Institution: University of the West of England (UWE), Bristol

Unit of Assessment: 16 – Architecture, Built Environment and Planning

Title of case study: Integrating health into urban planning practice

1. Summary of the impact

The populations of over 250 European and near Eastern cities are benefitting from closer integration of health and planning. As a result of research undertaken at the **World Health Organisation Collaborating Centre for Healthy Urban Environments** (***WHO CC***), built environment professionals have integrated concerns about public health into their decision-making and, correspondingly, public health professionals have engaged with how urban places affect health. Based on a long-term programme of empirical study, this has happened through our development, and subsequent operationalisation, of the concept of 'Healthy Urban Planning'. The adoption of our models, assessment tools and appraisal methods, has fostered a new emphasis on urban development and planning at neighbourhood level; the implementation of which has resulted in more active lives, more inclusive communities and environments that support health.

2. Underpinning research

1993-2000: The importance of the neighbourhood as an urban unit of scale and its vital contribution in meeting national sustainability targets was defined by the preliminary research (*Fudge*) (R1). Effective methods for broad-based appraisal of development plans emerged from further research and were communicated widely (*Barton*) (R2). These practical neighbourhood-scale tools were then evaluated and refined. Building on these foundations, further research revealed correlations both within and outside neighbourhoods, between propensity to walk, distance, and type of amenity (*Farthing* and *Winter*). It concluded that community physical activity levels and social inclusion were dependent on access to local, everyday destinations and facilities.

2000-2008: Land use standards for local accessibility were established (*Barton*) and through research with a network of European cities, culminated in the development of the critical concept of 'Healthy Urban Planning' (HUP) (R2, 3, 4). The conclusion of this work was the identification of 12 key objectives for HUP (R5). These objectives translate key World Health Organization (WHO) health priorities such as less obesity, better food access, fewer respiratory problems, better mental health and a reduction in health inequalities, into spatial criteria including access to local green space, access to local jobs, and development of mixed, inclusive communities. Our research repeatedly concluded that knowledge translation from the public health discipline to planning is fundamental for creating healthier places. Through studying the methodologies employed by cities active in HUP, an overarching conceptual model for sustainability and health in the built environment was developed and empirically tested. This was conceptualised as the 'Health Map' (R3,4), a now much used visual conceptual tool, with people's health at the centre and global sustainability on the perimeter, clearly indicating the required specific spatial planning and urban design interventions. From 2000 onwards a sustained longitudinal research programme was implemented. This included a time-series of annual analyses of the implementation of HUP in 70-100 cities in the WHO European Healthy Cities programme (R6).

2008-2013: Under the EPSRC's Sustainable Urban Environments Programme, the ***WHO CC*** investigated local neighbourhood accessibility and found significantly different walkability access outcomes arising from different urban form archetypes (*Barton* and *Grant*). Parallel analysis of population data supported setting design standards for distance thresholds for walking access to local facilities. This, together with a pilot study, supported refinement of a threshold technique for participatory impact appraisal of development proposals. The 'Health Map' was then strengthened through evidence studies of spatial elements that present risks and challenges to health in urban environments (*Barton* and *Grant*) (R6). In particular, findings based on trials with a range of disciplinary stakeholders lead to modifications and design optimisation. As part of designation as the NICE Collaborating Centre for Spatial Planning and Health, seven aspects of health in spatial planning across different national planning systems at a trans-disciplinary policy and capacity level were studied in depth (*Carmichael, Gray* and *Pilkington*) (R7). Through systematic analysis of studies from European countries this identified both systemic facilitators and blocks. It identified that the separate structural and paradigmatic spaces occupied by public health and built environment professions are a key blockage to developing healthier settlements. Crucially, the

research described the conditions under which the wider determinants of health can be supported in spatial and urban planning, leading to more effective, impact-focused activity (R 8,9).

Key research staff: *Hugh Barton*, 1973-2012, Professor of Health and Sustainability; *Laurence Carmichael*, 2002-present, Senior Lecturer; *Stuart Farthing*,1973-2011, Principal Lecturer; *Colin Fudge*, 1995-2008, Executive Dean and Chair of EU Expert Group on the Urban Environment; *Marcus Grant*, 1997-present, Associate Professor for Healthy Urban Environments; *Selena Gray* 2002-present, Professor of Public Health (in UoA3, Allied Health Professions submission); *Paul Pilkington*, 2006-present, Senior Lecturer (in UoA22, Social Work and Social Policy submission); *John Winter*, 1970-2003, Associate Dean.

3. References to the research

R1. Fudge, C and Rowe, J (2001) Ecological modernisation as a framework for sustainable development: a case study in Sweden. *Environment and Planning A*, 33, pp.1527-1546. http://dx.doi.org/10.1068/a33153

R2. Barton, H and Tsourou, C (2000) *Healthy Urban Planning: A WHO Guide to Planning for People*, Routledge, London. (translated into seven languages) **– Available through UWE.** http://www.euro.who.int/__data/assets/pdf_file/0003/98400/E82657.pdf

R3. Barton, H (2005) A Health Map for Urban Planners: Towards a Conceptual Model for Healthy, Sustainable Settlements. *Built Environment*, 31(4), pp. 339-355. http://dx.doi.org/10.2148/benv.2005.31.4.339

R4. Barton, H and Grant, M (2006) A health map for the local human habitat. *The Journal for the Royal Society for the Promotion of Health*, 126(6). pp. 252-253. http://dx.doi.org/10.1177/1466424006070466 Developed from the model by Dahlgren and Whitehead, 1991. "The main determinants of health" . Accessible from: Dahlgren G, and Whitehead M (2007) *European strategies for tackling social inequities in health: Levelling up Part 2*. Copenhagen: WHO Regional Office for Europe.

R5. Braubach, M and Grant, M (Eds) (2009) Evidence review on the spatial determinants of health in urban settings, in *Urban Planning, Environment and Health*, pp.22-97, WHO European Centre for Environment and Health. **– Available through UWE.** http://www.euro.who.int/__data/assets/pdf_file/0004/114448/E93987.pdf

R6. Barton, H and Grant, M (2012) Urban planning for healthy cities: A review of the progress of the European Healthy Cities Programme. *Journal of Urban Health*, 90(1), pp.129-141. http://dx.doi.org/10.1007/s11524-011-9649-3

R7. Carmichael, L, Barton, H, Gray, S, Lease, H and Pilkington, P (2012) Integration of health into urban spatial planning through impact assessment: identifying governance and policy barriers and facilitators. *Environmental Impact Assessment Review*, 32 (1), pp.187-194. http://dx.doi.org/10.1016/j.eiar.2011.08.003

R8. Barton, H (2009) Land use planning and health and well-being. *Land Use Policy,* 26 (Supplement 1), pp.115-123. http://dx.doi.org/10.1016/j.landusepol.2009.09.008

R9. Grant M. and Barton H. (2012) No weighting for healthy sustainable local planning: evaluation of a participatory appraisal tool for rationality and inclusivity. *Journal of Environmental Planning and Management*, pp.1-23. http://dx.doi.org/10.1080/09640568.2012.717887

Research funding

- Barton H (Co-I) **Sustainability of land use and transport in outer neighbourhoods (SOLUTIONS)**, EPSRC, 2004 -2009, Total project funding £1,749,921, UWE project funding £409,560. UWE undertook all neighbourhood scale work. Others in the consortium were Cambridge University, Leeds University, Newcastle University and University College London.
- Barton H (Co-I) **OUTCAST**, 2003-2004, EPSRC, UWE Project funding: £33,665 Scoping study on research into the sustainability of outer city areas.
- Barton H and S Gray, **Systematic Reviews to establish the degree to which English planning processes incorporate health and well-being effectively into plan-making, plan and project appraisal, monitoring and review**, National Institute of Health and Clinical Excellence (NICE), 2009-2011, £219,970.
- Grant M, **Risks and challenges to health in urban environments**, WHO, Bonn Office, 2008-

2009, £10,000, An international evidence review for WHO and EU Commission policy.
- Grant M and Barton H, **Annual Programmes of Work**, as expert advisors in the WHO Collaborating Centre for Healthy Urban Environments, World Health Organisation, European Office, 2003-2013, Approx. £80,000.
- Grant M, **Research and programme development for healthy urban planning**, South West Strategic Health Authority and the Department of Health, 2008-2012, £163,000.

4. Details of the impact

The research findings and practical tools and approaches developed by the research team have been adopted and incorporated into planning and health activities in local, regional and national settings in many parts of the world. 'Their work has changed the nature of political and professional debate about how cities incorporate health issues into their spatial and transport planning' (S1).

Promoting and supporting healthy urban planning in cities in the WHO European region

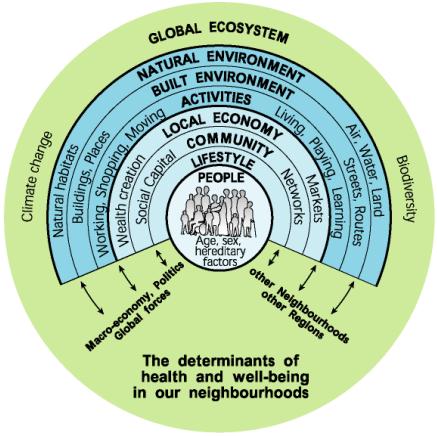
In recognition of the critical importance of the HUP work undertaken by the research team at UWE, WHO designated it as an official Collaborating Centre (originally in 1995). The designation is renewed regularly, and was most recently assigned in 2011. The UWE Centre is the only one in Europe to be based within an environment-oriented (rather than health) Faculty.

The research team in the ***WHO CC*** is the main source of advice on HUP to the European network of more than 100 officially designated WHO Healthy Cities and over 500 cities that are members of the 25 separate WHO national networks. With reference to the impact of the ***WHO CC*** research and its implementation, '[t]his has included initiatives in several cities that now better link public health outcomes and public health practices within strategic planning projects such as: Milan, Italy concerning inclusion in deprived neighbourhoods; Kuopio, Finland assessing local areas through active travel; Bursa, Turkey integrating green infrastructure; and, here in Belfast through using forms of Health Impact Assessment in city development' (S2).

Annually the WHO Collaborating Centre undertakes a systematic collection and analysis of data from all of the participating cities. This complex data set is used to ascertain and monitor the development of HUP and thus guide the support provided to cities. Findings from the analysis of phases 4 and 5, 2005-2013, show that HUP knowledge and action has developed both quantitively and qualitively in cities across the WHO European region, which includes Russia, the ex-USSR states, Turkey and Israel. A smaller sub-group of European cities (those with the most capacity for and commitment to HUP) is provided with additional support by the ***WHO CC***. 'Through their work in supporting this group we have seen some truly inspirational examples of implementation through influencing planning policy and processes in our cities to better address public health issues' (S1).

Spreading understanding about the spatial determinants of health

The 'Health Map' (see right) is a research-based conceptual tool, developed from what had been a narrower health-only approach (R4), to enhance understanding of the wider determinants of health in human settlements. The global reach and utilisation of the health map is a robust indicator of the impact of the overall research programme. It has been translated into 32 languages and has been used as a key conceptual tool in a wide range of settings from the European Environment Agency's 'The European Environment – state and outlook 2010' (S3) to the Australian Government's Institute of Health and Welfare (in 2011) (S4). Functional utilisation ranges from spreading understanding of the complex explanations of the effects of the built environment on health, to practical use in scoping impacts as a prelude to policy review or Environmental Impact Assessments.



UK policy development and guidance

Because of its expertise, the ***WHO CC*** team was commissioned by the UK's National Institute for Health and Care Excellence (NICE) to assist in the production of national policy guidance (2009-11) and a briefing for local authorities (2013). A series of six evidence reviews under the theme 'Spatial Planning for Health' has been produced and disseminated (S5). In March 2013, at the invitation of Public Health England, the research team organised an invited expert seminar

initiating development of its 'Healthy Places' work-stream.

Developing cross-sectoral leadership for healthier places

The ***WHO CC's*** research showed that the separate structural and paradigmatic spaces inhabited by public health and built environment were a key blockage in developing healthier settlements. At the invitation of Regional Government bodies in the South West of England the centre conducted three high-level study tours (in 2008, 2009 and 2012) to 'healthy planning' exemplary developments (e.g. in Germany and the Netherlands). These visits acted as learning sets for senior public health officers from health and planning, and gave the ***WHO CC*** team the opportunity to disseminate its research and knowledge in context. Post-tour evaluations found the events were influential in developing new partnerships, policies, perspectives and projects at leadership level. For example, in Bristol, planning applications are now routinely screened for their potential impact on health, and in South Gloucestershire two major new town extensions have been subject to Health Impact Appraisal.

Commercial partnership: incorporating health in commercial development projects

Honed in the aforementioned EPSRC project (**SOLUTIONS**), the WHO CC team developed 'Spectrum Appraisal'. This is a commercially available built environment appraisal tool that supports collaborative decision-making and synergistic outcomes for health and sustainability. Since 2012 it has been made available in a commercial partnership with Daniel Black and Associates (S6). Through UK application, Spectrum Appraisal has changed proposed plans and policies. Examples include Merthyr Tydfil Borough Council and Bristol City Council housing strategies, South Gloucestershire's Filton New Neighbourhood and the award-winning ICON housing development in Somerset. In each case the benefit of use of the tool has been to develop mutual understanding and better solutions from disparate stakeholder groups, including cross-departmental groups of council officers and civil society, resulting in developments that support more active lives and better social cohesion.

Rethinking professional education

Research Councils UK included ***WHO CC's*** educational implementation of the integration model for health and the built environment as one of the 100 ground-breaking pieces of research from all fields in their 'Big Ideas for the Future' report published in 2011 (S7). The report is a compilation of 'UK research that will have a profound effect on our future'. This ***WHO CC*** innovation has led to change in the national training programme for public health consultants and a shift in policy for the national professional accreditation bodies.

5. Sources to corroborate the impact

S1. Director, Division of Policy and Governance for Health and Well-being, World Health Organization, Regional Office for Europe, Copenhagen **– Available through UWE.** [1 on REF Portal]

S2. Chief Executive, WHO Healthy Cities Secretariat Belfast **– Available through UWE.** [2]

S3. European Environment Agency (EEA) (2010) The European Environment, State and Outlook 2010: Synthesis, EEA, Copenhagen, doi:10.2800/45773, Fig 5.1, Page 92. http://www.eea.europa.eu/soer/synthesis (accessed 05/11/2013)

S4. Australian Institute of Health and Welfare (2011) Health and the Environment: A Compilation of Evidence, Cat. no. PHE 136. Canberra: AIHW. Fig. 1.1, p.1. **– Available through UWE.** http://www.healthyplaces.org.au/userfiles/file/Miscellaneous/AIHW%20Health%20and%20the%20Environment%20Report%20Mar%202011.pdf (accessed 05/11/2013)

S5. National Institute for Health and Care Excellence (NICE) (2011) Spatial Planning for Health: Programme of Evidence Review Work, Link

S6. Spectrum Appraisal Partnership, with Daniel Black and Associates. http://www.db-associates.co.uk/services.html (accessed 05/11/2013) **– Page available through UWE.**

S7. Research Councils UK (2011) Big Ideas for the Future, p.39. **– Available through UWE.** http://www.rcuk.ac.uk/documents/publications/BigIdeasfortheFuturereport.pdf