CREATING SUPPORTIVE ENVIRONMENTS FOR PHYSICAL ACTIVITY AND HEALTHY EATING – MEETING THE CHALLENGE

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Introduction

Like most of the developed world, Australia and Queensland are experiencing a rapidly rising tide of diabetes, obesity, hypertension (increased blood pressure), chronic kidney disease and other lifestyle related conditions and diseases.

According to the AusDiab study more than 200,000 people in Australia progress from being overweight to being obese each year (AusDiab, 2006). That is nearly 600 people every day. Also, approximately 100,000 adults develop diabetes. That is 275 people every day. Add to this the 400,000 adults that develop hypertension and the 270,000 adults that develop chronic kidney disease each year and it is evident Australia is facing an unprecedented health challenge.

The consequences of this phenomenon are enormous. Lifestyle related disease reduce life expectancy. It impacts on the quality of life and affects the lives of those who love and care for its victims. It also places a significant burden on society, not only through an unsustainable increase in demand for health services, but also the impact on productivity and the economy (Access Economics and the Heart Foundation, 2005).

The evidence suggests much of this is avoidable. In fact, it is simple - we are becoming unhealthy because we are not moving enough and are making unhealthy food choices (WHO, 2004).

Evolution, the Environment and Planning

The question is, why and how did this happen?

One explanation is that the human body is not evolving fast enough to adjust to a rapid change in the human environment and condition.

Allow me to explain…

If science is to be believed, our ancestors were apes. They evolved into humans by being able to survive and flourish in ever changing environments. Over thousands of years humans had to adapt to periods when a large part of the earth was covered in ice, when the climate was wet and when it became dry again. Because the environment changed slowly it gave humans the time to get used to this change, making it possible to eke out a living and even thrive on ice and savannah and in jungles and deserts.
The first humans were hunters and gatherers. They were constantly on the move, foraging for whatever fruit, seeds and roots were in season to supplement a meagre diet of meat.

Life was brutal and short. It was famine or feast. The next meal was uncertain and when there was plenty those who could eat the most and were the most efficient storing the energy as fat survived the lean times. Those who did not died. The fattest, fastest, fittest and strongest had the best chance of passing on their genes. Their lesser compatriots were likely to end up as lunch for something else before they could reproduce.

Then humans invented agriculture. Food security improved. People started growing crops and domesticated animals. It was no longer necessary to be constantly on the move in search of food and they could build permanent structures. They could store reserve food outside their bodies for longer periods and people had time for leisure. As more and more people gathered in one spot, “civilisation happened” and settlements grew into the first cities.

The next big leap forward was the industrial revolution and the age of machines. The industrial revolution brought with it steam, the internal combustion engine and electricity. Machine power replaced muscle power. Machines did not get tired or ill, and with mass production the amount of human energy required to make most things decreased dramatically.

The industrial revolution also created a new phenomenon – rapid migration, urbanisation and the creation of new industrial towns and cities. If anything at all, these urban areas had only the most rudimentary arrangements for public transport, water, refuse and sewage infrastructure as well as social and health services. As a result, cholera epidemics and other diseases and social ills swept through cities like wildfire and mortality rates skyrocketed.

So, we took charge of our environment and modern “Town and Regional Planning” and “Local Government” was born. We cleaned up the mess and created infrastructure, rules and institutions to keep us healthy.

However, as time went by we planted the seeds of our next health crisis.

We separated our homes from our places of work and play. Cities were designed for motorised transport with increasing urban sprawl placing more distance between nodes of activity. The car became “King” and our physical and even social and institutional environments became ever more hostile to movement that involves muscle power whether it is playing in a park, running, cycling or simply walking.
The problem is, our bodies have not changed much since we were hunters and gatherers. Our bodies are still “hard wired” to eat when there is plenty and to prefer foods that are packed with energy. We still store the excess energy for the lean times as fat. However, the lean times never come and the stored energy remains unused. And because we continue to eat and not use the energy our fat stores keep increasing.

Also, our bodies are not doing what they are designed to do. Our bodies are meant to be active. We need to move our muscles and elevate our heart rates in order to keep our bodies healthy. And yet, we have become sedentary. As a consequence our muscles are wasting away and our bones are becoming brittle. Our hearts and lungs are rarely worked to design and we are becoming unfit. We are losing it because we are not using it!

In short, we live in an “obesogenic environment”. The evolution of the human body has not kept pace with its changing social, cultural, physical and economic environment. We are modern humans trapped in prehistoric bodies with inappropriate activity and consumption behaviours to match!

**Current Approaches**

The intuitive response to this situation is to encourage people to be physically active and eat more healthy food.

This can be done in two ways:

The first is to convince, encourage and provide individuals (and individuals collectively as communities) with the knowledge, attitudes and skills to change their behaviour and increase their levels of physical activity and make better food choices.

The problem is, providing information and delivering programs to change the lifestyle behaviour of individuals is unlikely to result in individual behaviour change if people live their daily lives in an environment that discourages physical activity and healthy eating.

This is why a second approach is to encourage people to lead healthier lifestyles by modifying the environment to make it easier for people to increase their levels of physical activity and improve their access to healthy food choices.

There are multiple ways in which the physical environment can be modified to encourage increased physical activity and improved nutrition. However, in terms of modifying the built environment the there are three broad strategies that may be applied (Transportation Research Board, 2005).
1. Modifying land use patterns to increase densities and create destinations.

Different land uses creates destinations. Destinations in turn are the reasons why people move. For example, people move between home, their places of work and shops. The more destinations within walking or cycling distance from each other, the more people will use non-motorised or active transport. Also, the higher the mix of land uses (more types and variety of destinations) within walking distance, more convenient and greater options for walking.

Also, the more and the higher the density of land parcels dedicated to active recreation, the more opportunities exist to be physically active. Land use for recreational activity ranges from large public open spaces such as nature reserves used mainly for unstructured, lower intensity physical activity such as walking to recreational facilities for more structured, higher intensity activity such as football and racquet sports. Depending on its service catchment, these land uses can have a regional, sub regional, neighbourhood or purely local recreational function.

The availability of high quality agricultural land and distribution of food outlets has an influence on access to fresh and affordable food of individuals, families and communities. For example, the accessibility of supermarkets and local stores influences the variety and competitive pricing of nutritious foods. Similarly, there seems to be a relationship between the density of fast food outlets, particularly around schools and the consumption of junk food.

Land use allocation may support programs to improve nutrition and in the process promote healthy eating (and increased physical activity), such as land dedicated to the establishment of a community garden.

2. Urban Design

Urban Design involves the aesthetic, physical, and functional qualities of the built environment including the design of buildings, streetscapes and the level of facilities provided and can influence physical activity and nutrition at multiple levels:

Design at individual site or building level

Aspects of the design of buildings and sites that may promote physical activity and nutrition include:
• Lighting, building orientation and setback, vegetation and surveillance that increase actual and perceived safety.
• Provision of “landscape” recreational areas such as parks and nature reserves and infrastructure and facilities such as walking paths, bicycle ways to complement its use.
• Provision of outdoors recreational infrastructure and facilities such as ovals and play areas, outdoor cooking facilities, and change rooms to complement sporting facilities.
• Provision of indoors recreational facilities such as gymnasiums in buildings designated for public and private use (such as an on-site gym for use by employees).
• Embellishment (i.e. play equipment, benches, water fountains), maintenance and cleanliness of parks and gardens that enhances the utility and aesthetic values of the building or site.
• The provision of public and employer amenities, including areas for breast feeding and end-of-trip facilities such as lock-ups and change rooms.
• Establishment of local community gardens, school gardens, home gardens and edible landscapes to provide cheap, fresh produce with potential educational, social and nutritional benefits.

Design at street level

Aspects of urban design at the street level that may promote physical activity include:

• Street lighting, landscaping and surveillance that increase actual and perceived safety.
• Encouragement of active transport through kerb type, traffic management and control devices, street crossings and crossing aides, verge width, driveway crossovers to aid continuity, vehicular and cycle lane markings and adequate sighting distances.
• Discouragement of private motorised transport through measures such as traffic calming devices, street width and limited vehicular parking.
• Discouragement of directional signage and/or promotion signage and billboards advertising unhealthy foods.
• Embellishment that enhances the aesthetic values of the streetscape including bus shelters, sculptures, benches and other street furniture.
Community/neighbourhood level design

Aspects of the design at the community/neighbourhood level that may promote physical activity and nutrition include:

- Neighbourhood connectivity. A high level of interconnectivity of transport infrastructure such as streets (street layout and patterns), sidewalks (including dedicated walkways) and cycle lanes (including dedicated cycle ways) reduces the time and physical distance between destinations (such as home and the supermarket) and encourages the use of active transport.

- Density. Higher densities increase the number of residential and commercial premises in an area. This has the effect of increasing the number of persons with access to recreational and transport activity infrastructure, public transport and other facilities that support physical activity and nutrition (i.e. full service supermarkets). High levels of usage, in turn increases the viability and level of service provided by these facilities and infrastructure.

Transportation

The transportation system refers to streets and highways for private vehicles, public transport systems and infrastructure for active transport. Transportation can promote physical activity and nutrition through:

(At the individual site/building level):

- Access to public transport facilities and active transport infrastructure such as walk and cycle ways.
- The integration of active and public transport infrastructure in major mixed use developments such as business parks and regional shopping centres.

(At the street and community levels):

- Provision of active transport infrastructure.
- Provision of public transport and associated infrastructure.
- Encouragement of public transport and discouragement of motorised transport through measures such as imposing parking restrictions, providing park-and-ride facilities and integrating different modes of public transport (i.e. bus, trains, ferries).
- Connecting production, processing, distribution and access

In general, land use patterns, urban design and transport that discourage physical activity and healthy eating are typically oriented to private car ownership and are characterised by urban sprawl, the loss of good quality agricultural land, visual monotony, social
disengagement and the spatial dispersement of residential, employment, commercial, recreational and other land uses.

In contrast, land use patterns, urban design and transport that encourage physical activity and healthy eating seeks a return to traditional neighbourhood designs that facilitates more walking and less driving while increasing what many modern suburbs lack: cultural diversity and social capital (Sallis et al, 2006). The general approach, often referred to as New Urbanism, neo-traditional design, transit-oriented development (TOD) or smart growth seeks to displace car-dependent living and urban sprawl. Placing people and shops closer together, reducing average lot sizes, improving connectivity through grid-like street networks laced with sidewalks and concentrating housing around rail stops results in increases in active travel such as walking and cycling. At the same time the dominance of cars is reduced, as are other “urban ills” such as traffic congestion, air pollution, unaffordable housing and social isolation (Sallis et al, 2006).

The Queensland Situation

In Queensland, there are a number of policies and projects that aim to create environments that support physical activity and healthy eating in Queensland.

At the State level (policy and institutional environment) there are currently a wide range of measures and initiatives by the State agencies to influence the behaviour of people. An example of these is the much publicised Eat Well, Be Active Program. At the same time Queensland Transport has developed a range of measures to encourage active transport (i.e. cycling, walking) and public transport as alternatives to motorised transport.

At the regional level, the SEQ Regional Plan has strengthened the policy environment by adopting strategies and actions that, for the first time give significant guidance on promoting physical activity and to a lesser extent, nutrition in the South East Queensland metropolitan area.

However, it is at the level of local government where the greatest potential exists to promote physical activity and nutrition. The reason for this is twofold.

Firstly, local government is the level of government closest to the everyday lives of people. It is the “pointy end of the stick” – the level of authority the closest to “grass roots”.

Secondly, local government in Queensland is unique in Australia in that it has a strong mandate, and has been given wide powers to influence the behaviour of people and modify the physical, and in particular, the built environment.
The latter is particularly significant. In Queensland the *Local Government Act, 1993* confers a wide competency on Councils to develop policy and plans, legislate and to take generally take action to work towards the good rule and government of its areas. At the same time, the *Integrated Planning Act, 1997* confers not only the power, but also provides a wide range of instruments and mechanisms to manage the process and effect of development and in doing so, modify the physical environment.

Specifically, the *Local Government Act, 1993* makes provision for:

- **Corporate and operational plans** that must include strategies, and the measures to implement the strategies to “develop the community, provide services to improve, maintain or restore their welfare or well being of individuals and protect and promote public health and the prevention of disability, illness or injury”. The range of measures local governments can initiate to promote increased physical activity and improved nutrition are only limited by willingness, budget and the need to be consistent with State and Federal legislation, policies, plans and programs.

- **Local laws** that enable local governments to regulate the way in which people and businesses use the built and natural environment for advertising, recreational, transport and other uses relating to physical activity and nutrition. It may be possible for the Minister (for Local Government) to propose a model Local Law that could address one or more matters that inhibit or promote physical activity and nutrition.

At the same time the *Integrated Planning Act, 1997* makes provision for **planning schemes** to manage growth and change in the area of a local government through measures such as:

- Desired Environmental Outcomes (DEO’s) that set the overall strategic direction for the management of growth and change and may include statements about how the local government intend to support physical activity and nutrition.

- Planning scheme maps that may identify parks, reserves, sporting fields, cycle ways and other land and infrastructure for recreation and active transport. Where appropriate, land may also be reserved for the production of food.

- Development assessment tables that identify the level of assessment of a development proposal and the criteria, including planning scheme codes against which the proposal is to be assessed. These criteria may include measures that promote physical activity and nutrition.

The *Integrated Planning Act, 1997* also makes provision for **planning schemes instruments** to manage growth and change in the area of a local government. These are:
• Planning scheme policies that require applications for development to be assessed against measures that promote physical activity and nutrition such as the provision of areas for breast feeding and end-of-trip facilities. Planning scheme policies may also require the advice of physical activity and nutrition stakeholders be sought for the assessment of certain types of applications for development.

• Priority Infrastructure Plans (PIPs) made to coordinate land use planning and the provision of infrastructure. PIPs are instruments for the planning and funding of trunk infrastructure, including infrastructure that support physical activity such as public transport, walk- and bicycle ways, indoor and outdoor recreation facilities, parks and other public open space.

Although not part of a planning scheme, the Integrated Planning Act, 1997 also empower a local government (or relevant Minister) to designate land for community infrastructure that supports physical activity and nutrition including public open space, parks and other recreational facilities.

It is also expected that the declaration of mater planned areas will allow for consideration of the need to create supportive environments for physical activity and nutrition, particularly in large greenfields developments.

The Supportive Environments for Physical Activity and Healthy Eating project (SEPAHE)

Recognising this potential, the Supportive Environments for Physical Activity and Healthy Eating project (SEPAHE) is a joint initiative of Queensland Health and the Heart Foundation that aims to guide and assist local governments in Queensland to create environments that support increased physical activity and improved nutrition.

Project Development

The project is being developed in three Phases.

Phase 1 was completed in January 2008 after consultation with State, Local government and non-government stakeholders and comprised of a desk top study and a survey of local governments in Queensland to develop a better understanding of the options for Councils to promote physical activity and nutrition.

The outcomes of Phase 1 are documented in an Options Paper and includes recommendations on the “tools” and resources to be developed in Phase 2 to assist local governments to prepare and implement measures to promote physical activity and nutrition.
It is intended for the tools and resources developed in Phase 2 to be applied in three local
government pilot projects before being rolled out across the State in Phase 3.


Survey Findings

While the desk top study confirmed the potential of local government to promote physical
activity and nutrition, the survey of local governments raised a number of issues regarding
the priority and capacity of Councils to actually fulfil this potential.

The findings of the survey include:

1. Most Councils are ready to invest and/or are investing in physical activity and to a lesser
extent, nutrition. The most important investment priorities are recreation facilities,
physical activity programs and pathways.

2. Most Councils rate physical activity as a moderate priority for Council but believe their
constituents would like them to do more. Most Councils rate nutrition as a low priority.

3. Most Councils are already implementing or are developing a range of physical activity
initiatives, predominantly through the provision of sport and recreation, landscape and
active transport infrastructure. These initiatives are delivered through corporate and land
use planning processes and information programs to modify lifestyle behaviour.

4. The efforts of Councils to promote nutrition are focussed on food safety and hygiene
with some use made of the regulation of food consumption facilities (including local
laws) corporate and land use planning (including the protection of local food production)
and nutrition education.

5. The majority of respondents listed cost and insufficient staffing as barriers to investment
in physical activity. Specific guidance, tools and resources and support from Council
decision-makers were reported as key incentives for investment.

6. For nutrition, issues reported as barriers to investment were: cost, it not being a priority
of Council, insufficient staff and a lack of expertise.

7. The development of best practice guidelines (for corporate plans and planning
schemes), including a concept planning scheme code and a State Planning Policy are
considered the tools with the best potential to assist local governments to create environments that support physical activity and nutrition.

Role of State Government

However, it is recognised that Local government does not operate in a policy and institutional vacuum and State government has a key role to play in supporting Councils. As such, the Options Paper recommended that the State government offer support and give consideration to the development of tools and measures to assist local governments to create environments that support physical activity and improved nutrition.

To this end Queensland Health is well advanced with the Supportive Environments for Active Transport and Incidental Physical Activity (and Nutrition) project (SEATIPA). The project aims to guide and make recommendations on how State Government may contribute to the creation of supportive environments for active transport and incidental physical activity. The project also seeks to explore how supportive environments for nutrition may similarly be addressed within the State legislative, policy and planning framework of Queensland.

Next Steps

It is expected that Phase 2 of the SEPAHE Project and the SEATIPA Project will be completed by the end of 2008 in time to make use of the window of opportunity to progress physical activity and nutrition presented by current local government elections, amalgamations and planning reforms. The long awaited improvements to the instruments and measures under the \textit{Local Government Act, 1993} and \textit{Integrated Planning Act, 1997} offers the opportunity for Phase 2 to both influence, and be advised by improvements to Queensland’s overall system of local government and planning. Also, the review of corporate plans and planning schemes necessitated by local government amalgamations offers a golden opportunity for newly elected Councils to afford the health and well being of their communities the priority it deserves when they knuckle down to work after the local government elections.

It should lastly be noted that planning is dynamic in that it both anticipates and responds to changes to the environment at the local, regional, State, national and international levels. The move towards New Urbanism aligns well with strategies to reduce the “globesity pandemic” as well as two other developments at the international level that have the potential to substantially change the environment. The first of these is “Peak Oil” - the situation where the demand for oil outstrips supply with resultant shortages and high prices. Although there is considerable debate about when Peak Oil will occur and the level of
economic and social disruption it will bring, there is general agreement that it will happen and that Peak Oil will lead to a greater emphasis on measures to promote public and active transport. The second is global warming. Measures to combat global warming include reducing dependency on fossil fuels which in turn, similarly places greater emphasis on measures to promote public and active transport.

In short, the stars are aligning. There is an urgent need to address the health of not only our communities but also our planet. Everybody has a role to play, whether it be the government or non-government sector. However, when all is said and done it is the planning and related professions that must lead the way in creating environments that support physical activity and nutrition. What is needed are champions in the State agencies, our Councils and the private sector that will put planning for healthy communities on the agenda and provide the expertise to make it happen.

Do we have any volunteers?

To get involved, please contact the presenter or the SEPAN Project Coordinator, Ms Rachel Cole, Queensland Health, on (07) 5509-7296.

References

1. Australian Diabetes, Obesity and Lifestyle Study (AusDiab), May 2006


About the Author and Acknowledgements

Johan Pretorius is the Managing Director of Plan Associates, a boutique consultancy that specialises in infrastructure- and physical activity planning. Plan Associates was appointed to develop the Phase 1 SEPAHE Project Options Paper. However, the Options Paper has been a collaborative effort and the sterling contributions of Ms Rachel Cole and Ms Caroline Martin of Queensland Health, Ms Sue Aspinall of the Heart Foundation and Dr Matthew Burke of Griffith University is acknowledged with thanks.

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