Environmental Sustainability & Public Health Training in the UK

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Living sustainably and living healthily are inseparable. If we want a healthy future for ourselves and our children, we need to change how we live. As the Native Americans understand, we must look after the things that look after us.

Many changes, which are good for the environment, are good for health. Doing more physically active travel and eating healthier diets are good examples of this. Not only that but environmental changes such as climate change threaten our health directly through increased risk of flooding and heat waves. Even more concerning is the risk that our changing environment poses to global food, water and security. We must learn to respect and live in our habitat and stop doing things to it.

For this reason sustainable development is one of the defining public health challenges of our generation. This is why this report is so important.

This report, from the UK Public Health Registrar Sustainable Development Network, showcases what has been done already by public health professionals in training to hasten a shift to a sustainable way of living in the UK. It shows us what can be done when individuals are empowered to influence the system in which they work. This report is part of the changing conversation about health and sustainability. It shows that we can live and work differently.

I hope that this report can inspire further action by public health professionals, and more widely all health professionals, both in and out of training. Those who are just setting out on their public health journey must pick up the baton of responsibility and pursue it with an urgency which until now has been lacking.

Good luck, we all need you to succeed.

John R Ashton CBE
President Elect
Faculty of Public Health of the Royal College of Physicians
Climate change is a key public health challenge of the 21st century. It threatens our most basic needs for a healthy life – food, water and shelter. To address this we need to move to a more sustainable way of living and working. This report presents what public health registrars in the UK have been doing to accelerate this shift. It offers examples of work done to make both public health training and work more sustainable.

This report identifies three aspects of public health training where environmental sustainability could be incorporated in the short term: travel, events and culture of training. Case studies are presented of actions being taken to understand and improve these. In the long term it is likely that structures and processes of training will need to be redesigned to become sustainable and resilient.

Four areas of public health work are presented to illustrate how public health registrars are influencing a move to a more sustainable society:

- Local public health projects
- Teaching
- Research
- Specialist public health placements and projects

Many of the case studies relate to work public health registrars have led locally to increase environmental sustainability across a range of NHS organisations. This reflects the contexts within which most registrars have been working to date. 'The move of public health departments to local government in England will provide numerous opportunities to registrars in future to have a potentially greater impact on environmental sustainability by working more on the 'upstream' determinants of health.' This is to avoid using great twice in one sentence.

Across the country public health registrars have supported teaching on sustainability and health in a range of settings. They have also led research linking environment and health, for example on sustainable diets and sustainable travel. There are many opportunities for public health registrars to work in a specialist or national setting on sustainability and health for example with the Health Protection Agency/ Public Health England or the (NHS) Sustainable Development Unit.

The work presented in this report is only a beginning. Collecting these case studies together has been done, not to look back, but to look forward and inspire future action.

Our future depends on our actions both individual and collective. We can create a future which is sustainable and where people have healthier and happier lives. But we must act and we must act now.

The future is ours to shape.
Environmental changes threaten human health across our planet. To avoid these impacts we need to move to a more sustainable way of living and working. This report looks at what public health registrars in the UK have been doing to support this transition. It offers examples of work that has been done to make public health training and work more sustainable. We present what has been done so far to inspire further action.

The primary audience for this report is current and future public health registrars and those responsible for public health training in the UK. It is also hoped that the content of this report will be of value to a wide range of others including those training in public health internationally, other health professional training programmes, and others in roles related to public health.

Environmental Sustainability and Health

Sustainable development has been defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”¹ Better health is both a goal of sustainable development and a means to achieving it.

Environmental sustainability is a central part of sustainable development. Many of the projects described here relate to addressing climate change. This is appropriate since climate change is considered one of the biggest threats to global health of the 21st century.² Climate change threatens the most basic needs for a healthy life – food, water and shelter. It will also change patterns of infectious disease and expose people to direct harms such as heat stroke, and injuries or death during extreme weather events such as floods.

However it is recognised that there is much more to environmental sustainability than just climate change and that action to protect water and air quality, biodiversity and reduce waste are also needed.

Healthcare and public health practice have substantial impacts on the environment. For example the carbon footprint of the NHS in England is estimated to be 20 million tonnes of carbon dioxide equivalent (CO2e). Additionally many public health actions have what are termed ‘co-benefits’ to health and the environment. For example lower red meat consumption is associated with a reduced risk of colorectal cancer and a lower carbon footprint.³ Similarly more cycling and less driving are associated with benefits due to increased physical activity and decreased air pollution.⁴

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Professional public health training in the UK is led by the Faculty of Public Health (FPH). It is open to individuals with sufficient relevant past experience so includes both doctors and those from other professional backgrounds. The FPH sets out a training curriculum which all registrars must follow. Registrars must pass postgraduate examinations in public health to become members of the FPH. Training normally consists of five years of full time training working on placement in various organisations including both local and more specialised public health work. Training takes place in a range of organisations including local primary care trusts (prior to April 2013), local and county councils, the Health Protection Agency and public health observatories (both are becoming parts of Public Health England in April 2013), the Police, universities and Scottish health boards.

Officially public health registrars are called ‘Specialty Registrars in Public Health’; many however abbreviate this to public health trainees or public health registrars. The latter is the term used throughout this report for consistency and brevity. This refers to someone on a FPH approved training programme.

Public Health Registrar Sustainable Development Network

The Public Health Registrar Sustainable Development Network was set up in its current form in 2011 to link public health registrars across the UK to support their work on sustainable development and particularly on environmental sustainability.

The foundations for this network lie in a project in 2009 by Dr Fiona Head and Dr Kate Charlesworth of the NHS Sustainable Development Unit in which an education programme was run for public health registrars across the country on environmental sustainability.

One outcome of this project was the establishment of an email distribution list which was the starting point for building this network.

There are members of the network from all the regionally based training programmes in England as well as from the Welsh and Scottish training programmes. The network members communicate closely with the registrars on their own training programme. Reports from the network are also shared with the Specialty Registrars Committee at the FPH. The network makes no claim to be representative of all public health registrars in the UK or to represent any official bodies such as the FPH or the deaneries. The views expressed in this report are those of the members alone.

Report Development

The Public Health Registrar Sustainable Development Network meets approximately every six weeks by teleconference to update members and coordinate actions. The idea for this report came from discussions between network members. Members identified relevant case studies for inclusion by talking to registrars in their region. These were written up by the local member and then collated by two editors. It is recognised that there is a bias towards case studies from the East of England. Although this may be in part due to biases in the case study gathering process, it is also likely to be due to the presence of the NHS Sustainable Development Unit in the East of England influencing local practice. A draft report was reviewed by all network members and selected external reviewers before final publication.
Overview

What would an environmentally sustainable public health training programme look like?

To our knowledge no training programme has made a comprehensive assessment of the environmental impact of the training that it delivers. That does not stop action being taken as there are many actions which we know will benefit environmental sustainability. Three areas of action are considered in more depth here: travel, events and culture of training.

This report focuses on the short-term actions to make day-to-day training more sustainable. However it is also necessary to take a longer-term view. Climate change and the need for sustainable development are likely to shape the future world in which we train and work. This realisation challenges us to re-examine our personal and professional values, the structures and processes of training and the content of our training.

Travel

Travel is a recognised source of harmful environmental impacts including air pollution from car travel. Travel in public health training includes commuting to and from work, travel within work (business mileage), travel associated with additional study events (study leave), and travel of ‘non registrars’ linked to training (Deanery staff, lecturers, trainers). In addition to environmental costs, there are substantial monetary and time costs associated with travel.

The impacts of travel will depend on distance covered and mode of travel. For some modes of travel (walking and cycling) there are benefits to health from physical activity. Travel options will depend heavily on local geography and infrastructure. Some training areas are large, such as the South West and some are much smaller, such as Oxford, while some have very different transport systems such as London.

There are three approaches to reducing the impacts of travel – reducing need for travel, changing mode of travel, and reducing the impact associated with a particular mode of travel. Case study 1 illustrates the scale of the costs involved at an individual level and case study 2 shows how we can better understand and take action to minimise these.

These case studies support the following as important actions:

- encouraging and supporting registrars to calculate their own footprints
- encouraging active travel and public transport where possible
- supporting car sharing
- developing remote working policies and practices
- supporting tele/videoconferencing use.
Costs of Commuting for an Individual Registrar

This case study is to illustrate the potential costs for an individual of commuting. This does not claim to be representative of an average registrar. However this amount of travel is not unusual in some regions.

These estimates were calculated by a single registrar working in the East of England in 2010. Costs were estimated using www.transportdirect.info for mileage and carbon footprint, and www.liftshare.com and www.theaa.com for costs of car travel. The costs of car ownership were not included.

One registrar estimated for one year of commuting that:

- a distance of approximately 11,500 miles in a year was travelled
- a carbon footprint of >2 tonnes would have been accumulated if travel had been done by solo car travel
- plausible travel alternatives involving car sharing, for one location, and train, for the other, would nearly halve their footprint
- financial costs for different travel options were between £1,000 and £2,500, and solo car travel was the most expensive option
- time costs were significantly increased by public transport to one location but not the other.

If it is assumed that an average annual UK carbon footprint per person is 10 tonnes then for a registrar commuting as part of the training programme may contribute 20% of this.

Changes to choice of mode of travel could potentially result in a halving of this footprint. Remote working (e.g. one day a week) could reduce the travel footprint by 20%.

Case study provided by James Smith
Understanding Registrar Travel

Public health registrars in the South West agreed that reduction in carbon emissions associated with registrar travel was a local priority. To help work out what was needed a travel audit was conducted, coupled with some qualitative research to understand the influences of transport choices.

The travel audit comprised a baseline in 2010 (15 registrars) and follow up in 2011 (12 registrars). Three months of information were gathered at the same time of year at baseline and follow up. Self-reported information was gathered on mode of travel and mileage covered for travel to and from work, work-related travel, and travel to and from tutorials. A carbon emission calculator was used to calculate carbon emissions. Qualitative interviews were undertaken with nine registrars; five from urban and four from rural primary care trusts.

The main findings were:

- a large contribution to carbon emissions from travel to and from work, with high car use in both periods
- a small but increased use of active transport
- a consistently small adoption of car sharing
- a decline in the use of ‘carbon emitting green travel’ for tutorials from baseline.

The influences on transport decisions reported were:

- individual motivation
- the availability of public transport and proximity of venues to train stations
- journey distance
- home working policies of the host organisation
- caring responsibilities

Respondents also identified a need for more information around sustainability issues and the potential impact of behaviour change.

Following this work there is now a local sustainability policy which includes guidance on choice of meeting locations. A home working policy is being developed. Tele/Videoconferencing is being promoted locally including the delivery of a virtual sustainability tutorial for registrars to address knowledge gaps.

Although there are limitations with small samples, self-reporting and participant bias, this is a low resource, repeatable methodology which raised awareness and, with the addition of qualitative work, identified barriers to change.

Case study provided by Rachel Wigglesworth

2. ‘carbon emitting green travel’ includes journeys by train, taxi and bus.
Any face-to-face meeting of a group of people will have an impact which goes beyond that of the travel of meeting participants. Other impacts will come from the energy used in the venue and the footprint of anything purchased for the meeting from paper for printed materials to food for the catering. The importance of having sustainable events is magnified by the impact this can have as a reflection of and influence on culture within professional groups and related organisations. The easiest place to start for public health registrars is the events which they have control of. This is demonstrated in case study 3 which illustrates the simple choices which all regional training programmes could take to make their training events more sustainable. This could also be adapted by other professional groups and organisations.

### Establishing a Sustainable Training Events Policy

The East of England Public Health Registrars Group (known as ERTAG) organises six training days a year. In order to minimise the environmental impact of these events a sustainable training events policy was developed and agreed within the group. This was adapted from a Health Protection Agency policy. The central features of the policy are as follows:

- **Venue choice.** e.g. choosing a venue with good transport links, a clear environmental policy and environmentally friendly facilities
- **Catering:** e.g. using seasonal local foods whenever possible, using tap water rather than bottled mineral water and ensuring vegetarian options are available
- **Reducing waste:** e.g. using electronic media rather than printed materials, minimising use of electricity such as from air conditioning and recycling when possible
- **Reviewing progress.**

By working in line with this sustainable events policy it is hoped that the environmental impact, including carbon footprint, of events for which registrars have responsibility has been lowered.

Case study provided by Helena Jopling and James Smith
Culture of Training and Induction

For public health training to become more sustainable there will need to be a cultural shift.

Among registrars and wider society the dialogue around issues such as climate change is already changing. For registrars this has been in part driven by a pilot educational programme which was delivered by the NHS Sustainable Development Unit to over 200 registrars in 2010. This pilot was able to demonstrate increased awareness and advocacy scores amongst participants. This project was led by a previous UK public health registrar and an Australian registrar working in the UK and demonstrates the importance of education in cultural change. The broader role of registrars in education is discussed later in this report.

An important opportunity for influencing the culture of a training programme is the induction period for new registrars. A new cohort of public health registrars joins the UK programme every year in August. Within the first couple of months induction sessions are held, led by local training programme directors. These induction sessions provide important practical information for new entrants, but are also an excellent opportunity to provide a vision of the place occupied by public health in society, the big and current issues in the field and the possibilities which will be open to registrars during their training. Consequently, it is important that sustainability is presented at these induction sessions and acknowledged as being central to public health.

To our knowledge no training programme has yet to include sustainability in induction programmes for new registrars. However, it has recently been agreed that it should be included in future inductions for the London/Kent/Surrey/Sussex (LonKSS) programme. This is particularly notable as LonKSS is the largest deanery in the UK training programme.

This inclusion has been possible because there has been a large section of induction set aside to be registrar led. This is part of greater registrar engagement and self-direction of their programme in recent years. The aim of the inclusion of sustainability in induction will be to provide basic understanding and literacy of this important public health topic.

A brief presentation has been prepared for use in this induction within the London Deanery. The Public Health Registrar Sustainable Development Network supported this by providing a space to develop ideas and ensure an interesting and relevant presentation was developed. The network will also be central to future dissemination of this initiative to allow other deaneries across the country to benefit.

Local Public Health

Public health professionals have an important role to play as we integrate health and sustainability in public health work within local government and shift to a sustainable National Health Service.

The case studies presented here briefly illustrate some work specifically focussed on developing governance systems and a culture within the NHS which puts sustainability at its core. They illustrate how registrars can lead these changes at a local level. Any service redesign process or service evaluation can include sustainability.

Looking to the future, there are great opportunities for closer work with local government and to address the ‘upstream’ determinants of health which also have substantial environmental impacts. This is where future public health registrars will probably have the greatest impact on environmental sustainability. Examples of future potential work include influencing local planning, increasing walking and cycling and promoting a shift to healthy diets.
Case Study 4

4a: Developing Sustainable General Practice in Bedfordshire

An awareness-raising workshop on sustainability was run for general practice managers in Bedfordshire as part of NHS Sustainability Day 2012. This was developed because there appeared to be a low level of awareness of sustainability and its importance to health in local general practice. A public health registrar organised the session and developed the workshop. This consisted of a presentation on the basic concepts of climate change and its threat to health, triple bottom line healthcare and the health co-benefits of low carbon lifestyles and healthcare. A resource pack of freely available resources relevant to general practices was developed which included the NHS Sustainable Development Unit’s 5-to-survive series and the 10:10 campaign GP checklist.

The workshop participants engaged well with the material. Two practices, one rural family practice and one urban walk-in centre, were successfully recruited to become case study practices, to benchmark and reduce their carbon footprints and share their experience of the financial and carbon savings with other practices in the patch. With hindsight, more practices could have been engaged with better promotion of the workshop. When complete the general practice case studies will be shared with local practices and will be submitted to the NHS Sustainable Development Unit for inclusion in their case study database.

4b: Developing Sustainable Healthcare Commissioning in Bedfordshire

A public health registrar worked to raise awareness of sustainability in a newly formed clinical commissioning group (CCG). She established relationships with the CCG board chair and chief operating officer and the practice-based commissioning groups’ chief executives and implementation managers. A vision for a low carbon commissioning organisation was presented to the CCG board by the public health registrar. Following this meeting the Primary Care Trust sustainability officer has been working with the CCG chief operating officer, whom he meets monthly, to explore ways in which sustainability could be built in to business practices. Progress towards adoption of a wide-ranging sustainable development management plan is almost complete.

Case study provided by Helena Jopling
The aim of this work, undertaken by a public health registrar from Oxford, was to outline the opportunities and threats for sustainable development that may arise through the NHS changes, and to highlight this to local NHS organizations in transition. The primary focus was the sustainable development work streams of primary care trusts (PCTs), and the organizations that will emerge to assume responsibility for those functions, such as clinical commissioning groups and local authorities.

A public health registrar interviewed, by telephone and face to face, individuals with sustainability as part of their work portfolio within PCTs, and in allied disciplines such as environmental health. A draft paper of findings was disseminated to individuals from a range of local, regional and national organisations with feedback incorporated into the final paper.

This work aimed to identify:

• current work streams
• transition plans related to sustainability
• envisaged future resources and accountability structures for sustainable development
• perceived opportunities and threats for sustainable development during and following changes.

A range of opportunities for sustainable development were identified, including: increased partnership working; new human resource in new organisations; harnessing the experience of the local authorities with respect to environmental sustainability; stability of local government organisations; and the opportunity to influence during change and promote innovation.

Challenges that were identified included: competing priorities and capacity; uncertainty about the nature and remit of new structures during the transition; the future ability of public health to influence the NHS; and promotion of sustainable development locally being dependent on individual personalities.

Findings were presented to the NHS Sustainable Development National Strategy Implementation Group.

Case study provided by Ruchi Baxi
Mapping Sustainability Work in Scottish Health Boards

In 2011 a public health registrar coordinated a mapping exercise that collected information from four Scottish health boards on their sustainability related activity. Four public health registrars from across Scotland contributed to this exercise with assistance from sustainability officers in some of the health boards.

The information was grouped into three categories, based on those outlined in a previous NHS Health Scotland board paper - category 1 described the contribution the health board makes through ensuring the sustainability of its own activities; category 2 described the potential contribution the health board makes to improving sustainability across the Scottish health sector; category 3 described how the health board is influencing progress toward sustainability beyond the health sector.

The results of the mapping exercise were fed back to the newly established Scottish (Managed) Sustainable Health Network (SMaSH). This provided the network with up-to-date, local information that helped inform SMaSH’s early stages of development. Whilst this work was carried out locally the development of SMaSH provides the opportunity for UK based public health registrars to work with the Scottish Public Health Network (ScotPHN) on sustainability and health at a national level in Scotland.

More information on SMaSH can be found at www.scotphn.net/projects/current_projects/sustainable_health_network
Driving Forward the Sustainability Agenda at Leeds Teaching Hospitals NHS Trust

While based at Leeds Teaching Hospitals NHS Trust (LTHT), a public health registrar was involved in working on the Trust’s sustainability agenda. There was a sustainability steering group in place, which had good representation from the estates department, but lacked clinical input, and a sustainable development plan had recently been signed off by the board, showing some commitment from the Trust.

The sustainability steering group worked on a number of projects aimed at engaging individual clinical and non-clinical members of staff in sustainability. A major part of the work was around encouraging clinical and non-clinical teams to develop sustainability action plans, helping them put ideas into action. This involved developing and running a regional workshop on developing sustainability action plans, with examples of good practice from other NHS other organisations. This motivated the Ophthalmology Department to start working on developing plans of how to reduce carbon, focusing around the redesigning the cataract pathway.

In addition, the steering group worked to engage clinicians in the sustainability agenda, through providing teaching at Grand Round and as part of Core Medical Curriculum teaching on sustainability and how it relates to health and recruiting a member of clinical staff to the steering group to broaden the outlook of the steering group.

The steering group also worked on some quick win, high visibility projects to raise the awareness of sustainability in the hospital including increasing recycling facilities, changing canteen packaging to recyclable or recycled packaging and investigating the possibility of developing allotments on site.

Staff at LTHT were surprisingly easy to engage about sustainability as each member of staff saw value in a different part of the agenda, whether it was talking about health benefits, cost-saving, or corporate social responsibility.

Case study provided by Merav Kliner

The Leeds Teaching Hospitals NHS Trust
Teaching

Teaching is an important opportunity for knowledge and attitudes related to sustainability and health to be developed. Public health registrars are involved in a range of teaching including medical schools and Masters in Public Health programmes. There has been substantial effort to include sustainable development in medical school teaching led by the Sustainable Healthcare Education Network. Rather than repeat information which is available on their website, two cases studies of education in different settings are presented here.

Sustainability is an important part of all health related training programmes. Public health professionals can have an important role in teaching about the links between sustainability and health for a wide range of other groups.


Foundation Year Teaching in the East of England and Oxford

A teaching session on sustainable development has been included in the programme for Foundation Year 2 (FY2) doctors undertaking public health placements in the East of England and Oxford areas. These sessions are normally delivered by a public health registrar.

The sessions cover: the science behind climate change, the meaning of sustainable development, the effects of climate change on health, the effects of climate change on health inequalities, climate change policy, the co-benefits of climate change mitigation to both health and sustainable development, the concept of low carbon healthcare pathways and a discussion about the role of doctors in sustainable development. The sessions are interactive with discussion encouraged and several activities incorporated.

Some of the FY2 doctors initially seemed confused as to the relevance of sustainable development to public health, but the feedback at the end of the session has been consistently positive. Registrars from the Eastern Deanery and Oxford are working together to develop common learning objectives and teaching material for these FY2 public health teaching sessions.

In the future the plan is to develop teaching on sustainable development for all FY2 doctors, not just those on public health placements. Postgraduate education centres in hospitals currently organise weekly FY2 teaching at local hospitals. They are being contacted to establish if any programmes already include sustainable development. It is envisaged that a one hour teaching session could be developed and delivered by public health registrars (capacity allowing) to all FY2s.

Case study provided by Ruchi Baxi and Emma Waters
A Sustainability Masterclass in the West Midlands

The West Midlands Public Health Practitioner Development Scheme runs a series of day long masterclasses for candidates for their Practitioner Scheme. A public health registrar developed and delivered a session covering climate change, sustainability, planning and health that ran on the 3rd May 2012. The 2012/13 intake includes a significant proportion of local authority and third sector participants on top of the usual NHS staff so it was a great platform to spread the word of sustainability and health to a wider audience.

As well as lecturing, the session included two 40-minute role-plays. The first scenario was group discussion on the proposed development of a biomass resource in the region. The students played different interested parties (oil company, green activist, local politician) and had to reach a consensus on future action. This helped them understand other views in the sustainability argument (often they had to play the role opposite to what they actually believed). The second was arguing for and against the importance of climate change in pairs. This made students think more deeply about the evidence base and left them better equipped, and more likely, to discuss these issues with colleagues once they returned to the office.

The masterclass was well received and the feedback was positive including:

‘Increased knowledge and understanding of sustainable development and how to influence planning’
‘The role play was great.’
‘Learnt a lot about sustainability and climate change and how individual can make useful changes.’
‘Really enjoyed the course.’

It is hoped that more sustainability masterclasses can be delivered in the future by other public health registrars using the material already developed.

Case study provided by Paul Fisher

Further information on this masterclass can be found at: www.westmidlandsdeanery.nhs.uk/PublicHealth/PHPraactioners/UKPHRRegistration/MasterclassesforApplicants.aspx
There are many questions which remain unanswered in relation to sustainability and health. Public health registrars often conduct academic research, most commonly as part of a Masters degree but also on academic placements. Two examples are presented of research related to understanding the co-benefits to health and the environment of changing how we move and eat.

## Modelling the Health Impact of Increased Active Transport in Dunstable

A research project modelling the health impacts of planned changes to transport infrastructure in the urban area of Dunstable and Houghton Regis in Bedfordshire was undertaken by a public health registrar working with the Centre for Diet and Activity Research, Cambridge.

The project was developed with local partners in public health and planning. The Integrated Transport Health Impacts Model (ITHIM), developed by James Woodcock and colleagues at the London School of Hygiene and Tropical Medicine, was used.

The planned changes include building a bypass, a busway, establishing a shared space scheme on most minor roads and imposing 20mph speed restrictions in residential areas. Effect size estimates on walking and cycling for each of these interventions were based on the findings of a literature review. The model requires input variables related to demographics, disease burden, baseline travel behaviour and road traffic accidents statistics. Adequate data for most of the input variables is not available at a sufficiently local level. There was an insufficient evidence base to characterise the expected effects of the bypass and the busway on active travel behaviour.

Two scenarios were modelled, one based on shared space and one hypothetical scenario based on all journeys under 5 miles being done actively. It was apparent that the benefits of shared space would be greatly enhanced by accompanying health promotion campaigns around active transport; the next step is to communicate and facilitate this opportunity.

This work also demonstrates a research gap in this area, and it may be possible to evaluate the planned changes in Dunstable as a natural experiment to contribute to the evidence base. This work is yet to be published.

Case study provided by Helena Jopling

Further information on ITHIM is available at: www.cedar.iph.cam.ac.uk/research/modelling/ithim
Modelling the Effects of Reduced Red and Processed Meat Consumption

This work, undertaken by two public health registrars at the Cambridge Institute for Public Health, estimated the reductions in carbon footprint and risk of cardiovascular disease, diabetes and colorectal cancer that might be seen if levels of red and processed meat consumption were reduced to the levels of the lowest fifth of consumers. The analysis used the National Diet and Nutrition Survey to estimate current dietary intakes, published carbon footprint information for different food types and published meta-analyses to characterise the relationship between red and processed meat and disease risks.

The estimated population risk reduction from the envisaged reduction in meat intake for the diseases examined was 3-12%. The estimated carbon footprint saving was 27.8 million tonnes of carbon dioxide equivalent per annum in the UK. To put this in context, the estimated annual carbon footprint of the whole NHS in England is 20 million tonnes.

This work was published in the BMJ Open, was reported in the global media and was the most read BMJ Open paper in September 2012.

Case study provided by Louise Aston and James Smith

For more information see:
http://bmjopen.bmj.com/content/2/5/e001072.full
Public health registrars in the UK have the opportunity to train in specialist placements as well as in general local public health training settings. These are often 'national treasure' training placements. For example the Health Protection Agency, which is becoming part of Public Health England (in April 2013) has a leading role in understanding the impacts of climate change and preparing for extreme weather events and regularly accepts public health registrars to join their work. Case study 11 describes working with the NHS Sustainable Development Unit to illustrate the opportunities and impacts of such placements. There is also a wide range of placements with national government departments, think tanks and other organisations such as the World Health Organisation, which all offer scope for working on sustainable development.

Currently public health teams and organisations in England are being reorganised into Public Health England and other institutions. As these are formed at the local, regional, and national level, it is hoped that the opportunities for public health training can be identified and public health registrars can continue to contribute to work on sustainable development and health.

### Specialist Public Health

The NHS Sustainable Development Unit (SDU) works to help the NHS in England fulfil its potential as a leading sustainable and low carbon healthcare service. Work commissioned by the SDU estimates that the NHS carbon footprint is a substantial 21 million tonnes CO2e. A Routemap for the many actions needed to address this was published in 2011.

In 2011 a public health registrar led an SDU project to bring together leading public sector organisations with several leading (top 20) global pharmaceutical and medical devices companies to identify what collaboration was needed to lower the environmental impact of products used in the NHS. A need for guidance on a global standard way of carbon footprinting drugs and devices was identified.

This led to a jointly funded project to develop these guidelines. It is hoped that this project can be developed internationally to become the global standard way of describing the carbon footprint of healthcare products.

### Case Study 12 Working for the NHS Sustainable Development Unit

Much progress has been made across the NHS but there remains much to be done. Public health registrars can play a key role in this. The SDU is a ‘national treasure’ for public health training so welcomes registrars from any part of the country to work with them. The SDU is based in Cambridge.

Case study provided by James Smith and Emma Waters
What Next?

We need to change how we live and work so that we operate within environmental limits while creating economically and socially stable societies. This imperative creates great opportunities because environmentally sustainable lives can often be better for our health and wellbeing. The case studies presented aim to inspire action and so hasten this shift to a better way of living and working. Taken together they hint at the future we together could create. Here is an idea of what this might look like based on our learning to date:

Training

Training will be sustainable and resilient. We will have successfully minimised the negative environmental impacts and maximised the health and wellbeing benefits related to training. How we travel will have changed. Remote working, video and teleconferencing and low carbon modes of transport will all be used much more. The additional time and money saved by these changes will be used to benefit health and wellbeing and in ways which do not harm the environment. Training events will be planned so that they are run in a sustainable manner. Working sustainably will be central to the culture of training and all registrars will understand the links between environmental sustainability and health. Our personal and professional values, the structures and processes of training and the content of our training will all have evolved to reflect our growing understanding of sustainability and the different world in which we work.

Appendix 1 contains a checklist for training programmes to assess progress towards environmentally sustainable training in the short term.

Public Health Work

Environmental sustainability and health are interlinked. Public health specialists will understand this and will have supported the integration of public health and environment sustainability in all arenas which influence health. The focus of public health work will have shifted further ‘upstream’ to the determinants of population health. As a result of this, learning about environmental sustainability will be part of all public health education programmes. Research will continue to reveal how environmental factors and health are linked and the best actions to take for maximum benefit to health and environment. Healthcare services will be working in a sustainable way as environmental sustainability will be integral to decision making and culture throughout the health system. Society will shift to a healthier more sustainable way of life as health and environment become central to individual, public sector and private sector decision-making and action.

This is just one statement of our potential future. It is not a prediction. Whatever the future holds will depend on our actions both individual and collective. We can create a future which is sustainable and where people have healthier and happier lives. But we must act and we must act now.

The future is ours to shape.
## Appendix 1: Checklist for Public Health Training Programmes

This checklist can be used by registrars and training programme directors together to assess progress in working towards sustainable public health training.

<table>
<thead>
<tr>
<th>Checklist</th>
<th>Yes or No</th>
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<tbody>
<tr>
<td>1 Sustainability has been included in programme induction.</td>
<td></td>
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<tr>
<td>2 A travel audit including carbon footprint has been conducted.</td>
<td></td>
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<tr>
<td>3 Policies on remote working have been reviewed.</td>
<td></td>
</tr>
<tr>
<td>4 Teleconferencing and/or video conferencing are available for training.</td>
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</tr>
<tr>
<td>5 Car sharing and use of public or active travel are supported.</td>
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</tr>
<tr>
<td>6 Training events are run in line with a sustainable events policy.</td>
<td></td>
</tr>
<tr>
<td>7 Registrars receive teaching on environmental sustainability and public health (e.g. as part of a Masters course).</td>
<td></td>
</tr>
<tr>
<td>8 Registrars have opportunities to teach about sustainability and health.</td>
<td></td>
</tr>
<tr>
<td>9 Registrars have opportunities to conduct research which relates to sustainability and health.</td>
<td></td>
</tr>
<tr>
<td>10 Registrars have opportunities to work on projects related to sustainability and public health in a local setting (e.g. NHS or local authority).</td>
<td></td>
</tr>
<tr>
<td>11 Registrars have the opportunity to undertake specialist placements related to environmental sustainability e.g. with Public Health England or NHS Sustainable Development Unit.*</td>
<td></td>
</tr>
<tr>
<td>12 Registrars participate in the Public Health Registrar Sustainable Development Network.</td>
<td></td>
</tr>
</tbody>
</table>

*Specialist placement may be difficult to arrange in some areas due to physical distance between the region and the location of potential specialist placements. In this case there should still be the potential to organise projects which involve collaboration with specialist units.
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For UK public health registrars and deaneries wanting more information please contact one of the network members in your region directly. For all other enquires please contact Dr James Smith, chair of the UK Public Health Registrar Sustainable Development Network by email on james.smith9@nhs.net