

# Public Health England

## Health and the Built Environment

### Expert Seminar

14 March 2013

Bristol

### Summary Report

Prepared by Sarah Burgess, WHO Collaborating Centre for Healthy Urban Environments, University of the West of England, Bristol



University of the  
West of England



## Table of Contents

Health and the built environment .....	2
Public Health England Expert Meeting .....	3
The spatial determinants of health.....	4
Shaping a potential Healthy Places programme .....	5
Developing evidence for all .....	6
Key challenges .....	6
Table A Developing the Evidence.....	6
Table B Short and medium term strategic actions .....	7
Tools and influence for developing the evidence .....	7
Developing the system .....	8
Key challenges .....	8
Table A Developing the System .....	8
Table B Short and medium term strategic actions .....	8
Tools and influence for developing the system .....	9
Developing people .....	10
Key challenges :.....	10
Table A Developing People .....	10
Table B Short and medium term strategic actions .....	11
Tools and influence for developing people.....	11
Feedback from ‘expert voices’ sheets .....	12
The importance of this work – comments from participants .....	12
At the national level, Public Health England should... ..	12
At the local level, Public Health England should... ..	13
Players and influence.....	14

# Health and the built environment

The connection between health and the built environment is not new. The sanitary revolution of the 19<sup>th</sup> century was largely based on tackling problems in the urban environment. The connection between health and issues such as housing, transport, air pollution and leisure provision is as important in relation to non-communicable disease today as it was to the infectious diseases of the past. The projection that 86% of the UK's population will be urbanised by 2050 adds to the importance of the agenda for towns and cities.

With a new public health system coming into being in England and, in particular, the move of public health responsibilities to local authorities, there exists a real opportunity to make further progress on tackling some of the social determinants of health associated with urban environments.

At the invitation of Public Health England, the WHO Collaborating Centre for Healthy Urban Environments arranged a small expert seminar on health and the built environment in Bristol on the morning of 14 March 2013.

The goals of the seminar were to:

- a) review the current situation in respect of health and the built environment;
- b) to develop a broad set of short and medium-term strategic actions;
- c) to strengthen understanding of the potential for public health interests to influence the built environment in England; and
- d) to establish the ground work for the PHE programme on Healthy Places.

This report is a record of the activities and discussions at the seminar.

Workshop agenda	
10.00	Framing the workshop: Gabriel Scally A 'healthy place' perspective: Kevin Fenton
10.20	The spatial determinants of health: Mapping ourselves and our levers
10.40	Think pieces: Three themes with three challenges
	<b>Developing evidence for all:</b> How can we develop and communicate knowledge and evidence about the built environment and health to all involved in the new public health system?
	<b>Developing the system:</b> How can we assist public health in Local Authorities to take maximum advantage of their opportunities? How can we assist Local Authorities to take maximum advantage of their new public health responsibilities?
	<b>Developing people:</b> How can we develop understanding, skills, commitment and activity amongst all those in public health and in Local Authorities who have a role in creating healthy urban environments?
11.00	Sub-group for each theme a) Current situation b) Short and medium term strategic actions c) Public health influence on the built environment Feedback from sub-groups
12.00	Plenary: What ground work is required by Public Health England and other players?

Public Health England: Health Places Expert Thinktank  
WHO Collaborating Centre for Healthy Urban Environments  
14 March 2013



# Public Health England Expert Meeting

## Health and the built environment

Thursday 14 March 2013

The Watershed, Harbourside, Bristol BS1 5TX

### Attendees

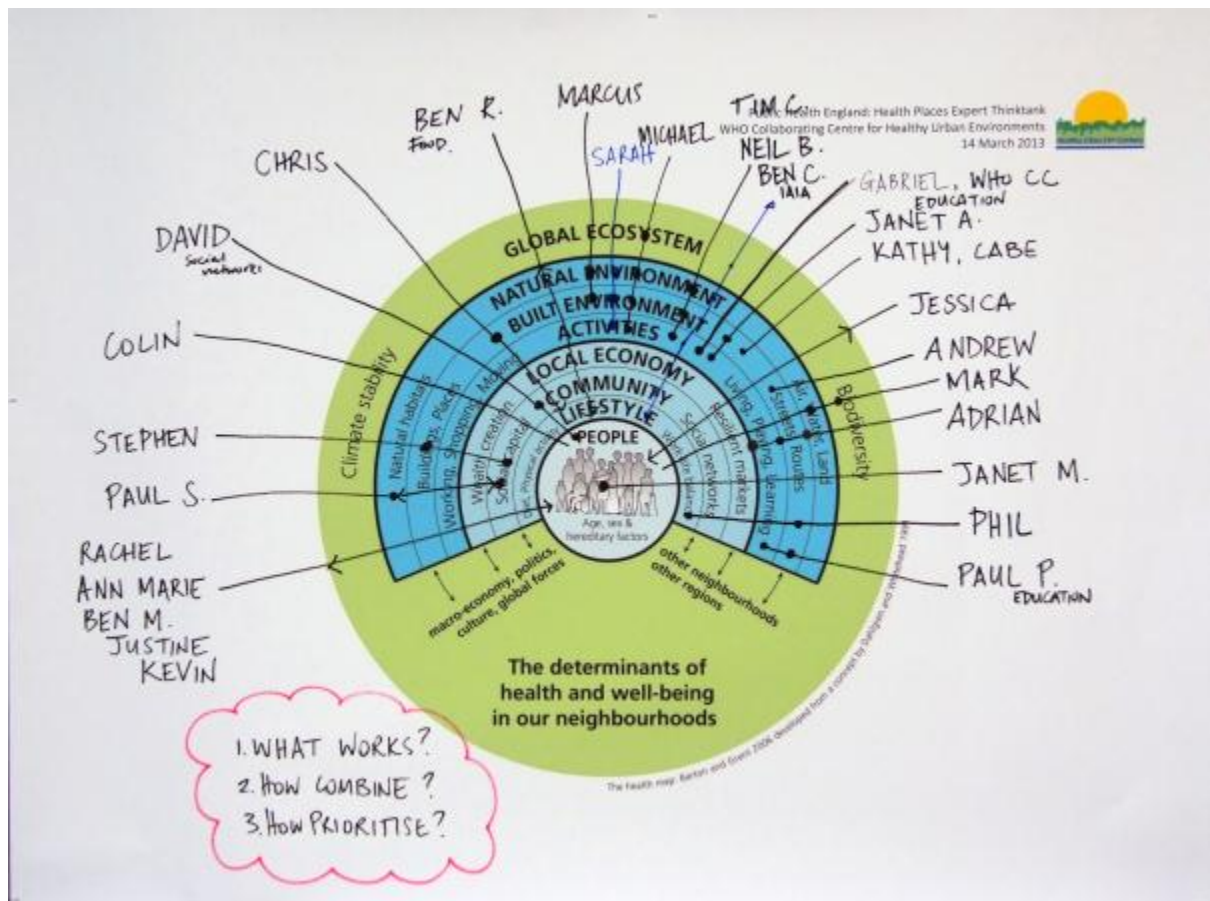
Name	Role	Organisation	Twitter
Dr Kevin Fenton	Director Health and Wellbeing	Public Health England	@DrKevinFenton
Ann Marie Connolly	Director of Public Health	Public Health England	
Ben Morrin	Programme Director, Local and Regional Partnerships	Department of Health	
Dr Gabriel Scally	Director	WHO Collaborating Centre for Healthy Urban Environments	@GabrielScally
Justine Womack	Associate Director of Public Health	Public Health England	@JustineWomack
Colin Cox	Public Health Consultant	Manchester City Council	
Tim Chapman	Sustainable communities specialist	HCA-ATLAS (Advisory Team for Large Applications)	
Chris Brown	Chief Executive	Igloo Regeneration development team	@chrisigloo
Jessica Allen	Project Director	Health Inequalities Review for England	
David Relph	Head of Strategy and Business Planning	University Hospitals Bristol NHS Foundation Trust	@dcjrelph @tedmedlivebristol
Janet Maxwell	Director of Public Health	Bristol City Council	
Ben Cave	Director	Ben Cave Associates and SPAHG	@ben_cave
Andrew Ross	Director	First Draft Consultancy	@andrew_ross_uk
Adrian Davis	Transport and Health Specialist	NHS Bristol	@Adrian4Davis
Paul Southon	Public Health Development Manager	West Midlands Healthy Urban Development Group (WMHDG)	@baldranger
Phillip Insall	Director, Health	Sustrans	@PhilipInsall @sustrans
Ben Reynolds	Network Director	Sustain	@FoodCities @jelliedeelmag
Michael Chang	Planning Policy Officer	Town and Country Planning Association	@theTCPA
Neil Blackshaw	Director	Easton Planning	@Neil_at_easton
Kathy MacEwen	Head of Localism and Planning	Design Council CABE	@CABEupdates @kathmacnow
Stephen Hewitt	Specialist Professional Planner	Bristol City Council	
Mark Robins	Senior Policy Officer	RSPB	@MaRkrRSPB
Paul Pilkington	Senior Lecturer in Public Health	University of the West of England	@PAPilkington
Janet Askew	Head of Department Planning and Architecture	University of the West of England	
Marcus Grant	Deputy Director	WHO Collaborating Centre for Healthy Urban Environments	@WHO_MarcusGrant
Sarah Burgess	Senior Lecturer	WHO Collaborating Centre for Healthy Urban Environments	@sarahburgess03

### Apologies

Vernon Herbert	Interim Head of Unit	London Healthy Urban Development Unit	
Sarah Ichioka	Chief Executive	Architecture Foundation	
Martin Gibbs	Health Inequalities Unit	Department of Health	
Peter Rimmer	Strategic asset management	Department of Health	
Richard Blythe	Head of Policy and Practice	RTPI	
Tim Townshend	Director of Planning and Urban Design	Newcastle University	

## The spatial determinants of health

At the start of the expert workshop the participants introduced themselves and identified the elements of the built environment that they, or their organisation, can have the most impact on. Kevin Fenton set out key questions for the group: ‘What works?’; ‘How can tools be combined to maximise effectiveness and efficiency?’ and ‘How can we prioritise actions and investments?’



Participants identified themselves and mapped their greatest influence on the Health Map.

## Shaping a potential Healthy Places programme

Three themes were identified in advance of the workshop to provide some focus for the discussion and outcomes from the expert seminar.

1. Developing evidence for all
2. Developing the system
3. Developing people

For each of these key themes, an expert was asked to identify three key challenges, which were used to start the conversation. These were then discussed by groups and a workshop template used to frame the discussion, identifying the current situation and the desired state, as well as the factors or influences that are supporting and hindering the healthy places agenda.



*Participants discussing the three themes and key challenges*

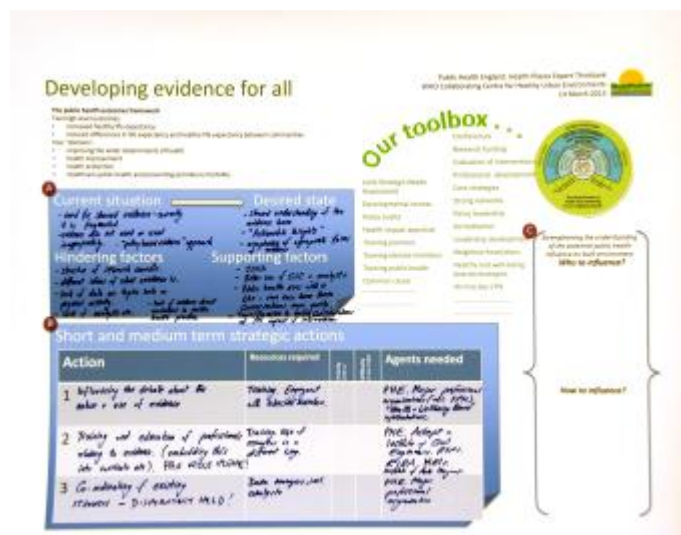
# Developing evidence for all

*How can we develop and communicate knowledge and evidence about the built environment and health to all engage with the new public health system?*

## Key challenges

(as identified by Adrian Davis)

- How can we best use the evidence we already have?
- How to manage differing interpretations and expectations of the term 'evidence'?
- How to get political engagement with the evidence?
- The need to identify funding streams for evaluative work
- Engagement with the theory of change



**Table A Developing the Evidence**

Current situation	Desired state
<ul style="list-style-type: none"> <li>- Need for shared evidence: currently it is fragmented</li> <li>- Evidence is not used or is used inappropriately</li> <li>- A 'policy based evidence' approach is evident</li> </ul>	<ul style="list-style-type: none"> <li>- Shared understanding and valuing of the evidence base</li> <li>- Basis for creation of 'actionable insights'</li> <li>- Wide acceptance of appropriate forms of evidence</li> </ul>
Hindering factors	Supporting factors
<ul style="list-style-type: none"> <li>- Structure of research councils</li> <li>- Different ideas of what constitutes evidence</li> <li>- Lack of data on topics such as physical activity</li> <li>- Lack of analytical capacity, etc.</li> <li>- Lack of evidence about variations in public health practice</li> </ul>	<ul style="list-style-type: none"> <li>- Joint Strategic Needs Assessment</li> <li>- Better use of GIS and analysts</li> <li>- Public health now within LAs thus facilitating joined up conversations about evidence on built environment and health</li> <li>- Tools/processes to enable consideration of public health impact of decisions</li> </ul>



**Table B Short and medium term strategic actions**

Action	Resources required	Priority (H-M-L-)	Difficulty (1 low-5 high)	Agents needed
1. Creating and influencing a debate about the nature and use of evidence	Position papers on the issues involved Discussion events Engagement with elected members			PHE NICE Major professional organisations (incl. FPH) Academic Centres Health and Wellbeing Boards
2. Training and education of professionals relating to evidence on built environment and health (embedding this into curricula, etc.)	Core curricula for health and built environment appropriate to undergraduate, postgraduate and CPD settings.  New methods of dissemination including on-line resources.			PHE, Health Education England, RTP1, RIBA, NEIs, Academic institutions
3. Reviewing and coordinating existing disparate resources	Analytical capacity to review and senior leadership to integrate			Academic institutions PHE Major professional organisations

### **Tools and influence for developing the evidence**

**1. Tailored and targeted information that translates research**

While we may already have quite a lot of evidence, of various degrees of rigour, much of it never reaches the professionals and others who need it. If it does, it is rarely in de-jargonised form they can readily access (a caveat being that we need to work together to properly identify their needs). So, much more effort needs to be given to translational research, which in the area of the built environment, is underdeveloped.

A useful example raised at the workshop is the 'Essential Evidence on a Page' series (<http://www.bristol.gov.uk/page/benefits-cycling-and-walking#jump-link-1>) This has what was described as a 'drip, drip' effect of providing in one city, tailored information, targeted to transport planners, to better guide transport policy and practice through an academically robust evidence base.

**2. Be aware of the 'epistemological gap' - What is meant by evidence?**

The public health field needs to tread carefully to avoid alienating those in the built environment professions by attempting to press on them a biomedical model on the grounds that it provides 'more robust evidence' than their own approach.

**3. Training and capacity building**

Ensure that there are enough public health staff sufficiently imbued with the evidence around the built environment. This will be necessary in order to create confidence and standing with other professions. There is a hunger for the knowledge but there has NOT been any significant route to gain the knowledge about the built environment and health unless public health professionals have been fortunate enough to study for a post-graduate degree that has significant built environment content. So many may receive minimal training in the key wider environmental determinants.

Similarly, the formation of a wide range of built environment professionals, such as architects and planners, will contain little on the importance of built environment considerations to human health. There is a clear programme of work needed to alter this situation.



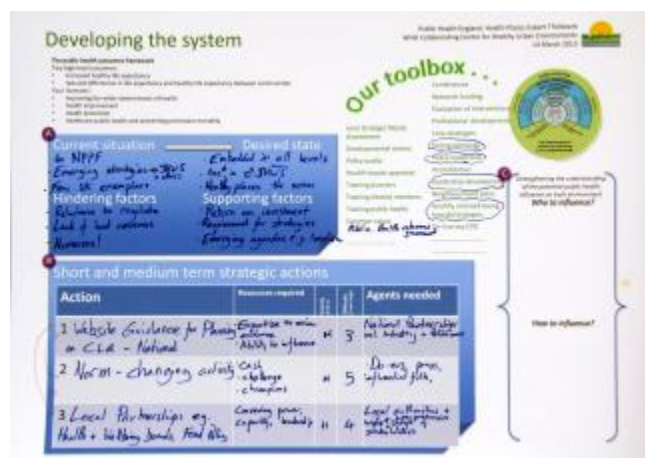
## Developing the system

*How can we assist public health in Local Authorities to take maximum advantage of their opportunities? How can we assist Local Authorities to take maximum advantage of their new public health responsibilities?*

### Key challenges

(as identified by Andrew Ross)

- How to get buy-in of elected members (particularly in two-tier authorities)?
- How to integrate public health into existing LA departments and targets?
- How to bring individual systems together? (CCGs, planning, CLG, NICE, etc.)



**Table A Developing the System**

Current situation	Desired state
<ul style="list-style-type: none"> <li>- Health is in the National Planning Policy Framework</li> <li>- Emerging strategies (joint health and wellbeing strategy (JHWS) and others)</li> <li>- Few UK exemplars</li> </ul>	<ul style="list-style-type: none"> <li>- Health is embedded at all levels, including in all JHWS</li> <li>- 'Healthy places' approach is the norm</li> </ul>
Hindering factors	Supporting factors
<ul style="list-style-type: none"> <li>- Reluctance to regulate/mandate from the centre</li> <li>- Lack of local conveners</li> <li>- Numerous others!</li> </ul>	<ul style="list-style-type: none"> <li>- High return on investment</li> <li>- Formal requirement for strategies</li> <li>- Emerging agendas, e.g. localism</li> </ul>

**Table B Short and medium term strategic actions**

Action	Resources required	Priority (H-M-L)	Difficulty (1 low-5 high)	Agents needed
1. Website guidance for planning on CLG – National	Expertise to review the evidence Ability to influence	H	3	National partnerships, including industry and politicians
2. Norm-changing activity	Funding for activity Challenge Champions	H	5	'Doers' Press and media Influential individuals
3. Local partnerships, e.g. health and wellbeing boards, food policy	Convening power Capacity Leadership	H	4	Local authorities and wide and comprehensive range of stakeholders

## ***Tools and influence for developing the system***

### **Tools identified by participants included:**

- Strong networks
- Policy leadership
- Leadership development
- Health and wellbeing boards/strategies
- Public health outcomes framework

### **Who to influence?**

- Elected members (and other members of Health and Wellbeing boards)
- Corporate directors

### **How to influence?**

- Link with existing work programmes in local authority
- Highlight links/benefits between existing targets and outcomes and health ones
- Get agreement on one transformative project that can bring the local authority and others together (a 'norm-changing activity')

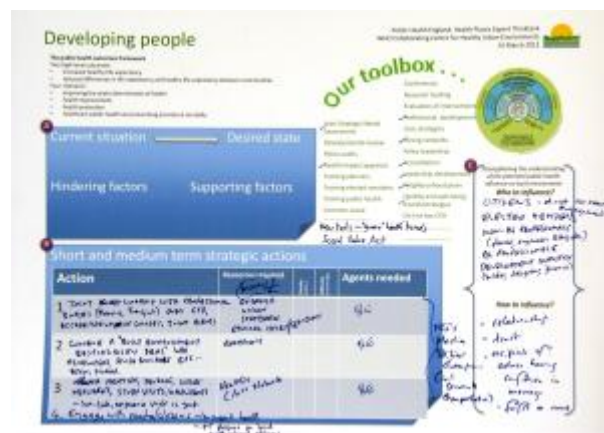
# Developing people

How can we develop understanding, skills, commitment and activity amongst all those in public health and in Local Authorities who have a role in creating healthy urban environments?

## Key challenges :

(as identified by Philip Insall)

- Developing trust and making sure that different disciplines consider public health
- Is a single 'public health injection' workable?
- How to maximise public health impact?
- What is the role of the citizen as a user of, and provider of, health?



**Table A Developing People**

Current situation	Desired state
<ul style="list-style-type: none"> <li>- Many professionals working in public health have a good understanding of the environmental factors impacting on health and wellbeing, such as transport, planning, housing and education, and some awareness of their sectors. To a lesser extent, professionals in these sectors understand public health. This understanding where it exists is disparate and inconsistent.</li> <li>- Co-working is patchy, with some local authorities well ahead of others. At national level, DH and DfT are working together. Though this collaboration is dependent on just a few individuals (ministers and officials) and therefore could be fragile</li> </ul>	<ul style="list-style-type: none"> <li>- Close professional collaboration at every level, from EU to local government, between these sectors and disciplines.</li> <li>- Shared development of policies and strategies, shared objectives and joint investment planning.</li> <li>- Co-benefits, such as the climate, air quality, road safety and physical activity gains from active travel policies, placed centre stage.</li> <li>- Steep and sustained rising trends in walking and cycling.</li> </ul>
Hindering factors	Supporting factors
<ul style="list-style-type: none"> <li>- A lack of training in areas such as physical activity and active travel (for health workers) and public health (for transport planners etc.): this can be addressed in part by the on-going CPD regime, and the basic professional training should also be addressed.</li> <li>- Some local politicians may need to be educated and motivated</li> <li>- The various sectors have their own language, ways of working, and norms regarding what qualifies as evidence - there is a major task to break down the walls</li> <li>- The move to localism has encouraged an insular stance on the part of some local authorities - it may not always be easy to encourage adoption of best practice</li> </ul>	<ul style="list-style-type: none"> <li>- The move of public health into local government is a clear opportunity: the 'moment of weightlessness' as existing bodies are reformed is a classic behaviour change opportunity, and the new location will allow public health teams to influence their peers.</li> <li>- Transport investment is generally capital, to pay for infrastructure, while public health tends to be revenue funding for programme interventions. This is a good fit, and travel behaviour change requires an integrated package of both types of measures.</li> <li>- Globally, the evidence and policy priority around this area are stronger than ever</li> <li>- PHE is itself a supporting factor! Many PHE staff have expertise in this area, and the organisation as a whole is powerful enough to drive change and promote interdepartmental collaboration in Whitehall / Westminster</li> </ul>

**Table B Short and medium term strategic actions**

Action	Resources required	Priority (H-M-L-)	Difficulty (1 low-5 high)	Agents needed
1. Joint working with professional bodies (planning, transport, etc.) on CPD, accreditation of courses, joint events	Guidance Vision Standards Management of ethical issues/tensions MONEY!			PHE NGOs Media Political champions Civil servants
2. Convene a 'built environment responsibility deal' with developers, housebuilders etc. to address design and finance	Champions			PHE NGOs Media Political champions Civil servants
3. Identify and develop networks and a programme of study visits, walkabouts – see, feel, experience what is good.	Healthy Cities Network			PHE NGOs Media Political champions Civil servants
4. Engage with people/citizens – to support health and put pressure on local and national politicians				PHE NGOs Media Political champions Civil servants

**Tools and influence for developing people**

**Tools identified by participants included:**

- Joint Strategic Needs Assessment
- Health Impact Assessment
- Professional development
- Academic departments
- Strong networks
- Accreditation
- Leadership development
- Neighbourhood plans
- Health and wellbeing boards/strategies
- Green 'health' bonds
- Social Value Act

**Who to influence?**

- Citizens – direct consumer engagement
- Elected members
- Non-public health professionals (planners, engineers, environmental health officers, etc.)
- Public health professionals
- Development industry (builders, designers, financiers, etc)
- Academic institutions

**How to influence?**

- Relationships
- Trust
- Recipient of advice having confidence in the message
- Fulfilling a need

## Feedback from 'expert voices' sheets

In addition to taking part in group work at the expert seminar, all participants were also encouraged to give their independent input and views using a feedback form titled 'Expert voices for healthier places'. We received thirteen completed forms and the text below provides a thematic analysis of the transcripts from those forms.

### ***The importance of this work – comments from participants***

- There is a real appetite for this work, as shown by the TCPA work on reuniting health and planning. There is an opportunity to capture the momentum (e.g. West Midlands group) to drive change and start to work with others such as developers and the private sector.
- This is an exciting opportunity to get a clear message on public health to the built environment professionals and to communities. Need connection across all sectors and at all levels. Need leadership. New ideas. Key principles.
- We need to challenge ourselves. Re-evaluate.
- The role of the wider determinants of health is still too rhetorical and there is a high risk of business as usual in the new system – a paradigm shift is needed!

In suggesting how Public Health England can best help to make a difference to health outcomes including health differences, participants identified the following actions. These actions cover advocacy and leadership as well as partnership working and building understanding across sectors and organisations.

### ***At the national level, Public Health England should...***

- Be an advocate for a holistic/ecological approach to public health and the use of evidence that takes into account the complex system within which health is determined
- Support innovative and collaborative approaches to evidence, research and policy development
- Provide advice and information, clarifying the role of the built environment to health
- Drive the joining-up of policy and guidance at national and sub-national levels through government and other agencies
- Lead in the production of planning guidance promoting health which would help planners consider health better
- Set down clear principles at an early stage – take a leadership, action-orientated stance. It should promote, develop and apply the concept of a spatial justice.
- Help public health to rediscover its role in planning and development, e.g. Town and Country Planning Association pamphlet on Health and Garden Cities in 1938
- Influence government departments as they're developing regulation and guidance – particularly regarding involvement of citizens in designing their neighbourhoods and

doing it properly by giving citizens real power, including challenging responsible bodies to demonstrate progress in reducing inequality

- Engage with development, finance and property industries and work with existing groups to collate, interpret and share information and evidence, e.g. UK Healthy Cities Network, SPAHG, professional bodies (FPH, RTPI, CABE, etc) and bring in other relevant national bodies to promote health outcomes, e.g. Local Government Association, CLG, TCPA, private sector, Home Builders Federation, National Property Foundation.
- Identify environmental organisations as public health activists and providers
- Sit on the national sustainable food city advisory board to help steer work and recommend that local Directors of Public Health sit on local urban food policy councils that are being set up
- Coordinate training

***At the local level, Public Health England should...***

- Promote the adoption of health outcomes in procurement (of developers) and planning and public investment (e.g. streets, transport)
- Recognise nature as a major mediator of active lifestyles and mental health
- Support schemes to improve food in schools, e.g. the Food for Life programme
- Influence priorities at local government level through shaping things like the PH outcomes framework and associated health premium payments from 2015
- Maintain/persuade local authority commitment to understanding the role of planning in improving health/reduce health inequalities
- Provide support with maintaining and developing productive networks – sharing what works, and developing local strategic documents
- Convene and develop nature and wellbeing action networks

# Public Health England

## Health and the Built Environment Expert Seminar

---

### Recommendations from the WHO Collaborating Centre, UWE

As facilitators of the expert seminar and with extensive experience in working with local authorities and public health teams, the WHO Collaborating Centre for Healthy Urban Environments would recommend the following actions as a priority for Public Health England:

- 1. Evidence:** An analysis should be commissioned of the nature, state of development, organisation, communication and utilisation of the evidence bases used by those with a substantial professional contribution to health and the built environment. This should be undertaken with a view to the potential for development of a world-class resource to support the field.
- 2. Developmental reviews:** The opportunities created by the current reforms in public health and planning need to be seized quickly. If it becomes apparent that there is a need for developmental work at individual local authority level following sector led reviews, we would recommend the model that has already been piloted in South Gloucestershire, funded by the South West Strategic Health Authority. This model operates across all sections of the local authority (not just the public health function) to establish how well health is embedded in Council services and policies, from the corporate level through to the management and implementation officers. It can identify how well health issues are understood and prioritised within the organisation and in decision making. This provides the opportunity to analyse the translation of policies in to action and the information gathered will provide baseline data upon which the success of future local and national strategies and programmes can be assessed. Lessons from this developmental work can be identified and shared across the country, improving practice and outcomes. There is a huge amount of support for this work across all sectors and the expert seminar reinforced this enthusiasm and willingness.
- 3. Network support:** Spatial planning in practice encompasses all aspects of the built environment and service delivery, requiring engagement from a wide range of sectors, including transport, regeneration, housing, parks education, etc. There are a number of existing networks, such as the UK Healthy Cities Network and the Spatial Planning and Health Group (SPAHG) who primarily focus on bringing together planning and public health agendas, however, there still remains gaps in coverage, such as higher-level strategic groups involving local authorities and professional bodies; or that link new forms of local governance, innovation and digital media, as identified at the workshop. Public Health England could provide a valuable focus and authority within this field. A rapid scoping of the coverage of current networks would prove useful with an action plan that is tightly focussed on maximising delivery, synergy and co-ordination of effort and funding streams. At a minimum, it is immediately apparent that an annual 'gathering of the clans' event would be valuable – and more focussed issue-based meetings (such as this expert seminar) possibly extended to a day would be useful.



- 4. Training and capacity building:** Public Health England should commission a programme of workshops for integrated working across built environment professions and public health, elected members and local communities and training for local teams new to spatial planning based health work. Online topics and learning resources could also be made available in a relatively short timescale in order to meet training needs. Designated local or international study tours of good practice examples both within the UK and in Europe have been demonstrated to be of value and should also be considered as part of this learning programme. The programme could address a variety of topics, such as healthy urban planning, the spatial determinants of health, health impact assessment, collaborative working, community engagement or neighbourhood planning.

**WHO Collaborating Centre for Healthy Urban Environments**  
**University of the West of England, Bristol**  
**14 March 2013**

## Players and influence

Participants were asked to identify the specific aspects of health that were within the remit of their organisation. The table below lists the respondents and how they identified their, or their organisation's, influence on the wider determinants of health.

Organisation	Key contact	Area of influence
<b>Igloo Regeneration Fund (AVIVA)</b>	Chris Brown	Healthy buildings (new and retrofit), healthy neighbourhoods (walkable, community)
<b>University of the West of England</b>	Paul Pilkington (Public Health) Marcus Grant (Healthy Urban Planning)	Build the evidence base Embed appropriate skills and knowledge in public health and built environment curricula and CPD courses
<b>Sandwell MBC / West Midlands Healthy Urban Development Group</b>	Paul Southon	Focus on improving the wider determinants of health and health improvement domains
<b>Sustain</b>	Ben Reynolds	Advocates for health on food boards and food policy councils National campaigns for preventative measures Local activity promoting health through food
<b>Town and Country Planning Association</b>	Michael Chang	Help raise political awareness of health and opportunities to promote health through the planning system Draw together 'place-based' approaches and best practice
<b>CABE @ Design Council</b>	Kathy MacEwen	Bring sectors together through events and workshops Work with local authority planning departments in developing local plans Produce guidance documents
<b>Royal Society for the Protection of Birds</b>	Mark Robins	Promote wellbeing through wildlife Provide pathways and progress towards, into and returning to wellbeing
<b>Advisory Team for Large Applications, Homes and Communities Agency</b>	Tim Chapman	Promote healthy planning principles in advising local development partners Promote health related partnerships and collaborations
<b>Local authorities</b>	Colin Cox, Manchester City Council Stephen Hewitt, Bristol City Council	Can influence most aspects of the wider determinants of health, including through planning policies, planning applications and neighbourhood plans
	Adrian Davis, Bristol City Council	Provide training on translational research
<b>Planners</b>	Andrew Ross, First draft consulting	Spreading good practice Extracting learning Facilitating networks
	Neil Blackshaw, Easton planning	Improvement of housing, employment provision, access to facilities and green infrastructure