Health and High-rise – Is density bad for you?

Jennifer Kent, Lecturer in Planning and Research Associate at Macquarie University

Dr Jennifer Kent kicked the evening off with a parable about a continuous stream of small children struggling in a river, being swept towards a waterfall – and certain death. Two out of three fictional observers direct their efforts to trying to save as many children as they can reach; which is not many. The third walks upstream to try to find out why so many children are falling in the river in the first place.

Dr Kent is an avowed "upstreamer". She wants to find out how our built environment is throwing people into the river of diseases like type-2 diabetes, coronary heart disease and depression. She sees the built environment as having a strong role to play in addressing some of the risk factors for these prevalent and damaging diseases; like physical inactivity, poor nutrition, obesity, and the stress associated with hypertension.

Dr Kent's message was that good urban planning can get people physically active, strengthen and connect communities and provide equitable access to healthy food. Good planning, she argued, can:

- Get people *physically active* through its ability to support and encourage active modes of transport, such as walking and cycling, and also the use of public transport;
- Create places that foster a sense of *community and belonging* – benefiting both physical and mental health;
- Encourage equitable access to *healthy food* – by creating mixed use zonings to support small local supermarkets, reserving land for farmers markets and community gardens and regulating the location of fast food outlets (away from schools, for example).

What's density got to do with health?

Dr Kent emphasised that density in and of itself will not make you sick or well any more than any other urban form. But, she says, it looks very much like a certain amount of density is actually quite good for you. The reason? Density creates the *critical mass* of people to support the features that encourage healthier ways of living. These are features like public transport networks; infrastructure for walking and cycling; well-maintained and interesting public spaces for people to sit, watch, read, and interact; farmers' markets and small neighbourhood shopping centres.

Looking further afield, Dr Kent saw increased residential density in existing urban areas as a way to reduce the use of land on the periphery for residential uses, rather than food production.

Dr Kent illustrated her point by comparing two suburbs: Leichhardt (around 55 persons per hectare) and North Epping (around 20 persons per hectare). The differences in access to public transport services and easy access to healthy food were stark. The residents of Leichhardt fare much better on both counts.

Bad density

Dr Kent's support for density was not unbridled. There is, she pointed out, also evidence to suggest that density, particularly *too much* density, is bad for us.

What Dr Kent dubbed “Bad density” can impact on mental health; respiratory health (more about that in Stephen Corbett’s presentation); levels of isolation, fear, and ultimately community dislocation.

Referring to a recent literature review commissioned by the National Heart Foundation, Dr Kent urged attention to:

1. The quality of infrastructure in the surrounding neighbourhood and region;

2. The quality of construction and management of the actual buildings that make up higher density development. Dr Kent felt that:

> *It is far too easy in NSW to provide high density housing that is poorly constructed, poorly sited, poorly managed and not accompanied by the appropriate infrastructure to make it work.*
>
> *It is also far too easy to provide single, uniform density and forget that density means diversity, including town houses, row houses, semi-detached housing and low rise apartment buildings, as well as high rise.*

3. The social, socio-economic and cultural make-up of the residents and the surrounding community. Dr Kent called this the “elephant in the room”, both from an academic and policy perspective. For density to be good for us, she thinks we need people to become accustomed to living in closer proximity to more people. And Dr Kent noted that not everyone is, or will be, happy about living with more people around.

For density to work in Sydney, Dr Kent concluded, “we need to acknowledge that we are dealing with a society in transition”.

How this transition plays out will be different in different places.

> *It will be different in Wentworth Point where residential intensity replaces industrial uses. It will be different in Summer Hill, where the existing community will be almost doubled in the space of 24 months. It will be different in Liverpool, where the vast majority of the existing and new population is predicted to be migrant populations potentially accustomed to apartment living. It will depend greatly on the provision of surrounding infrastructure, the quality of the design of the density, and the ability and willingness of new and existing communities to adapt.*

Stephen Corbett, Director of the Centre for Population Health in Western Sydney Local Health District, and Associate Professor in the Western Clinical School and the School of Public Health, University of Sydney.

Dr Stephen Corbett traced the history of 19th and 20th century interventions in cities afflicted by a suite of ills once known as “the English Problem” – the urban squalor and degradation depicted so pungently by Hogarth’s “Gin Lane”. Workers in the “dark satanic mills” in industrial towns lived in overcrowded housing rows with communal toilet and water outlets. The average age of death of people living in such conditions in Manchester in the 1840s was just 17.

The NSW *Public Health Act 1902*, closely modelled on the English version, embodied a vision to solve these problems. In addition to the civic hygiene tradition, Dr Corbett called attention to what he regards as an ancient principle that binds planning and public health together – *do not locate people close to hazards*.

Density along main roads

Dr Corbett broadly accepted the proposition that higher densities can improve health outcomes in that they are associated with lower levels of vehicle kilometres travelled ("VKT") and higher levels of walking. He argued, though, that locating higher density housing on major roads exposes occupants to unhealthy levels of roadside pollution and can be expected to create perverse health outcomes.

Dr Corbett noted that the removal of lead from petrol and the introduction of standards for ozone emissions following a series of photochemical smog incidents in the 1970s have led to some remarkable achievements by the EPA in protecting air quality despite VKT growth. But the health risks posed by fine particulates and noise remain.

Dr Corbett pointed to evidence that the risk of wheezing in children increases the closer you get to a main road; and there is a doubling of the mortality rate due to heart/lung disease close to major roads. He views with concern large increases in truck movements forecast from 2011 to 2031.

What to do?

Dr Corbett argued that the hazards associated with proximity to main roads should be informing planning principles; but they seem to be getting lost. Setbacks greatly diminish the hazard. Design can also assist, by avoiding canyons that concentrate pollutants and aggravate the damage.

Dr Corbett urges that these hazards need to be given enough weight in the planning process. The case cannot be made by health professionals on a development-by- development basis.

Peter Sainsbury, Director of Population Health in South Western Sydney Local Health District, NSW Health; Visiting Professor in the Faculty of the Built Environment, UNSW; and Associate Professor in the School of Public Health and the Centre for Values, Ethics and the Law in Medicine, Sydney University.

Professor Peter Sainsbury, himself a child of the "dark satanic mills" of Lancashire (his home backed on to the local abattoir), took up one of Stephen Corbett's themes - how two professions that started together 200 years ago came to fall apart. The concern then was not about reducing density – it was about getting rid of slums. This endeavour however, he observed, brings in the confounding factor of poverty. It was (and perhaps remains?) hard to separate the two.

Dr Sainsbury traced the development of models of health focused at various times on poverty, on illness and disease ("health" being seen in that model as the absence of illness), on social factors such as disadvantage, and more recently on quality of life and liveability.

Promoting healthier built environments

Dr Sainsbury had two laments; one was the tendency of government departments to operate as "silos"; and the other the tendency to think of health services in terms of hospitals. This model of what health is seems to be shared by developers and potential residents. And so, in new areas like Wilton and Picton, when asked to think about health, developers and local communities respond with ideas for the location of a new hospital or the services expected at a local hospital.

He and Stephen Corbett have both been working with councils, engineers, and the transport agencies to try to promote healthier built environments. Some, particularly social planners, he has found to be ahead of the game; others "have some catching up to do".

On density

Dr Sainsbury urged the greater use of some recently developed tools: health impact assessments, and a "healthy urban development" checklist. The challenge he sees is how to use these tools to promote liveability, as well as health.

Overall, Dr Sainsbury considers that these tools probably do promote some increase in densities; he concurred with some of the advantages mentioned by Jennifer Kent. He too however had some important qualifications. One concerned the identification of "the public interest" (required in some planning documents); Dr Sainsbury sees *multiple* public interests that can come into conflict.

And finally Dr Sainsbury sounded alarm about the extreme density of some "affordable" housing he is aware of in New York – containing "micro-units" of $28m^{2.}$

Discussion Points

The comments and questions addressed to the panel centred on a few key issues.

Will density make people less happy?

There were many questions and comments from audience members touching on this issue. One asked whether any of the panel could point to any high density or medium density places where the sense of community is better than in low- density suburbs. In a similar vein, another asked about the impact of density on mental health, as opposed to physical health?

Jennifer Kent said she would not dare speculate on whether people in high density are happy or not. The evidence is that people like the amenity that goes with higher densities, not necessarily the density itself. In relation to the distinction between medium and high density, she could not point to any statistics that relate satisfaction levels to building scale, and suggested that the market would decide. But, she said, the Heart Foundation work is a systematic review and it does demonstrate health benefits from increasing density.

Peter Sainsbury's response was that the work he is aware of found the relationship of density with mental health is stronger than the relationship with physical health; but measuring *happiness* is difficult.

How much is too much?

Another asked (rhetorically) whether it is plausible for people to be living in a $28m^2$ box. Another thought that SEPP65 had tried to help, but had allowed lots of buildings with small units (49m), all facing south.

Jennifer Kent agreed that there are problems like this. She said that there used to be more resources available for planning that takes account of context (which takes time, resources and money)– and they are all being taken away.

Stephen Corbett expressed concerned that high rise could end up as **a** concentration of inequality and dispossession, as he has observed in Auburn with subletting to multiple tenants.

He says we need to ask: is this a liveable space? And, he cautioned, " History has some important lessons for us".

Air pollution on main roads

An audience member wondered if air-conditioning of apartments could overcome the health impacts of air pollution on main roads.

Dr Corbett responded that some pollutants are reduced by air-conditioning, but not all, as air-conditioners are not filters. In addition, many apartments along major roads have balconies. He said that the hazards are probably worse at lower levels but this has not been mapped, and nor have mitigating strategies been tested.

Another commented that on Canterbury Rd and Old Canterbury Rd, setbacks have been located at the rear to reduce overshadowing of neighbouring properties (and not at the front, to reduce impact of pollutants on new residents). Dr Corbett responded that if that happens, health outcomes for the occupants of new buildings are being traded, but health is "not on the table".

Noise impacts

There was strong interest in the question of noise impacts in denser environments. Dr Corbett responded that noise and air pollution have about the same impact on major causes of death. Most of the research in the area comes from more crowded places like the Netherlands and Hong Kong. There are new benchmarks for noise based on very robust data – they cover sleep disturbance, annoyance and learning impairment.

How does Health engage with local councils?

There was some concern about whether the tools available to consider health impact statements are in fact being used. One questioner stated that he had undertaken many developments and had never been asked to do a health assessment for any proposal.

Peter Sainsbury responded that health impact statements have been developing over the last 15 years. He does try to engage and make comments, but some Councils and some developers are more responsive than others. The approach he and his colleagues have been trying is to push for health impact statements to be integrated into either social impact assessment or the EPA Act. Dr Kent commented that the panel members are at the vanguard, this is new stuff, and it will take time.

Dr Jennifer Kent is a Lecturer in Planning and Research Associate at Macquarie University. Prior to Macquarie, Jennifer was based in the Healthy Built Environments Program at the University of NSW. She has also worked as a town planner in NSW in both local government and as a consultant. Jennifer's research interests lay primarily in the intersections between planning and health, including planning for active transport and attachments to the private car as a form of mobility.

Jennifer has just been awarded through a highly competitive international selection process, a Post-Doctoral Fellowship in urban planning research at the University of Sydney.

Dr Stephen Corbett is a public health physician and Director of the Centre for Population Health in Western Sydney Local Health District, and an Associate Professor in the Western

Clinical School and the School of Public Health University of Sydney. He has a long-standing interest in how the built environment and living standards, both now and in the past, have affected human health.

Professor Peter Sainsbury is Director of Population Health in South Western Sydney Local Health District, NSW Health; Visiting Professor in the Faculty of the Built Environment, UNSW; and Associate Professor in the School of Public Health and the Centre for Values, Ethics and the Law in Medicine at Sydney University. He is a life member and past president of the Public Health Association of Australia; and a past member of the National Health and Medical Research Council and the Australian Health Ethics Committee.

Peter's qualifications and experience cover medicine, health planning, sociology, health services management and public health. His professional interests include inequalities in health, healthy urban development, social relationships and health, the experience of illness, the history of public health and social policy. Other interests include human rights, environmental sustainability, figurative war memorials, cooking and eating, the arts, cricket and Florence Nightingale.