

Engaging a wider public health workforce for the future: a public health practitioner in residence approach

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Abstract

This paper outlines and assesses a project that sought to use a studio residency (a public health practitioner in residence) as a vehicle to introduce public health issues and concepts into the curricula of a studio cohort of fifth and sixth year architecture students. The practitioner delivered workshops, group tutorials and one-to-one guidance on individual design projects whose aim was to improve the health and wellbeing of the local population. Students reported being enthused by the practitioner and developed a broader understanding of their role as future architects in the promotion and protection of the health of the public. The public health practitioner in residence model may offer an exciting way of educating and inspiring the future wider public health workforce in the built environment design focused professions. Such an approach could transform the way in which such professionals construct their societal role in terms of their future impact on population health and their contribution as members of the wider public health workforce.

Key words

Public health; practitioner in residence; wider public health workforce; architecture; students

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Introduction

This paper outlines and assesses a project that sought to use a studio residency (a public health practitioner in residence) as a vehicle to introduce public health issues and concepts into the curricula of a studio cohort of fifth and sixth year architecture students. It provides a model for further public health activity in engaging students who are training for built environment professions. This case study demonstrates that such an approach could transform the way in which built environment professionals conceptualise public health and view their role as part of the wider public health workforce.

Background

It is without question that many important advances in public health have come through improvement of the built environment.¹ The great sanitary reformers such as Edwin Chadwick understood that health was inextricably linked with people's surroundings, and that a transformation of those surroundings was necessary to improve health and wellbeing.² During the twentieth century, the relationship between those concerned with public health, and those planning our towns and cities, fractured. Public health took an increasingly biomedical approach to health improvement, while those concerned with the built environment replaced their health focus with a more economic perspective.³

In recent years, public health in the UK has sought to reconnect to old allies in the built environment professions, in recognition of the need to ensure that the environment in which we live promotes rather than hinders health aspirations.⁴ Attention on public health issues such as obesity, with the concept of the “obesogenic (obesity-promoting) environment”, has strengthened the desire for engagement with those who design the places and spaces where we live, work and play.^{5, 6, 7} The Marmot Review's recognition of the key role that the built environment has to play in tackling health inequalities should certainly help to maintain this momentum.⁸ In the UK the World Health Organization (WHO) Collaborating Centre for Healthy Urban Environments has initiated and co-ordinated public health action

learning with a focus on planners, such as workforce development initiatives that have brought together senior public health and planning professionals to share learning, develop relationships, and experience sites of good practice.^{9, 10, 11} More recently, attention has expanded to include built environment professionals during their education and training; particularly students at undergraduate and postgraduate level. For instance, the Education Network for Healthier Settlements, funded by the Department of Health Workforce Unit and the Cross Government Obesity Unit, is a national network of Higher Education Institutions who are promoting the integration of health issues into the teaching and learning of future built environment professionals.¹²

The important role that the built environment and its professionals have to play in public health is recognized also by the built environment profession. For instance, the Commission for Architecture and the Built Environment (CABE) state the need to promote health and wellbeing through encouraging the design of high quality, sustainable places.¹³ In addition, the Centre for Education on the Built Environment (CEBE) has published a briefing guide, entitled ‘Bringing Public Health into Built Environment Education’, arising from the Education Network for Healthier Settlements project.¹⁴

Although most attention has been on planners, other built environment professionals are equally important as members of the wider public health workforce. In particular, architects can play a vital role in ensuring that the design of buildings is health promoting – not only in physical environmental terms such as lighting, ventilation and heating, but also in how buildings encourage social mixing, promote equity of access, and address the health and wellbeing needs of a variety of groups across the lifecourse. As such, it is important for architects in practice, and students in training, to understand more about health and wellbeing, and how their profession can contribute positively to the public health agenda.

This paper outlines how the public health practitioner in residence project, at the University of the West of England in Bristol, sought to engage architecture students in public health issues and concepts,

and thereby begin to address the potential of this profession for improving health and wellbeing in our communities.

Setting

The project was based at the University of the West of England (UWE), Bristol, in the Department of Planning and Architecture. The Department is housed within a large faculty that offers the opportunity to run multi-disciplinary programmes with other built environment professionals, and its undergraduate and planning degree is the biggest in the country. Architecture is housed in a specially designed building, consisting of design studios and atrium spaces for exhibitions. The project was supported by the WHO Collaborating Centre for Healthy Urban Environments, housed in the Department, which has been leading initiatives to bring together health and spatial planning since 2003.

The students and their work

In their fifth and sixth year of study, Bachelor of Architecture students at UWE, while based in the design studio, must complete “Unit 3”. This unit aims to empower students to become critically reflective in how architecture can respond to environmental and social problems. It questions existing values and beliefs and explores and tests alternatives within architectural, environmental and socio-economic contexts. This year, students were given a brief to design a facility in the Gloucestershire town of Stroud, focusing on how their facility could improve health and wellbeing in the local area. Stroud is currently investing £20m into a redevelopment of its canal corridor, and local groups have been tasked with conducting a consultation to generate ideas and proposals for how this investment might be used most effectively. As part of this consultation, students in the Department of Planning and Architecture were asked by local community group Stroud Common Wealth, a member of the Stroud District Local

Strategic Partnership, to influence the vision of the town, providing imagination and external objectivity. As part of their portfolio of work, each student was required to draw up architectural plans for their facility, build a three dimensional model, sketch their design, and provide a commentary of their plans and specifically how they would address public health concerns in Stroud. Funding by CEBE enabled a public health practitioner in residence to be introduced into the design studio, in order to assist and inspire the 34 students in their task.

The Public Health Practitioner in Residence

The public health practitioner in residence approach is based on the concept of ‘Artist in Residence’ schemes, which appeared in the 1960s and involved artists working outside their normal working environment and being in contact with people that might not have been considered an artist’s audience in the normal sense.¹⁵ The aim was that the public health practitioner in residence would act as an agent of change to inspire students to immerse themselves in the world of public health and to bring concepts of health and wellbeing into their design work. The design studio location, at the heart of architectural education, offers the potential for this creative discovery and critical thinking.

A public health practitioner brings a range of skills to the architecture design studio. These include knowledge and skills relating to research, policy, partnership working, communication, evaluation and advocacy. The public health practitioner in residence (PP) is a registered public health specialist, who has undertaken specialist training in the UK across the range of competencies, and is currently employed as a Senior Lecturer in Public Health at UWE.

Approach taken

The project had three distinct phases of activity:

1. A preparatory phase – whereby the students and the public health practitioner started to engage with the subject area, and a baseline survey of students was undertaken to assess their attitudes and knowledge regarding architecture and its relationship to health.
2. An immersion phase – during which the public health practitioner actively engaged with students, both individually and as a group, through delivering short lectures, group tutorials, and one-to-one support for students.
3. A reflection phase – characterised by the involvement of a wider team during a one day evaluation workshop, a post-project student survey, and a number of community engagement activities.

Preparatory Phase

Before developing their proposals, the students analysed the Stroud site in depth, including undertaking field visits. Using a structured approach, drawn from the book *Shaping Neighbourhoods*¹⁶, students assessed the strengths and weaknesses of the physical aspects of the town (including both the design and use of the buildings), considering issues such as health and wellbeing, social inclusion and community, movement, economic vitality and environment. They also learnt about the NHS and wider public health system, and as part of this created striking visual images to illustrate aspects of health and wellbeing, including the health service and the wider determinants of health. Students then worked as a class to develop an overall plan for new development in Stroud (the master plan), and began to plan their individual designs that made up the overall plan. A final part of the preparatory phase was the use of the SPECTRUM appraisal tool¹⁷, which sought to assess the possible negative and positive health impacts of maintaining the status quo in Stroud versus undertaking the proposed master plan.

Immersion Phase

This phase signalled the introduction of the public health practitioner in residence into the design studio, to assist students as they began to develop their proposals. The public health practitioner was available to talk to students individually at their desks about their designs, as well as undertaking small group tutorials to discuss common issues across projects. The practitioner also delivered informative seminars on three selected health topics: the lifecourse approach to health; equity of access to and utilisation of services and facilities; and social capital. These topics were chosen as they are key aspects of community health and wellbeing that the project team felt could be influenced by the architectural profession. They are also strong themes in the Marmot Review, which acted as a policy focus for this project, due to its call to *“Fully integrate the planning, transport, housing, environmental and health systems to address the social determinants of health in each locality”*.⁸

The Marmot Review recognises and highlights the importance of addressing health through prevention efforts across the lifecourse. Particular attention is focused on critical life points, such as the early years, parenthood and transition through the education system.⁸ Taking a lifecourse approach in architecture includes considering how the form and function of buildings influence particular life points, to identify how positive impact across the lifecourse can be maximised.

The conceptual framework of the Marmot Review seeks to promote equality and health equity in all public policies, of which equity of access to and utilisation of services and amenities is a key aspect. Architects can contribute to this by considering carefully how developments might target hard-to-reach groups, including the design of buildings and the activities taking place within them. The aim is to maximise the health benefits of any proposed development to the advantage of the community, by ensuring that physical, social and cultural accessibility issues are considered.

The Marmot Review embraces the social determinants of health. This includes issues such as developing social capital, whereby strong community ties and relationships can help to mitigate the impact of other negative health determinants. Architects can help to build social capital within and across

communities through careful design of buildings to encourage social mixing, and to house activities that seek to bring the community together for shared benefit.

As part of this phase of the project, the practitioner prepared a series of reflective questions for the students, setting them challenges to incorporate the three aspects of health into their designs (Box 1). Students had to answer these questions in their portfolio as part of the commentary, outlining exactly how their projects aimed to benefit health among the local population. The use of these questions aimed to open up students' minds, and empower them to make choices and take decisions based on an appreciation of the wider determinants of health and the role of architecture. This fostered a rarely-shared understanding of shared agendas and common purpose within the two professions of public health and architecture.

Reflection Phase

The public health practitioner concluded their input with a “reflection-on-action” workshop¹⁸, where the students joined a focus group including members of the project team, and spent a day exploring why the students responded to the project as they did. Topics covered in the workshop included what worked well, and how the residence approach could be modified in future years. A post-project survey also gathered student views, and assessed any changes in their knowledge and attitudes towards integrating health considerations into their design studio work. Finally, an event in Stroud offered the opportunity for staff and students to report on their work to representatives of the Stroud community. All evaluation aspects of this project received ethics approval from the UWE Ethics Committee. It was made clear to students that participation in the evaluation was voluntary.

Outcomes

Students produced a variety of projects, focusing on a wide range of health issues. This ranged from projects to improve mental health, to those aiming to promote physical activity, provide education and

training for the unemployed, and encourage social mixing and interaction (Boxes 2-4). Students engaged well with the challenge of integrating public health thinking into their design work, bringing architectural solutions to health issues such as obesity, stress, depression, and social isolation. The final portfolio, which documents the student projects and the related background work, can be viewed online.¹⁹

Twenty-six students out of thirty-four (76%) completed the pre-input questionnaire, and twenty-eight students (82%) completed the post-input questionnaire. Participants were asked to rate their agreement to three statements relating to the issue of architecture and wider determinants of health, before and after the input of the public health practitioner in residence (Table 1)

Insert Table 1 here

In both the pre- and post-input surveys, students were most likely to agree with each of the three statements. The high level of agreement in the pre intervention survey may be explained by the fact that the questionnaire was given out after the Preparatory Phase, when students had already begun to engage with health concepts. There was however a noticeable increase in the number of students who *agreed* or *agreed strongly* that they were, “*able to successfully integrate considerations of the wider determinants of health into my work in the design studio*”, rising from 17 (65%) to 28 (100%). In addition, the vast majority of respondents agreed (61%) or strongly agreed (36%) that they were more likely to consider aspects of health when designing developments in their future career as an architect as a result of undertaking this project (Table 1). This suggests that the intervention did achieve its aims.

Students were asked in the pre- and post-input questionnaires to give their opinion on what the three most important health issues are for an architect to consider when designing a healthy and sustainable building. In both questionnaires there was a focus on the traditional concerns of architects, namely issues relating to aesthetics, physical indoor environment and materials. However, there was a noticeable increase in students recognising the need for architects to consider the social nature of their development, and its impact on social capital. There was also an increased reference to wider health

promoting issues such as encouraging physical activity and promoting wellbeing. It was clear that students were now thinking more about the community who would use the building, rather than just the building itself.

Students reflected in the post-input questionnaire about what they found most useful about the input from the public health practitioner. In general, students were extremely positive about the experience and had enjoyed being exposed to the ideas and concepts from another discipline. They felt that the input had added to their design project, and they now understood more about the wider determinants of health and the role that they, as architects, could play in promoting health and wellbeing. For future activities, students thought that it would be better if any input from the public health practitioner could come earlier in the design process. In the focus group, students reiterated the view that having a public health practitioner in residence had helped them enormously in their task. They were enthusiastic about being part of the wider public health workforce, and saw public health as a way of unlocking the environmental thinking behind the architectural education they had received.

Discussion

The main aim of this project was to assist and inspire students to consider how architects can affect the health of individuals and communities, both through the form and function of their designs. Through the use of the public health practitioner in residence, the project has; impressed upon students the important role that architects can play in affecting health; introduced key public health concepts that should be considered when designing an architectural project; and encouraged students to consider how their proposals can be modified so as to maximise health benefits.

For future work we would consider introducing the public health practitioner in residence at an earlier stage in the teaching unit. The introduction of the practitioner (in the middle of the unit) was due to the amount and timing of the funding.

As noted in the background, current public health challenges necessitate the closer working of public health professionals with the wider public health workforce. Training efforts directed at practicing professionals can be effective at bringing together such groups. However, targeting those still in primary training offers a more fundamental, embedded and wider reaching model of spreading public health skills, knowledge and understanding amongst built environment professions. Although we feel that this project offers a valuable model for such efforts, the work described here represents only a first step in engaging architecture students in public health issues and concepts, and was only made possible through external funding to cover the costs of the public health practitioner. New ways need to be found in order to ensure the ongoing/ future viability of the public health practitioner in residence approach. One possibility is an exchange scheme, where public health academics in a Higher Education Institution (HEI) could partner with fellow academics in other departments, to input into one another's courses. This offers a low cost solution, and would benefit both sets of students by exposing them to different disciplinary issues and perspectives. Many HEIs contain both public health and built environment academics, so this is a feasible option, even if the intensity of the case study documented here may not be replicable. Another possibility, which UWE has developed, is to offer the public health practitioner in residence position as a placement for Public Health Specialty Registrars on the NHS Specialist Public Health Training Programme. Such a placement, designed also with a wider package of training about determinants of health in the built environment by the host institution, offers an ideal training opportunity, addressing a range of competencies. Both options could see the public health practitioner in residence model applied to a range of students across various disciplines that impact on public health. As such, we feel that there is real potential to build on this work and further develop collaborations between public health and built environment teaching at both undergraduate and postgraduate levels.

Conclusions

This paper has reported on a project that sought to engage the future wider public health workforce through a public health practitioner in residence concept. It demonstrated how students were enthused by the practitioner and developed a greater understanding of their role as architects in the promotion and protection of the health of the public. The public health practitioner in residence model offers an exciting way of educating and inspiring future architects to consider how they and their chosen profession can benefit of the health of our communities as members of the wider public health workforce.

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Ethical Approval

Ethics approval was given by the University of the West of England Ethics Committee.

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Competing interests

None.

References

1. Ashton J and Seymour H. *The New Public Health*. Open University Press; 1988.
2. Rosen G. *A History of Public Health*. Baltimore, MD: Johns Hopkins; 1993.
3. Orme J, Powell J, Taylor P, Grey M, editors. Mapping Public Health. In: *Public Health for the 21st Century*, 2nd ed. Open University Press, McGraw Hill; 2007.
4. Barton H. *Healthy urban planning: setting the scene*. *Built Environ* 2005; 3: 281-7.
5. Butland B, Jebb S, Kopelman P, McPherson K, Thomas S, Mardell J, Parry V. *Tackling obesities: future choices. Project report*. 2nd Edition. Government Office for Science: London; 2007.
6. Hill JO and Peters JC. Environmental contributions to the obesity epidemic. *Science*. 1998; 280: 1371-4.
7. Larkin M. Can cities be designed to fight obesity? *Lancet* 2003; 362: 1046-7.
8. Marmot M. *Marmot Review. Fair Society, Healthy Lives: Strategic Review of Health Inequalities in England Post 2010*. London: Marmot Review; 2010.
9. Pilkington P, Grant M and Orme J. Promoting integration of the health and built environment agendas through a workforce development initiative. *Public Health* 2008; 122: 545-551.
10. Grant M. *South West England Freiburg study tour: Planning, public health, urban design*. Technical Report. University of the West of England, Bristol; 2008.
11. Grant M. *South West England news from Freiburg: Planning, public health, urban design*. Technical Report. University of the West of England, Bristol; 2009.
12. University of the West of England. *The WHO Collaborating Centre for Healthy Urban Environments*. [website] available at: <http://www.bne.ac.uk/who/> last accessed 29.09.11.
13. Commission for Architecture and the Built Environment (CABE). *Future health: sustainable places for health and well-being*. London: Commission for Architecture and the Built Environment; 2009.
14. Bird C and Grant M. *Bringing Public Health into Built Environment Education*. CEBE Briefing Guide Series Number 17; 2011. Available online from:

http://www.heacademy.ac.uk/assets/cebe/Documents/resources/briefingguides/BriefingGuide_17.pdf

[last accessed 26th August 2011].

15. Stephens K. Artists in residence in England and the experience of the year of the artist. *Cultural trends*, May; 2009.
16. Barton H, Grant M and Guide R. *Shaping Neighbourhoods: For Local Health and Global Sustainability*. 2nd Edition. Routledge: Taylor & Francis Group, London and New York; 2010.
17. Barton H and Grant M. Testing time for sustainability and health: striving for inclusiveness rationality in project appraisal. *The Journal of the Royal Society for the Promotion of Health* 2008; 128(3): 130-139.
18. Schon D. *Educating the Reflective Practitioner*. Jossey-Bass, San Francisco; 1987.
19. Bachelor of Architecture 2010-2011, Department of Planning and Architecture. *Stroud – a Model of Health*; 2011. [available online] <http://dl.dropbox.com/u/34249253/analysis%20booklet-FINAL-4th%20May-small.pdf>. Last accessed 29.09.11.

Tables

Table 1: Agreement with statements, pre and post PHP in Residence Input

Statement		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
For good architecture, it is important for the architect to have a good grasp of the wider determinants of health	Pre	-	-	1 (3.8%)	15 (57.7%)	10 (38.5%)	26 (100%)
	Post	-	-	-	16 (57.1%)	12 (42.9%)	28 (100%)
For my own professional development, it is important for me to have a good grasp of the wider determinants of health	Pre	-	1 (3.8%)	1 (3.8%)	15 (57.7%)	9 (34.6%)	26 (100%)
	Post	-	-	1 (3.6%)	17 (60.7%)	10 (35.7%)	28 (100%)
I feel able to successfully integrate considerations of the wider determinants of health into my work in the design studio	Pre	-	1 (3.8%)	8 (30.8%)	12 (46.2%)	5 (19.2%)	26 (100%)
	Post	-	-	-	24 (85.7%)	4 (14.3%)	28 (100%)
Through undertaking the Health Unit, I am now more likely to consider aspects of health when designing developments in my future career as an architect.	Post	-	1 (3.6)	-	17 (60.7)	10 (35.7)	28 (100)

Boxes

Box 1: Reflective questions	
Key Public Health Themes	Questions for the students to reflect on in their project
Lifecourse Approach	<ul style="list-style-type: none"> Which critical points in the lifecourse does your building seek to affect and how? How can your project maximise its impact across the lifecourse?
Social Capital	<ul style="list-style-type: none"> How will your development help to build social capital in Stroud?
Inequalities in access and utilisation of services	<ul style="list-style-type: none"> Of our target population, who do you think will be hard to reach groups, and why? How will you promote equity of access to, and utilisation of your facility, to maximise the potential health benefits for the community?

Box 2: Selected Student Projects

Memory Sanctuary	–	a retreat for people with dementia and their families
Adventure Stroud	-	performing arts centre and social and educational hub
Textile Regeneration Project	-	textile recycling research centre
Weaving Communities	-	an education centre for troubled children
Community Forum	-	New social spaces within an existing shopping centre
Celebration of the Ordinary	-	Spaces for community interaction with a domestic setting
A Moment's Grace	-	Stress management through calming architecture
The Health Casino	-	Opportunities to improve wellbeing through play

Box 3: A Moment's Grace, by Charles Wellingham

This project examines spirituality in holistic mental health, and the ability of a serene and calming architecture to nurture stress management and the healing process. Further to this is the opportunity to capitalise on the 16,000 churches and faith buildings in the UK, many of which face dwindling congregations, or are empty, decaying and in need of diversification if they are to survive in the future, but are all situated in the heart of their communities and with a large capacity for voluntary outreach.

Based in the grounds of St.Laurence church in Stroud, the project articulates an architecture of serenity by carefully controlling the balance of natural light, capitalising on its health renewing properties, its ability to calm the soul, and creating a moment of grace in our everyday lives. The aim of the project is to

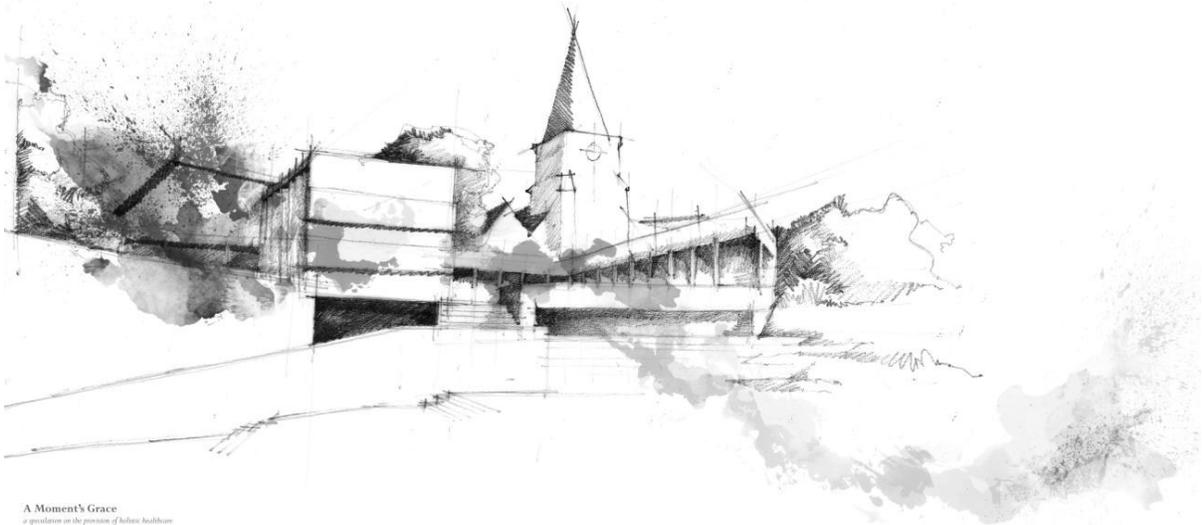
improve the holistic health of Stroud through a focus on managing stress, encouraging behaviour change, improving mental wellbeing and introducing contemplation and meditative solitude as a part of a healthy daily routine. The project focuses on the points of the lifecourse which are most likely to suffer from stress, from entering the labour market through parenthood and up to exiting the labour market and beyond. The success of this scheme's health strategy will be through the education of the public that fifteen minutes a day of quiet relaxation or cognitive stimulation can be as beneficial to our holistic health and wellbeing as a weekly trip to the gym, or eating five items of fruit and vegetables a day. Although some demographics of Stroud will be harder to engage with than others, it is essential that all steps are taken to ensure the facility is appealing and accessible to all.

Box 4: Celebration of the Ordinary, by Aine Moriarty

This project is a quiet celebration of the everyday and the ordinary; spaces for communities are housed in this place of domesticity. The collection of programs is designed to facilitate the deceptively lonely people of Stroud. The isolated elderly, single parents and others either living alone or in inadequate housing, are to be provided for in order that Stroud as a whole may be strengthened. This is to be achieved by building conversations. The concept has been formed from a cup of tea around a kitchen table to a community of rooms on this forgotten gritty site of Stroud. Designed with the representative style of a typical house and with the elements of a co-housing common house attributed to the programs, an all-inclusive and sociable architecture is to be created. The house is open to repeat visitors and its kitchens offer tea drinking and conversations as medicine for those suffering. Preventing critical points in the life course from escalating into depression or other mental health issues will be of long-term benefit, with increased self-esteem and confidence patients' chances of future relapses are minimised. It is not just social interaction that the Kitchen can provide but also a retreat from the expenses of housing that cause inequalities: the rising cost of fuel for both heating and cooking and costs of internet access are all issues that the house can heal, providing services for those suffering in inadequate housing. Inequalities often

exist in access to green spaces and affording healthier foods, the Kitchen can provide gardens, growing space and areas to educate users on healthier foods.

Example of images of students' work that are available (higher resolution images are available)



A Moment's Grace
a quotation on the provision of holistic healthcare