CITYFUTUREs

HBEP

HEALTHY BUILT ENVIRONMENTS PROGRAM

Stakeholder Consultation Report
Informing a Research Strategy in NSW
June 2011

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Acknowledgements

Abbreviations

EPA Act	Environmental Planning and Assessment Act 1979
HBEP	Health Built Environment Program
HIA	Health Impact Assessment
HREA	Human Research Ethics Application
SWSLHN	South West Sydney Local Health Network
MOU	Memorandum of Understanding
NGO	Non-government organisation
NSW	New South Wales
PCAL	NSW Premier's Council for Active Living
UNSW	University of New South Wales

About the Healthy Built Environments Program

The Healthy Built Environments Program vision is that built environments will be planned, designed, developed and managed to promote and protect health for all people.

The Healthy Built Environments Program is an innovative collaboration that brings the built environment and health together. The Program is situated in the City Futures Research Centre, Faculty of the Built Environment at the University of NSW (UNSW). The Healthy Built Environments Program receives its core funding from the NSW Department of Health.

As Australia faces increasing health costs from rising rates of obesity, diabetes and other lifestyle diseases, health workers are seeking to influence the design of cities to make them more supportive of healthy ways of living. Recent research has demonstrated links between modern epidemics and the way of life in cities. Car-dominated transport, reduced opportunities for exercise, increased fast-food availability and lack of social connection are all implicated. Increasingly the health sector is focusing on prevention and to be effective, health professionals need to work in collaboration with other professional groups, especially those from the built environment.

The Healthy Built Environments Program is contributing to revitalising the relationship between the built environment and health professions so that together we can create built environments that support people being healthy in their everyday lives.

Healthy Built Environments Program Strategies

The Healthy Built Environments Program strategy aims to support the development in NSW of current and future communities in which the built environment promotes good health for all. This is being done through the Healthy Built Environments Program's three identified core strategies:

Research – the Healthy Built Environments Program is developing a research strategy to prioritise research questions and foster interdisciplinary and policy relevant research. Research funding from bodies such as the Australian Research Council (ARC), National Health and Medical Research Council (NHMRC) and the Australian Housing and Urban Research Institute (AHURI) is sought to undertake relevant projects**.** An ARC Linkage research project on healthy neighbourhoods is currently underway with partners Landcom, Heart Foundation and NSW Health.

Education and workforce development – the Healthy Built Environments Program is delivering innovative, cross disciplinary education and capacity building. Specific programs are delivered to NSW Health staff. Formal courses in healthy built environments are taught at UNSW.

Leadership and advocacy – the Healthy Built Environments Program aspires to be a leader in NSW advocating for improved links between health and the built environment. This advocacy involves government and non-government agencies, the private sector and the community and is achieved through scholarly publications disseminating the latest research, popular media articles, talks and events.

Further information on the Healthy Built Environments Program can be obtained by visiting the Program's website: http://www.fbe.unsw.edu.au/cf/hbep/ or contacting the Healthy Built Environments Program by email: hbep@unsw.edu.au

Executive Summary

New South Wales (NSW) is a highly urbanised state, with the majority of its seven million people living in Greater Sydney. While urban life provides extensive economic, social and cultural benefits for residents, urban environments can significantly influence the health of the population. This relates to the policies and practice of the design, construction and management of the built environment. The Healthy Built Environments Program *Stakeholder Consultation Report* presents the results of research which investigated the views of professionals working in the health and built environment sectors of NSW.

There were several aims of the research. First, to identify key stakeholders engaged in healthy built environment policy development. Second, to elucidate insights into effective partnerships, strategies, tools and policy making for improved collaboration in healthy planning evidence based policy and practice. Thirdly, to develop policy relevant research questions. And finally, to make recommendations to inform a research strategy for healthy built environments research in NSW. Sixteen experienced professionals from healthy built environment stakeholder organisations in NSW participated in face-to-face, semi-structured interviews, which were transcribed and systematically analysed. Four broad themes were identified from the analysis:
1. Stakeholders
2. Partnerships
3. Policy
4. Research

Relevant stakeholders were identified for interview by the nature and extent of their engagement in promoting health through different built environment interventions. Stakeholders came from government, private and the not-for-profit sectors. They included:
- All levels of government – roles in agenda setting, policy making and practice
- Property developers and built environment professionals (including designers, urban planners and landscape architects) – roles in the design, planning and management of the built environments that influence health
- Professional organisations responsible for different health and built environment professions
- Health professionals and the NSW Department of Health – roles in research, policy making, advocacy and dissemination of information
- Community members – level of awareness and involvement in healthy built environment issues
- Researchers in healthy built environments
- Media – roles in influencing engagement with the issues by all sectors

Partnerships within and between stakeholders are essential for the development of research evidence to inform policy development that shapes and directs practice. No single stakeholder has the ability (including the breadth of intellectual understandings or resource capacity – financial or human) to progress this complex area in isolation. Partnerships are therefore critical to enable investment in long term relationships between relevant stakeholders. Partnerships represent opportunities to undertake research to improve policy and legislation and to promote the transfer of knowledge.

Government policies primarily shape the built environment. Participants in the research identified planning policy and legislation as critical in influencing the environment and its ability to support and promote healthy behaviours as part of everyday life. It was also highlighted that policies need to be informed by research evidence. The nature of research evidence includes quantitative and qualitative work from Australian and international sources in the health and built environment disciplines. Participants in the study noted the importance of identifying currently available research as a precursor to identifying a research agenda. Causal links between built environment interventions and health outcomes were identified as requiring more research, as were the relative weightings of built environment variables for their health impacts. Participants anticipated that the HBEP Literature Review (at the time of this research, still underway), would be instrumental in providing significant input into understandings of research evidence availability, as well as current gaps in knowledge.

Facilitation of research to meet the needs of stakeholder organisations requires multiple strategies. NSW Health and NGO health professionals were seen as key to the collection and dissemination of information. This key role was grounded in the perception that health professionals had high levels of respect and trust amongst the wider community. Interdisciplinary research across health and the built environment is critical to advance healthy built environments. A range of funding for research in both the medical and social sciences will be part of encouraging this interdisciplinary approach.

In NSW, as elsewhere, there is no single stakeholder who has all the requisite skills and/or knowledge to progress and undertake a comprehensive research agenda to inform healthy built environment policy and practice. Accordingly, relevant research evidence for policy and practice must be facilitated though the engagement of multiple stakeholders from the government, NGO and private health and built environment sectors in long term collaborative partnerships. Recommendations from this research include developing improved cross disciplinary awareness of population level health issues, and the best available research methods to measure causal health outcomes. Such outcomes could be facilitated by the establishment of a health and built environment Intra-government working group supported by memoranda of understanding to ensure the longevity and effectiveness of interdisciplinary partnerships. The development of an independent knowledge brokering body for improved targeting of policy relevant research and knowledge transfer was another recommendation for achieving healthy built environments. The establishment of a healthy built environments information portal would improve access and dissemination of research and case studies to all stakeholders, including the community. Finally, capacity building in healthy built environments for all relevant professionals is essential if we are to improve the supportive role of built environments for human health.

Introduction

The population of New South Wales (NSW) has risen from 1.3 million people to more than seven million since 1900. Sixty per cent of the State's population live in Sydney (NSW Health, 2010), resulting in increased levels of urbanism. With such growth, plans to increase residential densities in city and regional areas have been developed and enacted (NSW Department Planning, 2010). These policies shape the form of our built environments including workplaces, schools, roads and highways, parks and houses (Srinnivasan at.al, 2003). How humans then interact with these environments in their choice of employment, housing, transport and recreation will have a range of positive and potentially negative outcomes for physical and mental wellbeing.

There is growing recognition of the relationships between the built environment and chronic disease such as cardiovascular and respiratory disease. The latter is partially attributed to air pollution (Dennekamp & Carey, 2010). Compounding this situation are factors such as urban sprawl and high levels of physical inactivity in the community (Garden & Jalaludin, 2009). Physical inactivity now ranks second only to tobacco use as a contributing risk factor to the burden of chronic disease (Word Health Organization, 2009). Evidence such as this has resulted in calls to realign the relationships between the built environment and health professions. Frumkin et.al (2004) highlight the strong links that existed between the built environment and public health professionals during the development of modern society.

The realignment of interest in the links between health and the built environment has resulted in a growing area of research and investment. In NSW, one example is the Healthy Built Environments Program (HBEP). This is a multifaceted initiative joining the NSW Department of Health and the Faculty of the Built Environment at the University of NSW (Thompson et al, 2010). One of the aims of the HBEP is to determine the gaps in research evidence to develop policy to support healthy built environments.

This research project investigates the views of experienced professionals working within the built environment and health sectors. It has the following aims:

1. To identify key stakeholders engaged in healthy built environment policy development.
2. To elucidate insights into effective partnerships, strategies, tools and policy making for improved collaboration in healthy planning evidence based policy and practice.
3. To develop policy relevant research questions.
4. To make recommendations to inform a research strategy for healthy built environments research in NSW.

Report Structure

The research report is presented in five main sections.

Introduction – this situates the research in a broad context and sets out the aims of the research.

Methodology – this details the rationale behind the research process and the main parameters employed in the development of questions, the interview process and the analysis approach.

Results – this contains the body of the research results, including the five key themes derived from the thematic analysis of the transcribed interviews. Every theme is illustrated by key quotes from interviewees.

Discussion – this section presents the results of the research with key studies, conclusions and policy implications. Examples are also given to demonstrate the ways that the evidence can be translated into policy to inform practical healthy built environment actions.

Conclusion – this section draws the report to a close with recommendations for future research and action.

There are four appendices:
- Appendix 1 contains the invitation to stakeholders to participate in the research
- Appendix 2 contains the ethics documents
- Appendix 3 contains the interview questions
- Appendix 4 contains the final coding framework.

Methodology

The methodology section details the processes involved in the development and implementation of the research project. Key areas described include the ethics approval, stakeholder identification and question development, the pilot interview, interviewee contact, interview process, and the post interview transcription and analysis.

Ethics Approval

In the initial stages of project development it was determined that ethics approval was required. An ethics application was compiled and submitted to University of New South Wales (UNSW) School of Public Health and Community Medicine, Human Research Ethics Advisory (HREA) Panel. The ethics documents were submitted with a letter of support from the then South West Sydney Area Health Service. An interview question list was included, as was the required participant information letter describing the research and a research participant consent form using the UNSW template (see Appendix 2). Approval was given by the UNSW HREA prior to the commencement of interviews: Approval Number: 2010-7-48.

Stakeholder Identification

Key stakeholder organisations were identified through a brainstorming session of the research team. A range of organisations with links to built environment planning, design and construction, and those with a health focus were identified. Organisations included state and local government, non-government organisations (NGOs), universities, professional associations and private sector developers. In addition, HBEP Advisory Board members were requested to recommend interviewees within key stakeholder organisations.

Stakeholder organisations considered for the project were restricted to those with a NSW focus. After ethics approval was granted potential interviewees were contacted and invited to participate. To ensure the anonymity of participants, in this report, identification is limited to a coded grouping of four broad stakeholder groups:
- Government
- Associations and NGOs
- Private Developers
- Research organisations.

Each group is further de-identified with a sub-grouping of either 'health' (H) or 'built environment' (BE).

In accordance with the requirements of our ethics approval, participant stakeholder organisations have not been listed. Anonymity of all interviewees was required – due to the small number of professionals involved in this area, it would be very easy to identify research participants if a list of organisations was included here.

Question Development

In October 2010 a planning session was held with the research team to refine specific research aims, objectives and the research questions. Four attendees were present including the researcher, and workplace and academic supervisors from the UNSW. Interview questions were also developed in this session and further brainstormed to ensure they related to the research questions. Categories were established to organise the questions. Following further refinement of the questions, another was added on the subject of equity. The final question list is included in Appendix 3.

Pilot interview

A pilot interview was conducted to test question clarity and the interview approach. This revealed that the questions and approach generally worked well. The only issue to emerge was the efficacy of giving participants the opportunity to view the questions prior to interview. The rationale behind this was to allow participants time to gather critical thoughts to engage in a focused and informed discussion.

Contacting Interviewees

Contact list: Following the confirmation of stakeholder organisations, a list of potential interviewees was developed through consultation with known sources within organisations. Senior and experienced staff were targeted for interview, and where possible, an introduction was requested to facilitate requests to participate in the research. In organisations where introductions were not possible, key positions were targeted and the individuals in those roles contacted by the researcher requesting an interview.

Email invitation: Following initial introduction and acceptance, all interviewees were forwarded a formal invitation to participate by email (see Appendix 1). They were subsequently contacted by telephone to confirm their participation and given additional details of the research interview process.

Negotiation of interviews: After acceptance to participate was established, an interview time was set at the interviewee's convenience. Some individuals were unable to participate where upon they suggested possible alternative participants within their organisation. All interviews were scheduled and conducted at the interviewee's place of work.

The Interview Process

Research participants were met at their place of employment where a further introduction to the research questions and aims were discussed, as well as reiterating the need to audio record the interview for use in confidential transcription and analysis. Any concerns about anonymity and confidentiality were addressed at this stage. All participants confirmed their willingness to participate with the interviews and were asked to sign the official consent form (see Appendix 2). Permission to use selected quotes anonymously was sought and granted by all participants. All interviews were recorded using an Olympus DS-5000 digital voice recorder.

Transcription of Interviews

During planning of the project it was agreed that a transcription service would be used to expedite analysis. Following each interview, the digital recordings were uploaded in their entirety to a commercial transcription service. A copy was also saved for future reference as required by UNSW ethics approval. Transcripts were returned in Word document format. All interview transcripts were then reviewed for accuracy by the researcher and interviewer, with technical terminology corrected as part of the 'interview cleaning' process.

Post Interview Reflections

Post interview reflections were conducted after each interview. This is a useful qualitative research protocol involving the researcher recording his initial thoughts of the interview process and outcome as soon as practicable following the actual interview. This ensures that immediate ideas and issues about the content of interview, the quality and clarity of the participant's answers, and emerging research themes are captured. This assists with question refinement for subsequent interviews, as well as initial ideas for analysis. Where questions were not providing adequate in-depth discussion and/or were difficult to communicate, consideration was given to altering the wording of these questions in future interviews. Other issues reflected upon included interviewee engagement, the interview setting, and any barriers to the quality and depth of the information derived during the interview.

Interview Analysis

The interview recordings and transcriptions were analysed following each interview. This is a standard qualitative research practice to ensure that feedback from the analysis informs ongoing data gathering. Analysis began with the researchers post interview reflections and listening to the recordings promptly after each interview. Key words and quotes were identified from the audio recordings and then later from the completed and corrected interview transcripts. These processes combined to develop an initial coding framework which was informed by the interview question list and the in-depth knowledge of interviews by the researcher. Codes were ascribed to the transcripts with the assistance of all members of the research team. Themes were identified and grouped by logical associations to reduce the number and themes for analysis. Illustrative quotes were noted for each of the identified themes.

Final Coding Framework

On 8th February 2011 the final coding framework workshop was conducted with all members of the research team. The team developed an hierarchical thematic list from the main themes identified from the interviews. See Appendix 4.

Stakeholder Workshop

After the completion of analysis, a half day stakeholder workshop was facilitated by the Healthy Built Environments Program. The aim of this workshop was to gather feedback on

the research findings and to assist in recommendation formulation. Ultimately the workshop provided much more than this with its identification of policies for healthy built environments. Invitations to the workshop were sent to all interview participants and other relevant stakeholders. Participants were presented with an overview of the research methodology, and preliminary results and analysis. Through a series of facilitated group discussions, participants provided comments about the research results and made suggestions for healthy built environment strategies. The focus was to enhance policy relevant research and consider strategies for integrated research opportunities. The workshop was an important component of the research methodology for the project. A copy of the stakeholder workshop report, titled *HBEP STAKEHOLDER WORKSHOP REPORT: Overview of Proceedings 18 February 2011* and is available at: http://www.fbe.unsw.edu.au/cf/hbep/hbepnews/Attachments/Stakeholder_Workshop_Final_Report.pdf

Results

The results section presents the four broad but interrelated themes that emerged from the interview analysis. These themes are:

- Stakeholders
- Partnerships
- Policy
- Research

The 'stakeholders' theme was further categorised into three sub-themes:

- Main players
- Nature of influence
- Power and capacity to influence the built environment.

The discussion of the themes is illustrated by quotes from interviewees. These quotes are de-identified other than having a code which shows the stakeholder group to which the interviewee belongs. The stakeholder codes are provided in Table 1.

Table 1: Stakeholder Codes

Stakeholder	Code
Government	G
Built Environment	BE
Health	H
Developer	D
Non-Government Organisation	NGO
Association	A
Research	R

Stakeholders

Interviewees identified stakeholders that are actively engaged in the development and application of policy and practice in the health and the built environment sectors. The importance of all levels of government was consistently articulated, with the NSW State Government and local governments identified as the most influential. Local government, in particular, was seen as a key stakeholder due to its close relationship with, and knowledge of local communities. Conversely, Federal Government was viewed as the least visible in this space. Participants expressed their thoughts through statements such as:

> *It's a bit of a tussle between local and state government (G; BE)*

> *Local councils are evidently very important and very active in that space because they're the people who really have that grass roots level of contact… (G; BE)*

While governments at each level have varying amounts of influence, individual government departments were identified as essential to the promotion of healthy built environments. These included, but were not limited to, the Departments of Planning, Transport, and Premier and Cabinet. When discussing these departments, it was noted that they may not themselves identify as influencing healthy built environments, particularly if 'health' is not considered to be part of their core business. The perceived role of the Department of Planning and the Department of Premier and Cabinet are discussed in the following statements:

> *[The Department of] Planning for instance as a regulator has control over how the built environment can be developed (G; H)*

> *The Department of Premier and Cabinet has a central and in some ways they have the key role which perhaps isn't identified nearly well enough (NGO; H)*

Positions within stakeholder organisations, particularly in state government departments, were identified for powerful strategic engagement in advancing policy and practice for healthy built environments. These positions include the NSW Premier, portfolio ministers and directors general of government departments. The political nature of these positions, and changes in personnel were also highlighted as a concern for sustained investment in healthy built environments. Concern was also raised that individuals in key positions could lack awareness of the growing evidence in healthy built environments, increasing the risk that programs and policies would be short-lived or not adopted at all. The limitations of the policy horizon and tenure of these positions was noted by two interviewees.

> *One of the limitations is [that] our elected officials only have a four-year term so they only have influence over that period of time (NGO; H)*

It's much easier to be seen to make a difference in health by spending more money on hospital beds than by influencing the shape of communities. As a government, the plaudits for that are going to come in 20 years' time when you're no longer in government. (G; BE)

Private industry and property developers were also credited as being key stakeholders because of their historical influence and potential to shape and organise the built form. Interviewees noted that small and large companies are engaged at different levels influencing the design and scale of communities. The built environment is shaped by professionals' interpretation and implementation of standards and guidelines, which in turn, influence – either by supporting or hindering – healthy lifestyles. One built environment participant put it this way:

> *...developers, planners, urban designers, architects... They're stakeholders who can have a positive or a negative influence and it all depends on their level of concern or interest. (G; BE)*

Professional associations and lobby groups were also perceived to be important stakeholders. They have close relationships with, and influence over professionals working in the field. As well, professional associations have the ability to engage with other stakeholders to raise awareness of the links between the built environment and health. Non-government organisations were identified as unique in influencing healthy built environment policies. This stems from their ability to focus on specific health issues.

> *I think the emergence of issue specific organisations has changed the way people perceive health issues* (*G; BE*)

The health sector generally, and health professionals specifically, were viewed by those from the built environment as having some of the most important roles in healthy built environments. One of these is to translate health related research and evidence for healthy built environments for other sectors and the general public. Medical practitioners were noted as particularly important. This is related to the perception of their good standing within the community. Other health professionals such as nurses were also believed to hold high levels of respect within society, and therefore, in a position to educate patients about the links between the built environment and health outcomes.

> *Doctors command a huge amount of respect, or the health industry.. because we're all scared of dying… So there is power that can be used by the health sector to get messages across (G; BE)*

Nevertheless, there was still uncertainty about <u>how</u>, <u>when</u> and <u>where</u> health sector stakeholders engage with the built environment. Some interviewees made assumptions about the scope of influence of both NSW Health and health practitioners.

> *I presume they (NSW Health) have a lot of power, or do a lot of things, but I'm not that familiar with what they do (A; BE)*

> *The AMA could get involved in preventative initiatives… I actually don't know enough about the various health professionals (D; BE)*

With such a range of potential stakeholders being identified, engaging professional groups throughout the planning and implementation of developments was suggested as an

important strategy to support health and wellbeing. The historical links between public health and built environment professionals were also noted as now weaker and less clearly defined as they had once been.

> *Clearly architects, social planners, physical planners groups that in the past health had strong links with 150 years ago (G; H)*

A number of the interviewees also highlighted the role and influence of the media in presenting issues to the community. In dealing with these issues, the media has the potential to engage both positively and negatively in promoting healthy built environments. One participant talked about the importance of shaping positive messages to influence community perceptions:

> [the *media is important] in terms of the presentation of the lifestyle, between healthy living and unhealthy living (G; BE)*

The place of community engagement and the potential for the public to influence policy and practice of government and stakeholder organisations were also discussed. Community groups are capable of articulating built environment issues and their relationship to health outcomes. Whilst the processes by which the community can meaningfully engage were questioned, many interviewees believed that community expectations are heard at the political level. This might mean however, that some concerns are short term. The process of community engagement was expressed by the following statements:

> *...at face value there are mechanisms by which a community voice can be heard. But if you read the paper on a daily basis, it sounds like the community is not happy (G; H)*

> *There's the opportunity for community to be ahead of where the politicians are, and give politicians the permission to influence the Department of Planning (NGO; H)*

Nature of stakeholder Influence: Each stakeholder was believed to have a domain of influence in healthy built environments within the scope of their specialty. The nature of influences on health outcomes can be positive as well as negative. Government at all levels and property developers were perceived to have the greatest potential impact – both positive and negative. There was however, consensus that no one stakeholder is either wholly negative or positive. This was concisely summed up by two experienced health and built environment professionals:

> *I think all stakeholders can have both positive and negatives (G; H)*

> *There's no such thing as someone who only has a positive influence (D; BE)*

Interviewees highlighted the existence of intended outcomes and unintended health risks for populations from the application of government policy, legislation and funding. An example cited was the impact of planning policy on greenfield developments on the urban fringe. This influences driving habits, resulting in long commuting times for motorists. The

importance of government decisions was expressed by one built environment professional in the following way:

> *Government plays a big role in the type of development it encourages, continuing to fund major freeways and toll roads ….encouraging people to become car dependent or continue to be car dependent. (G; BE)*

Academic institutions such as universities, research institutes and NGOs were identified as primarily positive in nature. This perception was related to an understanding that these organisations seek to improve people's health through research, which includes advocating for specific health related interventions. NGOs in particular were viewed positively as exemplified in the following comment:

> *The emergence of NGOs as champions of medical or health issues has... led to greater research, and resulted in more resources being dedicated [to health]... (G; BE)*

Both small and large communities were believed to have positive and negative influences over the implementation of healthy built environments. This is related to community acceptance of development proposals and practices. Communities can be reactive, rather than proactive. As one interviewee said:

> *I think the community more than anything else reacts to issues rather than leads the debate (G; BE)*

The challenge presented to stakeholder organisations is for them to find ways of engaging with the community, getting them to actively participate in the planning process.

> *Somehow we need to work with the community to get them interested in strategic planning and the built environment so that they actually comment and can make a difference (G; BE)*

The power and capacity of stakeholders: Research participants identified three forms of power that stakeholders possess to influence health outcomes through built environment policy and practice:
- Political power
- Financial power
- Legal power

Each stakeholder has some, but not equal capacity to use or access these powers. State government departments were believed to have the greatest opportunities to use political power in the development and support of policies and programs. State and local government also have the unique role of giving consent for developments to proceed.

> *Ultimately the consent authorities really have the power. So State Government, Department of Planning in New South Wales, local councils, the development agencies… (G; BE)*

Specific legislation was another tool through which government has both power and capacity to influence healthy built environmental outcomes in NSW. The most influential is believed to be the NSW Environmental Planning and Assessment Act 1979. Specific sections of the Act were perceived to have been used by government to progress some developments.

At the moment the State Government through the Planning Minister and the particular powers that they have adopted… one is Section 3A (NSW Planning Act)(G; BE)

Health sector interviewees identified the importance of this section of the Planning Act. One health sector participant posed a question about its efficacy:

Is it a good idea to have Section 3 Part 3A that allows the government to in effect take away local government's influence on planning decisions? (G; H)

The decision making process, supported by senior government officials and political parties, was identified as both an opportunity and potential risk for continued implementation of healthy built environments. Interviewees from both health and built environment sectors believed having strong, long term support from those in leadership roles is essential. To effect positive change one interviewee simply stated:

If you are going to make a change you need to have the resources and the leadership to do it (G; BE)

Political power was identified as an important component of the influence of large developers and lobby groups within the development industry. This gives developers the ability to engage with a range of stakeholders and place issues on the agenda of governments and the wider community. The use of economic levers to promote continued development means that larger developers have greater negotiating power in the current economic climate. One interviewee insightfully noted:

There's enormous political power coming from the development industry ...in the last two to three years because of the global financial crisis. (A; BE)

Infrastructure investment by all levels of government reinforces their power to shape the built environment and human behaviour within it. The financial capacity of local government was, however, believed to be restricted. Nevertheless, while restrained, councils were viewed as working well and positively within those constraints. This position was reinforced by one participant stating:

Local councils are very much cash poor. They work within their constraints (A; BE)

The capacity and/or willingness of consent authorities to reject development proposals is also influenced by the spectre of a challenge in the Land and Environment Court. Where health concerns indicate that a development application should really be rejected, but the research evidence is considered to be arguable, a consent authority may take into account

the cost of mounting a case in the Court before making its decision. One research participant speaking about this issue in relation to rejecting development applications raised the following questions:

> *What grounds do we have to do [reject] that and what does that mean in terms of a court challenge? How much is that going to cost? ...as crude as it sounds, that's what it comes down to sometimes (G; BE)*

Partnerships

The development of partnerships was considered to be a central component of any strategy to change policy and practice in the built environment sector to promote health. While interviewees were realistic about the capacity of stakeholders to invest in possible partnerships, they highlighted the positive capacity building and financial benefits of sharing resources and knowledge. The structure of partnerships should not be limited, with relationships encouraged within and between stakeholder organisations.

> *Interagency collaboration provides real opportunities, and cross-agency collaboration provides information sharing opportunities (NGO; H)*

Initiating true partnerships and fostering enduring relationships were considered key elements. This requires long term and consistent interactions amongst stakeholder organisations. Partnerships provide a vehicle for the development of evidence, even when the goals may be outside the usual scope and practice of a particular organisation. One health participant expressed the need for the commitment to this type of strategy:

> *The issue [is] of engagement and relationships in the long term. You've got to have those. You can't just drop in and out. (G; H)*

It is necessary to form partnerships to advance healthy built environments. Potential partnership structures included investing in both research and the practical application of evidence. The Healthy Built Environments Program (HBEP) was seen as a positive example. Other opportunities for engagement exist with local government. Councils could evaluate built environment interventions with a health focus. These case studies would ensure that lessons learnt from practical field examples could be shared. The imperative of developing partnerships was expressed in the following statement:

> *It's out of necessity that there has to be interagency collaboration... We need 21st century responses .We can't continue business as usual for conditions that are creations of business as usual. There's nothing so silly as desiring change, but doing things the same way (NGO; H)*

Opportunities for partnerships included evaluations of the *NSW State Plan*, whereby stakeholders could identify how its implementation could improve health though built environment practices. One participant expressed enthusiasm about this opportunity:

> *...some sort of evaluation of that [the State Plan] would be a really worthwhile exercise (NGO; H)*

Opportunities also exist for stakeholder organisations to develop partnerships to allow NSW Health and health professionals to provide input into policy and regulation, even when this is the designated responsibility of other government departments. These relationships need to developed and maintained for the long term as one health professional stated:

> *The only way that we have of influencing regulation is to develop and maintain good collaborative working relationships with the government departments that are the regulators (G; H)*

Partnerships involving stakeholders with the financial capacity to provide bursaries and scholarships were seen as a way to encourage the development of research and understandings in healthy built environments. This would inevitably facilitate knowledge transfer between all stakeholders ensuring that those without a formal 'health; role could be part of advancing healthy built environments.

> *We can't expect the transport people to become health freaks and vice versa. So there has to be a participatory partnership, collaborative approach, there is no other way. (G; H)*

Another form of partnership suggested was the merging of government departments to advance cooperation and knowledge. As one participant contemplated:

> *It needs a bit of blue sky thinking. Maybe if there was an integrated department of health planning and land use (G; D; BE)*

Policy

The development and implementation of policies, including legislation, that promote health in the built environment, was viewed by interviewees as a very powerful strategy. It was considered, however, that regulation should not be used in isolation, as improved knowledge and participation by stakeholders requires different types of tools and motivators to bring about change. One built environment professional explained:

> *I think regulation and good education [need to be used together]; a collaboration of the carrot and the stick can bring the best outcomes probably (G; BE)*

Other tools suggested included memoranda of understanding (MOUs), considered useful to enhance, or be an alternative to legislation. MOUs provide stakeholders with the opportunity to develop consultative partnerships. Other opportunities to adapt and improve policy for an increased health focus, include health impact assessment (HIA), sustainability checklists and star rating systems. Two participants expressed these ideas:

> *Legislation is not necessarily the way to go for improved health outcomes. But collaboration on the MOUs, on the metro plan or regional strategies (G; BE)*

It's a bit like the Green Star stuff. We could have a different coloured star for healthy bio-design (A; BE)

According to interviewees, evidenced based and informed policy is an important direction in which policy development is increasingly headed. This represents a departure from the past. Some interviewees recalled that a number of policies in the planning and built environment sectors were not always based on reliable research evidence:

A criticism of some of the planning policy is that it doesn't appear to be underpinned by strong research (A; BE)

The evidence based belief about policy from the built environment sector was contrasted with a perception that policies within health were more likely to be underpinned by rigorous scientific inquiry. In addition, health professionals stated that they would often access scientific, up-to-date evidence in their field. One health participant noted the types of resources consulted for evidence:

Mainly through online data bases, journals... through colleagues in each of the jurisdictional forums that I attend. Scientific research forums et cetera.   But always it comes back to looking at the published research (G; H)

The way government departments with a built environment focus were measuring and justifying policy and programs was perceived to be undergoing evolution. In particular, participants discussed the increasing number of impact and outcome evaluations:

...measuring changes in behaviour before and after ... We're increasingly keen on that type of evaluation (G; BE)

Other than the EPA Act, planning policies, instruments and guidelines were identified as being able to explicitly include health provisions and influence health outcomes. These include local environmental plans, land use zoning, and the NSW Centres Policy. This was considered a logical way to progress the awareness of health outcomes of built environment policy and practice. The following statements encouraged the increased focus on health:

...making explicit statements in the assessment of development projects... [this] would start getting people to think, this is not just about building houses (G; BE)

One could foresee a situation where NSW Health had a formal influence over planning decisions similar to the formal influence that the Department of Environment, Climate Change and Water[1] (G; BE)

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[1] Most of the functions of the NSW Department of Environment, Climate Change and Water have since been transferred to a new Office of Environment and Heritage within the NSW Department of Premier and Cabinet.

Research

In this section we discuss the findings from the interviews about stakeholders' understandings of research, their research use and needs and whether they perceive any gaps in the current research needed to inform policy making. There are three sections:
- Evidence informing policy
- Research gaps
- Facilitating research.

Evidence informing policy: Research and evidence development were viewed as important for informing future policy, as well as for filling the perceived gaps in the existing evidence base. For both health and built environment participants, the internet was generally the first place to commence gathering information. Some accessed journals and library catalogues, whilst others relied more heavily on less formal peer referral, and professional or organisational newsletters. In some instances, where the financial capacity was available, external contractors had been employed to identify evidence for policy. One built environment stakeholder described their process:

> *Well, generally you consult.   You seek expert advice.   You look at other jurisdictions where it might have worked before, so it's evidence-based policy (G; BE)*

Another built environment professional explained that while evidence was important, accessing health information was not part of their usual practice:

> *We have a good library … I subscribe through them to a whole bunch of journals. I don't seek public health literature per se (G; BE)*

While research sources were varied, in some cases, interviewees noted particular researchers or institutes that they use. Examples were given of Australian and international research, either initiated by academics or government, including air and water quality standards. One built environment participant noted a range of sources:

> *I've seen the work of Billie Giles-Corti, a Western Australian researcher... research by Chris Rissel as well. There's stuff out of the States as well, the Federal Transport Administration (G; BE)*

Participants also told of their knowledge about practical guidelines that focus on health and the built environment. These include 'Healthy Spaces and Places' (Healthy Spaces and Places) and 'Healthy by Design' (National Heart Foundation of Australia, 2004). Other tools highlighted were walkability and liveability indices, and active living recommendations from the Heart Foundation. The most recently established guideline mentioned was the 'Healthy Urban Development Checklist' (Centre for Health Advancement, 2009), which was cited as a comprehensive tool to assist health services to better engage in the planning process.

Research gaps: We explored participants' knowledge about current research gaps in the available evidence base to inform policy. Interviewees opined that research is necessary for advancing the knowledge of professionals in both health and the built environment. Some

had strong beliefs that adequate evidence is already available for directing policy and practice, while others felt that research was wanting. These different perspectives were captured by the following statements:

> *You can run the research until the cows come home, I actually think a lot of it's simply [to do with] implementation (D; BE)*

> *My emphasis would be on systematic reviews ... for me the starting point - if you want to really be on top of a topic these days, you have to know what's out there(G; H)*

While there was consensus throughout interviews of the inextricable links between health and the built environment, this was tempered by concern that many of the causal links remain unclear. This is due, in part, to the large number of confounding variables existing in measuring health outcomes of built environment interventions/treatments. The development of new and appropriate research methods to deal with this was seen as an important step in better understanding the causal links. One participant recommended that major healthy built environment developments include researching the effectiveness of the development. This research needs to be instituted in the early stages of the proposal. Another confirmed the need for outcomes that could elucidate more clearly the causal links to health outcomes:

> *If people can design good studies up front and integrate them into developments at least then that would be a major way forward. The trouble is these are expensive studies to do properly (G; H)*

> *From a health perspective what we need is data and that's research. But it has to be a direct link (G; H)*

The limitations of studies that have timelines that are too short for the type of health outcome being measured were highlighted.

> *You need to have long term commitment to research because I think health outcomes can only really be seen on that longitudinal basis (G; BE)*

Specific gaps in the research were discussed by the interviewees. Many believed the ability to quantify financial costs and health benefits for communities of public investments in infrastructure and programs are essential. The challenge for one built environment participant was gaining support from senior managers for programs where the evidence was disputed:

> *Convincing our executive is the challenge, because the cost of a building or an infrastructure project is quantifiable. The cost of encouraging people to walk or cycle is very difficult to quantify (G; BE)*

The need for detailed measures that weight the built environment design factors for their positive or negative health impacts was recommended. Others suggested the use of

appropriate methods to evaluate the financial implications and health benefits. Cost benefit analysis was widely recognised as a powerful tool to influence governments and organisations to invest in healthy built environments:

Cost benefit work helps us get dollars from Treasury to create change (NGO; H)

Although the need for innovative research and policy development was recognised, participants also identified risks of failure if new policy was not accompanied by behaviour change programs:

It's not just good enough to build environments - we then need behaviour change programs to utilise those built environments (NGO; H)

Facilitating research: Interviewees were asked about the best ways that stakeholders could facilitate and disseminate healthy built environments research. Those from the built environment sector identified NSW Health and health professionals as key resources.

The health sector obviously has a role to gather data and draw connections or analyse data in terms of the health impacts and the environment and provide advice to other parties (G; BE)

Opportunities were identified to facilitate research from both public and private sector stakeholders, including the funding of research through a variety of means. Examples encompassed contributions by organisations to develop health and built environment research centres, targeted scholarships, research and policy positions, and research grants. Built environment stakeholders highlighted the importance of encouraging research in and between all government portfolios to prevent each group working in isolation:

...breaking down those silos and making it a whole of government thing, so it shouldn't really be NSW Health researching, it should be government research (G; BE)

The sustainability and progression of research require purposive engagement by governments, universities, industry and other related organisations. This again highlights the importance of partnerships:

...having partnerships between researchers and development industry, and potentially government agencies (G; BE)

Equity and the Built environment

The understanding of equity as a concept and knowledge of its inclusion within built environment policy was influenced by the professional background of the interviewees. Health sector employees, and those with an understanding of the social determinants of health (Wilkinson & Marmot, 2003), identified examples of major infrastructure policies such as transport, and planning decisions that impact on health. Participants with less exposure to the social determinants were able to identify similar policies once equity had been discussed in greater depth.

Discussion

In this section we draw the research findings together. The use of the semi structured interview technique has enabled the exploration of different issues at length and in considerable depth. This has resulted in a high degree of theme saturation across the data. Similar methods of investigating attitudes and understandings of professionals from the health and built environment sectors have been used elsewhere. Dannenberg et.al (2003) used them to develop research directions for public health and community design and land-use choices. Srinivasan et.al (2003) used similar qualitative methods to initiate a research agenda for the built environment and public health. Exploring the opinion of experts and experienced professionals has a natural bias due to their awareness of issues; however the insight from these professionals has been invaluable. Engaging a different subset of participants may generate some alternative ideas, and could be considered in future research.

Clarifying and quantifying the links between the built environment and health is considered a future research priority. There was also a growing emphasis on identifying and implementing methods such as cost benefit analysis and evaluations to justify policy and practice. It was also clear that identifying appropriate research with longer periods of follow-up is necessary for generating evidence. To enable these processes, the development of long term sustainable partnerships that promote research and knowledge sharing, using tools such as memoranda of understanding and health impact assessment were recommended.

Understanding the causal links between health and the built environment is important for guiding both policy and practice in both sectors. To improve the understanding of these complex issues, interviewees highlighted the importance of working collaboratively. This is supported by Galea & Vlahov (2005) who recommend cross disciplinary engagement. Similarly, Lee & Moudon (2004) suggest the need for multidisciplinary research to study the links between the organisation of urban transportation and health outcomes.

Generating research that will inform policy makers requires the use of appropriate study designs. Cross sectional studies and randomised control trials for built environment interventions are limited in their capacity to follow-up longer term health impacts. For this reason the American Heart Association recommended the use of rigorous quasi-experimental evaluations to increase the length of follow up for physical activity interventions (Marcus et. al, 2006). Exploring new research methods was often recommended in this study, with participants identifying evaluations and practical case studies to guide local practice. Cost benefit analysis was often believed necessary to justify government investment in healthy built environmental interventions.

The technical measurement of both health and built environment variables also requires valid, reliable indicators. In particular these need to monitor the effects of policy and planning decisions as recommended by Northridge et.al (2003). Instruments such as geographic information systems (GIS) that enable researchers to map and measure built environment variables, including population density, land use mix, and access to recreational facilities should all be considered in study designs (Frumkin et al, 2004).

Once the research has been completed and analysed, translating the findings into evidence to inform policy and practice is an important challenge. Evidence originates in many places, therefore the use of knowledge brokering services may encourage policy relevant research and disseminate knowledge in a timely fashion and encourage policy development (Ward et.al, 2009). Tucs & Dempster (2007) also suggest that the processes used to facilitate sharing and dissemination requires specific attention in the practicalities of applying the knowledge for policy and practice.

The development of partnerships to engage built environment and health sector stakeholders in cross disciplinary collaboration for improved research direction has been recommended by participants. The use of collaborative partnerships and multidisciplinary research approaches is recommended by Srinivason et.al (2003). This brings public health and built environment professionals together, and is a vehicle for sharing knowledge, improving capacity, and advancing the agenda setting processes. Implementing cross disciplinary workforce development initiatives may improve the capacity for joint working between sectors (Pilkington et.al, 2008), and re-establish the dialogue between urban planning and public health professionals.

A collaborative approach to changing policy and practice has also been suggested, with legislation and MOUs considered important for maintaining and improving standards. These partnerships may use health impact assessment (HIA), which utilise a valuable set of tools and processes for evaluating policies and plans for their health impacts, particularly in larger developments (WHO European Centre for Health Policy, 1999). Rapid HIA, a much shorter process, may even be appropriate within more formal planning activities (Forsyth et.al; 2008), and has been suggested as effective in translating research into practice (Northridge et.al 2006). Further, HIA has the benefit of being an inclusive process which encourages the participation of many stakeholders including community members (Roof & Galdon, 2008).

Conclusion

This research supports the view that cross disciplinary collaboration of stakeholders, from government to the community, is essential to influence policy and practice for health promoting built environments. No one individual stakeholder has all the requisite skills, knowledge, strategies and opportunities to develop and disseminate evidence. Most important is developing research methods that will better delineate the links between health outcomes from the built environment. To be effective however, long term investment is required in time, money, human resources and political will.

Recommendations

A key component of this project was to develop recommendations to support policy relevant research including potential strategies to improve research and partnerships within and between built environment and health stakeholders. We list our recommendations coming from the study.

Strategic Recommendations[2]

1. Establish a health and built environment intra-government working group supported by a memorandum of understanding. This would seek to:
   o Develop shared funding and priorities for coordinated development of research for policy and practice in NSW
   o Consider the development of an independent knowledge brokering body for improved targeting of policy relevant research and knowledge transfer
   o Work with industry and professional bodies to identify the best ways to engage the private sector
   o Prioritise key measures of healthy built environments in any future State Government Plans
   o Develop a 'health and sustainability' rating system for the development industry.

2. Develop a health and built environment research information portal. This would encompass the following:
   o An accessible website where information is available with appropriate resource and literature links, and where researcher's can list current research projects methods and aims.
   o A case study library including evaluations and reviews of projects.

3. Build capacity in healthy built environments across disciplines. This could embrace the following aspects:
   o Health and built environment multidisciplinary training programs in undergraduate and postgraduate curricula
   o Increase access to short courses for health and built environment professions
   o Encourage communication across disciplines by introducing health impacts to all built environment conferences and forums.

4. Work with clinicians (for example, GPs) to advocate for healthy built environments. This could involve presentations by the HBEP at conferences and short courses.

Future Research Questions

1. What are the key, effective measures and indicators necessary to advance health and the built environment research?
2. Which methodologies of research should be used to investigate health and the built environment linkages?
3. How do we best engage the media positively for health and the built environment?
4. Which disciplines should teach HBE within its curriculum and at what level?
5. How do we best get developers and private industry to actively engage in health promoting policy and practice?

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[2] It is noted that some of these recommendations are being met, in part, by the work of the HBEP and other NSW based agencies such as PCAL.

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APPENDICES

Appendix 1: Invitation to Participate

Appendix 2: Ethics Documents

Appendix 3: Interview Questions

Appendix 4: Final Coding Framework

Letter of Invitation

Healthy Built Environments Program, City Futures Research Centre, UNSW

Dear Participant

You are invited to participate in an interview about your views on research and policy in the area of the built environment and health. This semi-structured interview will last approximately 60 minutes.

What is the research?

As Australia faces increasing health costs from rising rates of obesity, diabetes and other lifestyle diseases, health workers are seeking to influence the design of cities to make them more supportive of healthy ways of living. The NSW Department of Health has provided the core funding for the Healthy Built Environments Program (HBEP) which is based in the City Futures Research Centre at UNSW. One of the aims of the HBEP is to determine the gaps in research and policy in the relationship between the built environment and health. You can read more about the HBEP at: http://www.fbe.unsw.edu.au/cf/HBEP/

Why have you been chosen?

You are invited to participate in this research because you represent a key health or built environment stakeholder.

Who is conducting the research?

The interviewer is Evan Freeman, a Public Health Officer Trainee enrolled in a professional doctorate at UNSW. He is supported by A/Professor Susan Thompson, co-Director of the HBEP, together with Professor Bin Jalaludin from the School of Public Health and Community Medicine, UNSW and Sydney South West Area Health Service.

What's next?

We will contact you to request an appointment to conduct an interview with you.

Further information is available on the participant information and consent forms. If you have any question, Evan can be contacted on (02) 9612-0686 or 0406 299 719.

Appendix 2 – Ethics Documents

THE UNIVERSITY OF NEW SOUTH WALES & Sydney South West Area Health Service

SYDNEY SOUTH WEST
AREA HEALTH SERVICE
NSW⊕HEALTH

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Health and the Built Environment

Participant selection and purpose of study

You *(i.e. the research participant)* are invited to participate in a study of *research needs for health and the built environment*. We *(i.e. the investigators)* hope to identify *key questions to assist in the establishment of a research agenda for health and the built environment in NSW*. You were selected as a possible participant in this study because *you were identified as a representative of a key stakeholder*.

Description of study and risks

If you decide to participate, we will *interview you with some questions. An approximate time of 60 minutes would be required for the interview. This is a single interview. You may also be invited to a feedback session to discuss the analysis of the interviews.*

There are no discomforts expected. There are no risks expected.

Confidentiality and disclosure of information

Any information that is obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission, except as required by law. If you give us your permission by signing this document, we plan to *discuss* the results *with NSW Health and publish a report with the analysis of interviews.* In any publication, information will be provided in such a way that you cannot be identified.

Recompense to participants

There will be no remuneration for participation.

Complaints may be directed to the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone 9385 4234, fax 9385 6648, email ethics.sec@unsw.edu.au). Any complaint you make will be investigated promptly and you will be informed out the outcome.

Feedback to participants

A feedback session is planned for 2011 which you would also be invited to attend. A summary of research findings will be offered to research participants at the completion of the study.

Your consent

Your decision whether or not to participate will not prejudice your future relations with the University of New South Wales *and Sydney South West Area Health Service*. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, please feel free to ask us. If you have any additional questions later, *Associate Professor, Susan Thompson* ph) 93854395 will be happy to answer them.

You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)
Health and the Built Environment

You are making a decision whether or not to participate. Your signature indicates that, having read the information provided above, you have decided to participate.

……………………………………………
Signature of Research Participant

…………………………………………….
Signature of Witness

……………………………………………
 (Please PRINT name)

…………………………………………….
(Please PRINT name)

……………………………………………
Date

…………………………………………….
Nature of Witness

REVOCATION OF CONSENT
Health and the Built Environment

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with The University of New South Wales, *(other participating organisation[s] or other professional[s]).*

……………………………………………
Signature

…………………………………………….
Date

……………………………………………………
Please PRINT Name

The section for Revocation of Consent should be forwarded to Susan Thompson, City Futures Research Centre, Faculty of the Built Environment, the University of NSW (UNSW), SYDNEY 2052

Appendix 3: Interview Questions

1. Could you please describe what built environments are?
2. In what ways does the built environment affect human health?
3. Identify any stakeholders that have influence on health?
4. How and why do they have influence?
5. Can you identify stakeholders that have (a positive or negative) influence in the built environment that influence health and well-being? Please explain.
6. Which groups have the most power to shape the built environment for better health and well-being?
7. Which group has the most monetary power?
8. Which group has the most political power?
9. What role does the health sector have in creating a healthy built environment? How could this be improved?
10. Are there ways health and other sectors can partner to promote health in the built environment?
11. How do you think health inequities can be addressed through the built environment?
12. Are you aware of any research that has been conducted about making the built environment more supportive of health and how this research has been applied?
13. What research needs to be done? Why does this need to be done?
14. What can NSW Health Department do to facilitate research in this area?
15. What other groups/ professions in health can do to facilitate research?
16. How can the built environment sector facilitate research in this area?
17. Do you use research evidence in making policy? What sorts of research / evidence do you use in making policy?
18. Where do you get (access) the research/evidence to back your policy/practice?
19. How do you judge if a policy or practice will be effective??
20. Can you identify priority health questions that need to be answered, to influence policy and practice in the built environment?

21. Can you describe policies from the built environment that directly influence health?
22. Have you ever been required to change or implement policy that had a focus on improving health outcomes?
23. How easy is it to take health information and integrate this into policy in your area?
24. What tool or approach would bring about the most change in your area to get health into policy?

Appendix 4: Final Coding Framework

STAKEHOLDERS

1.1 IDENTIFY STAKEHOLDERS

1.1.1   Government
1.1.1.1 Federal
1.1.1.2 State
1.1.1.3 Local

1.1.2 Private
1.1.2.1 Developers
1.1.2.2 Retailers
1.1.2.3 Employers

1.1.3 Other organisations and groups
1.1.3.1 Universities
1.1.3.2 Media
1.1.3.3 NGOs
1.1.3.4 Associations
1.1.3.5 Community

1.1.4 Professions
1.1.4.1 Planners
1.1.4.2 Builders
1.1.4.3 Architects

1.2 INFLUENCE ON HEALTH

1.2.1 Positive
1.2.1.1 Government - Policy, legislation, funding
1.2.1.2 Private - Developments
1.2.1.3 Academic Institutions
1.2.1.4 NGOs and lobby groups
1.2.1.5 Community - Expectations and knowledge

1.2.2 Negative Influence
1.2.2.1 Private - Developers, industry, lobby groups
1.2.2.2 Government - Federal, state and local

1.3 POWER TO INFLUENCE

1.3.1 Political
1.3.1.1 Government - Federal, state and local
Specific State Departments - Premiers and Cabinet, Planning,
Transport, DECCW
Decisions on policy and program
1.3.1.2 Private

1.3.2 Financial/Economic
1.3.2.1 Government
1.3.2.2 Private
1.3.2.3 Community

1.3.3 Legal

2. Partnerships

2.1 INVESTMENT

2.1.1 Programs
2.1.1.1 HBEP
2.1.1.1.1 Research
2.1.1.1.2 Monitor health trends
2.1.1.1.3 Training and bursaries

2.1.2 Policy
2.1.2.1 Memorandum of understanding
2.1.2.2 Health Impact Assessment
2.1.2.3 Evaluation of State Plan

2.1.3 Advocacy
2.1.3.1 Awareness raising within professions and community
2.1.3.2 Interact with media
2.1.3.3 NGOs and lobby groups

3. Research Content

3.1 EVIDENCE

3.1.1 Australia

3.1.2.1 Case studies
Victoria: Healthy spaces/health by design
NSW: Community Gardens, Hunter New England, WSROC

3.2 ACADEMIC

3.2.1 Literature and Systematic Reviews, Case control studies
3.2.1.1 New Urbanism, Connectivity, Obesity

3.2.2 Tools and Guidelines
3.2.2.1 Walkability Index
3.2.2.2 Liveability
3.2.2.3 Heart Foundation Recommendations
3.2.2.4 Healthy Urban Development Checklist

3.3 INTERNATIONAL
3.3.1 U.S : CDC, Federal Transport Administration

3.3.2 Canada
3.3.3 U.K
3.4 RESEARCH GAPS

3.4.1 Quantitative evidence
3.4.1.1 Cost benefit
3.4.1.2 Years of life saved

3.4.2 Causal links

3.4.3 Qualitative
3.4.3.1 Individual decision making
3.4.3.2 Effects of commuting
3.4.3.3 Barriers for participation

4. Research Facilitation

4.1 FUNDING
4.1.1 Joint research funding
4.1.2 Fund a research centre
4.1.3 Philanthropy

4.1.4 Partner
4.1.4.1 Engage local, state govts, Universities and private industry

4.1.5 Set agenda
4.1.5.1 Set targets

4.1.6 Joint research

4.1.7 Scholarships

4.1.8 Targeted research grant

5. Policy

5.1 EVIDENCE BASED POLICY (ACCESSING THE EVIDENCE)
5.1.1 Professional links and networking
5.1.2 Meetings, workshops and conferences
5.1.3 Journal articles and peer reviewed literature
5.1.4 Subscriptions
5.1.5 International agencies
5.1.6 Databases, Cochrane Collaboration
5.1.7 Internal libraries
5.1.8 NSW Health
5.1.9 Expert Opinion
5.1.10 Professional and academic
5.1.11 Privately commissioned

5.2 STATE LEGISLATION

5.2.1 EP& A Act NSW

5.2.2 Other relevant planning legislation

5.3 RELEVANT POLICY AND GUIDELINES

5.3.1 LEPs (local government environment plans)

5.3.2 Urban design guidelines

5.3.3 Active living guidelines

5.3.4 Boarding house controls

5.3.5 Land use zoning

5.3.6 Compact lot design

5.3.7 Hours of business

5.3.8 Retail outlets policy

5.3.9 Centres Policy

5.3.10 Beyond the pavement

Supported by