stott 2000). By realigning and reconsidering how health and social care

services work there could be more efficient and effective use of resources, improving the health and wellbeing of individuals (including service providers and consumers) as well as a healthier environment.

From financial or resource necessity can come improved models of care. We should remain open to new ways of working, for example Telecare and Telehealth which may reduce the need for direct personal contact and the use of resources such as fuel and time, without giving a higher risk or reduced therapeutic value. Working in groups rather than one to one intervention, could be as effective and more efficient in terms of delivery, use of staff time and therapeutic potency. Group working is already used for its efficacy, especially in areas such as mental health. It is now being used much more extensively in other areas, such as cardiac rehabilitation, paediatrics and drug dependency.

Change needs to have a driving force, not only to make the change happen but also to hold it until it has become embedded in everyday life. There is currently a raft of legislation in place producing changes, in everyday life as well as information influencinginforming people's attitude and behaviour. In 2010 the Cabinet Office set up the Behavioural Insights Team, popularly known as the 'nudge unit', for a two2 year trial. It aimed to influence the choices we make and has already been involved in smoking cessation and in increasing organ donation projects. It worked on the belief and evidence that legislation is not enough to changing behaviour but a 'nudge' is also required. This has worked for many years in marketing, such as product placement and increasingly in health, for example organ donation information being added to driving licence applications (Lawton 2013).

 As mentioned previously cChange initiated by financial or resource necessity can lead to innovative ways of working and to improved models of care, thatwhich may

otherwise never have been implemented or devised. Some could argue that it was the 1970's oil crises that led to the deinstitutionalisation movement to close down the large and expensive to run mental health hospitals (Skull 1984). Out of financial necessity came a different model of care, that of Care in the Community, which is generally accepted as being an improvement for service users. This was just before the discovery of the North Sea oil and gas deposits, which gave peak oil production 40 years ago. The UK was until 2005 a net exporter of oil and gas. It now relies on imports and the rising costs are seriously affecting health and social care budgets. (Raffle 2010).   The government is also stating it's determination to shift the focus of energy and has set a fourth carbon budget level, in line with the advice from the Committee on Climate Change, that sends a clear signal about the determination to transform Britain permanently into a low carbon economy. By cutting emissions we are also getting ourselves off the oil 'hook', making our energy supplies more secure and opening up opportunities for jobs in the new green industries of the future. (DECC 2011).

The rate of scientific and engineering advancement has always increased significantlyleapt forwards at times of war or struggle and crisis. The solutions to the problems we face may not be known or available yet, we have to find or create them.


Policy and guidelines:

The Climate Cehange Aact of 2008 amended in 2009 has been a culmination of responses to changes in the natural and manmade world. It has set the targets by whichthat all organisations in the UK, in all sectors, will be judged by;, which is a target of 80% lower carbon emissions by 2050 from a 1990 baseline. See table and graph.

Year	Carbon reduction
1990	Baseline
2010	10%
2020	34%
2027	50%
2050	80%

As the graph below shows this is a steep requirement as it has already continued to increase since 2008 .

NHS England CO2e baseline to 2020 with Climate Change targets
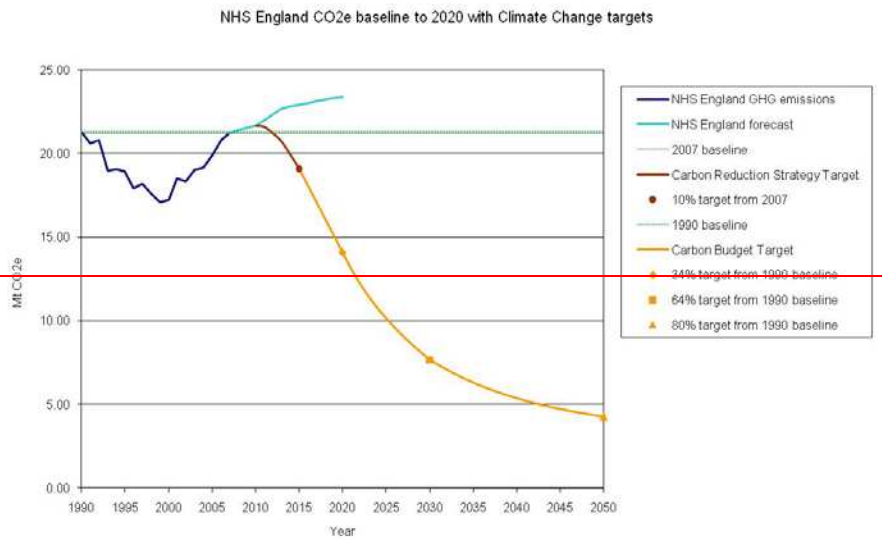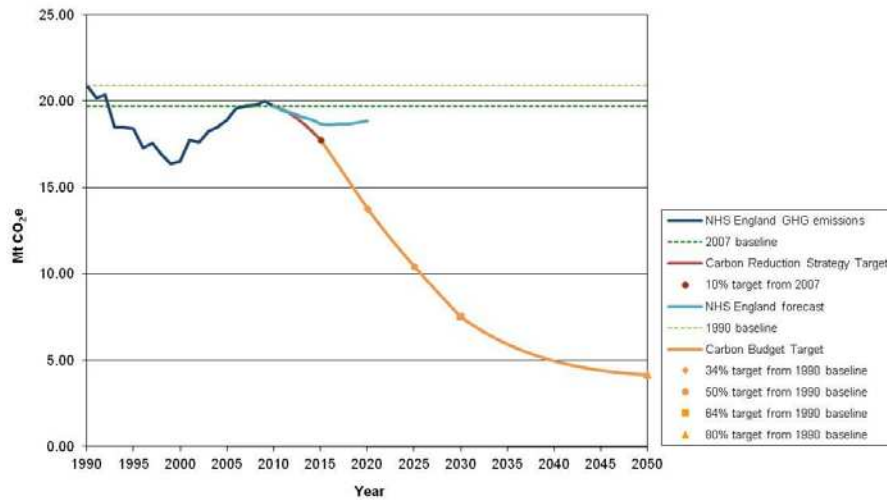
http://www.sdu.nhs.uk/documents/publications/NHS_Carbon_Footprint_Published_2012.pdf

To accommodate this, the interim target has been raised from 26% to 34% (NHS SDU 2010). All organisations, in all sectors, will be judged by this as it is a legal requirement, in a similar way as the discrimination or employment acts govern services, and noncompliance with this act will incur penalties. The Carbon Reduction Committee (CRC) which developed from the Climate Change Act of 2008, brought out its own directive called the CRC Energy Efficiency Order in 2010. This effectively imposes a tax of £12 per ton of carbon produced by organisations that use over 6,000 megawatts of electricity.

Local authorities, education and health services as well as the private and voluntary sectors are required to construct policies that demonstrate their compliance with this legislation and subsequent targets. To meet their requirements many large organisations are 'trading carbon' with companies and organisations internationally to 'offset' penalties. There are also manufacturers who outsource work to countries with

cheaper production costs and lower carbon production standards, thereby not effecting any reduction in~~reducing~~ the problem globally.

Health promotion and wellbeing or societal and economic drivers for change:
Climate change and a high carbon lifestyle itself are already having an effect on the health and wellbeing of people. This is not only ~~with the direct effects~~ as a result of factors such as poorer air quality and rising temperatures, it is also linked to issues such as body weight, with ~~an increased~~ increasing use of cars and consumption of highly processed foods contributing to increasing prevalence of weight increase.

~~C~~The ~~c~~alories consumed have long been out of balance with energy use for many people, leading to the obesity problem now faced by society~~that society now faces~~. This raises specific challenges in interventions for the health and social services, for example, in the case of bariatric patients having~~or those with~~ conditions related to being overweight, such as tissue viability and organ failure. Two thirds of adults and one third of children are overweight, which leads to an increased risk of diabetes, cancer, heart and liver disease (Department of Health 2008).   Much of the equipment ~~that was~~ previously available, such as beds, wheelchairs and hoists have an upper weight limit that is now incompatible with many caseloads. This incurs greater costs and use of resources in staffing, procurement, storage and transportation.

What is eaten is also important for sustainability, as well as from an individual's and environmental health perspective. Livestock farming accounts for 80% of the greenhouse gas emissions associated with food production. The meat eater on the bicycle is still less sustainable than the vegetarian in the car. Reducing meat and dairy

consumption~~intake~~ decreases the incidence of cardiovascular disease and some cancers (Friel 2009). The NHS has also considered the financial and health implications of meat eating. ~~as i~~For example it has considered hospital meals having less meat content (DoH 2009, Jowit 2009). Some studies have analysed the factors and found 'win win' or 'virtuous circles' situations. Woodcock (2009) described how the carbon reduction targets could encourage increased walking and cycling, leading to a reduction in cardiovascular disease, depression, obesity, diabetes and dementia, whilst improving air quality and cutting road death and injury. The understanding of health as being more than simply an absence of illness has long been recognised, as in the WHO (2005) definition which embodies the idea 'that external environments as well as biological responses determine health.'

Important influences on people's physical activity were cited by NICE (2008) as:

- Transport infrastructure.

- Architectural design of schools and workplaces.

- Spatial planning of built environment and urban green spaces.

This has been tested ~~out~~ in many studies including Maas et al (2009) which~~o~~ found that the prevalence of disease clusters were lower for people living within one kilometer~~1 km~~ of green spaces. The relationship was strongest with anxiety and depression, but was also strong . ~~It was also stronger~~ for children and people from lower socio economic groups.

Services

As stated~~has been mentioned~~ earlier the structure of a service and it's methods of working has a crucial influence on how the people within it can work. This includes buildings, services and all resources, as well as people.

Figure 3: NHS England CO₂e baseline to 2020 with 8 reduction measures
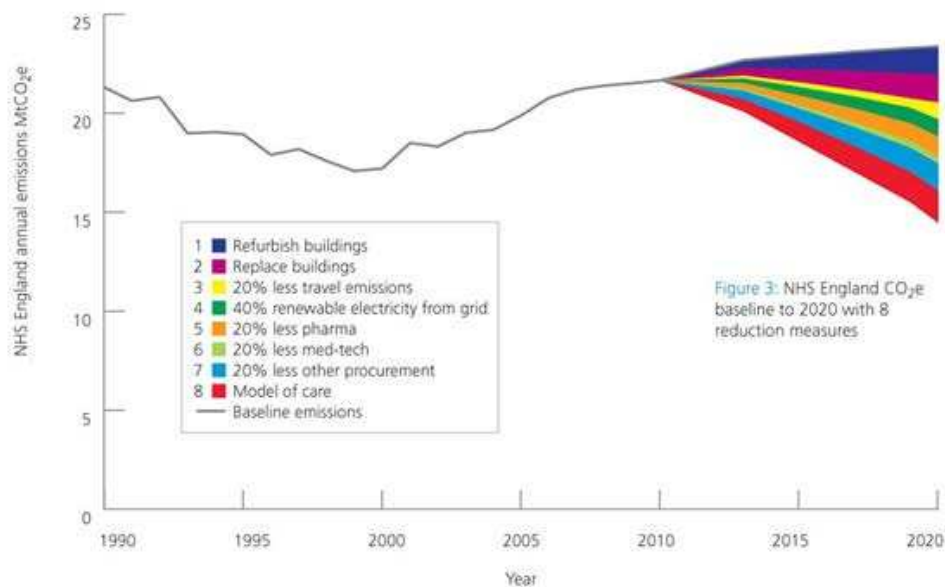
The graph shows how much ~~the~~ carbon emissions could be reduced in relation to ~~the~~ facilities and services. (NHS Sustainable Development Unit)

'As there has been such a slow uptake of sustainable development, greater changes now have to be made. Sustainable estates and facilities will not produce a sufficient reduction alone and a new model of sustainable healthcare is required'. (Mortimer 2010).

It has been shown that the involvement of clinicians in management has been crucially important in achieving and sustaining change across health services. (Joss and Kogan 1995) The experience of the Barnsley NHS was that the successful implementation of their carbon reduction strategy was achieved by improvements in,

- Working practices
- Greater staff awareness
- Pursuit of technical improvements.

The sphere of influence is not only those directly in the organisations and services.

The example above was from a winner of one of the national awards celebrating and circulating good practices to a wider audience. The sphere of influence is not confined to those directly in the organisations and services. 'Health practitioners and institutions have a unique position of influence on both public opinion and governmental policies.' (Whittaker 2011Stott 2006)

Practice

Mortimer (2010) identifies four principles of sustainable clinical practice.

1. Preventative healthcare.
2. Patient empowerment and supportive self care.
3. Lean and efficient service delivery.
4. Lower carbon treatment options.

Health and social care professions have a role in these principles at different levels in organisations.

As described earlier prevention and health promotion should reduce the need for services and the associated resource implications. This will hopefully be part of a system which is about positive change and development rather than negative rationing of services.

Climate change will itself bring diverse new health challenges. With the 2003 heat wave there was estimated to be a rise of 60% in deaths of those over 75. GreaterIncreases in pollution, and poorer air quality have resulted ins increased respiratory conditions and mortality. (DoH 2011). Care of the bariatric patients is requiring different ways of working and provision of equipment. There are also likely

to be increases in other conditions currently more common in tropical regions, such as insect borne diseases.

There tends to be a focus on travel or car use when organisations look at reducing carbon emissions.   Statistics illustrate this with 5% of all UK emissions from roads being attributed to NHS related journeys, and 30% of public sector emissions are from the NHS. Practitioners are encouraged to reduce travel by various means, such as bicycle, lift share and telephone follow-ups. However, when the whole of the service is analysed travel is a much lower percentage than procurement.

In 2010 the NHS in England had a carbon footprint of 18 million tons of carbon dioxide a year; of which 1622% is building energy use, 1618% travel and 6560% procurement. This can be further broken down in the following graph:
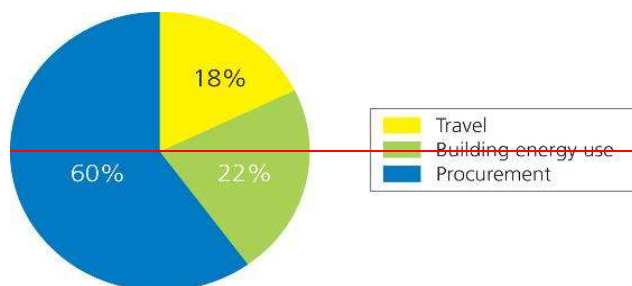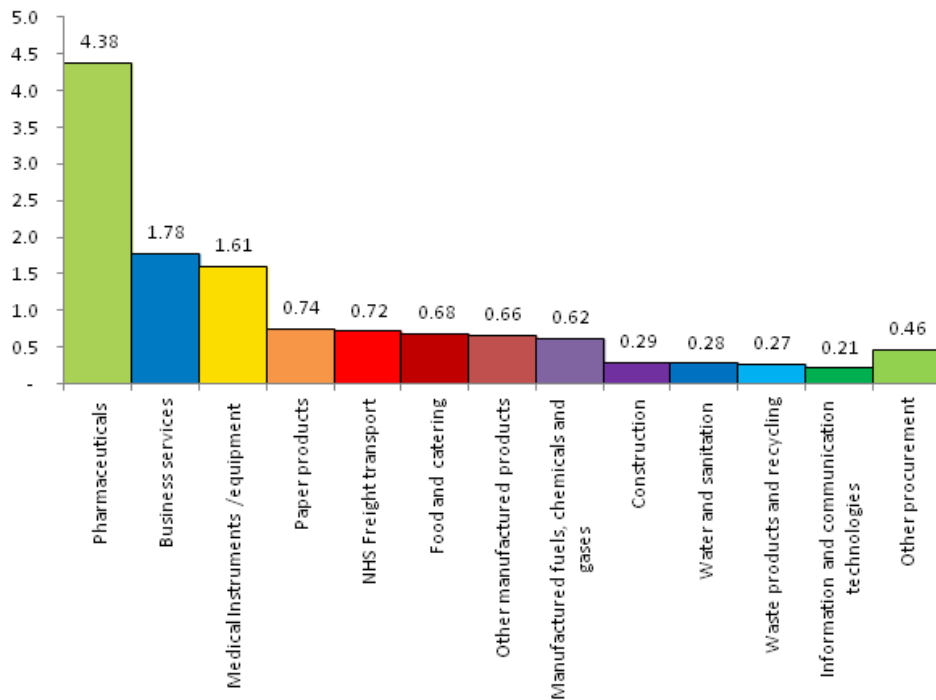
Although some AHPs and their organisations are relatively low spenders on~~with~~ procurement when compared with others, there are several issues that need to be addressed. The provision of equipment involves the complex issues of balancing delivery, tracking, collection, cleaning and recycling which is a recognised problem but which lacks detailed evidence to inform policy. This is similar to the sustainability debate about disposable versus washable nappies, which is closer than would first appear when manufacture and disposal is compared with energy and detergent use.   Very little statistical information appears to exist or have~~that has~~ been formulated to provide the evidence needed to compare operational practices and prescribing, in relation to sustainable development or carbon emissions for equipment provision~~, although~~ There is however a raising awareness of where our procurement is sourced~~comes~~ from and how it is manufactured, such as the Fair trade model.

In relation to ~~the~~ activities we perform~~do~~ with clients there is evidence to support the efficacy of activities which ~~that~~ also support sustainability and add to community engagement. There are several documented examples of this, for instance~~such as that~~ physiological changes are measurable and more positive for people's levels of stress following gardening as opposed to reading (Van den Berg et al 2011). ~~There are also examples of different ways of working, as previously mentioned, like interventions in groups or via telecare etc.~~ It could also apply to electronic patient records, where information can be available to many people at different locations. Texting or telephoning to remind people of appointments may be more effective than post, which uses paper and requires delivering. It may also reduce nonattendance which incurs costs at many levels of services.

Personal life

It is often a complex decision when considering the professional and the personal self, for example deciding how much personal belief, lifestyle details etc are disclosed to clients/patients. Professionals cannot always be the same person at work and home, as there is a requirement to adhere to a professional code which means that they have to live a life that is ethically and morally compatible with professional organisations, ~~and~~ governing bodies' regulations and codes.   If a professional is convicted of an offence, in their own or work time, they can lose registration and ability to practice. C~~This c~~ould apply to leading a lifestyle that has a negative impact on the community.~~?~~ Should AHPs be 'leading by example'? There are interesting illustrations of this with smoking cessation amongst~~and the~~ medical and nursing professions, and the response of the public when observing~~see~~ these groups smoking. People only took the threat to health from tobacco seriously when doctors were seen

to stop smoking (Pencheon 2009). Other professions are also affected by the expectations of how they should present themselves if they are expecting or prescribing 'healthy lifestyle'. Examples of this are anecdotally that the public expects those giving weight reduction diets not to be overweight, exercise facilitators to be fit, relationship counsellors not to have relationship problems etc. Similarly there can be expectations from those expounding lower carbon consumption that they live that way too.

The way information about sustainable development is circulated can be expected to conform to the guidelines and demonstrate adherence to those guideline, and good practice. The NHS Sustainable Development Unit (SDU) produces small documents on sustainably procured paper, with short print runs, directing people to web based resources. Conferences relating to sustainability frequently use video conferencing and SKYPE to avoid the need for travel.

In terms of consumption and procurement the provision of water is a useful example. Although the UK has among the safest and palatable tap water in the world we still consume increasing amounts of commercially produced, bottled water, some of which has a poorer provenance for bacterial content and requires transportation, plastic bottles manufacture and disposal.

There does seem to be a two way process in operationwith this. The way we are directed and 'encouraged' to act in a sustainable way at work will often initiate changes at home, and vice versa. There are further discussions to be had about the ethics of the 'nanny state', of regulation enhanced with governmental 'nudge' against the neoclassical economic world where consumers make informed choices (Oliver 2011).

Conclusion:

So what can the allied health professionals do? This article aimed to give an understanding of the importance of sustainable development from both the global and local perspective for allied health professionals and anyone working in the health and social sectors. Some of the national and international requirements have been shown to be -drivers for radical changes in ways of working and why these are required. It is hoped that it has shown some of the issues related to the organisations providing these services, and the gravity and enormity of the challenges ahead. It is now up to the individual to implement and develop the 'how' within their spheres of influence.

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Key Points
- Climate change and sustainable development are important to health and social care professionals as they impact on people's health and the way services are delivered.
- Practitioners at all levels of an organisation need to be involved in making their area of responsibility as carbon efficient as possible.

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- Health and social care providers need to recognise the influences they have on society and set examples by demonstration and education.
- In the future health and social care will need to be delivered in a different way as ~~the~~ global changes are not compatible with current models.
- Services need to be evaluated both formally and informally to identify way~~ss~~ of reducing the carbon footprint without a~~e~~ffecting the quantity and quality of care given.
- Government targets have to be met due to the finite nature of the resources involved so different ways of working are essential and may be beneficial.