

Medical Officer of Health Report June 2017

Health for All – an essential transition in our thinking

The Parliamentary Commissioner for the Environment has just released a report signalling that New Zealand native birds are in a 'desperate situation' ¹. Only about 20% of species are doing well while about a third, including iconic species such as the kiwi, kea and less well known whio (or blue duck) are in danger of becoming extinct. No doubt, most of us will see this as a concern in terms of the plight of indigenous species. However, from the results of the *Issues of Health and Wellbeing Survey 2016*² we know that a fair majority of us (62%) would also see this as a concern in terms of our own health and wellbeing.

Why would the threat of extinction of an alpine parrot or the 'white water rafting' whio be perceived as a concern for our own health? Perhaps, it's a sense of sadness for the loss of something special and unique, or the sense of personal loss of opportunity for potential interaction with a species that may be gone for good. For many of us, positive emotions and a sense of wellness are associated with experiences of wilderness, natural beauty and green space. Observing or interacting with animals in their natural environments can create a sense of awe and wonder. The biologist, author and famous advocate for biodiversity, E.O Wilson, described the term 'biophilia' as the innate human affinity for nature and other species.

In addition, though, native species loss is an unsettling reminder of our anxious awareness of the accelerating global trends of environmental degradation and loss that are threatening the functioning of ecosystems necessary for our health and wellbeing. While, on average, we may now be healthier and living longer than ever before in human history this has come at substantial environmental cost especially in terms of biodiversity loss, land and soil degradation, deforestation, water quality and climate change. This ecological debt means that our current healthiness and prosperity as a species may be short lived unless we are able to recognise and find solutions to this crisis. We do worry that we have lived and are living beyond our ecological means and that this will catch up with us and our children as very real impacts on our health, standard of living and quality of life. We know that ultimately we are totally dependent on productive and healthy ecosystems for our very survival. Indeed, we may be experiencing the moment in history of 'peak human health'.

It is a time of crisis for our ecological environment and while we are well-primed as a species to respond to immediate danger or to act courageously and decisively in an emergency we are not good at recognising danger and responding appropriately when the emergency unfolds relatively slowly, at least in human terms, over several generations. Nevertheless, environmentally this is a catastrophic instant in geological and evolutionary time, warranting the various labels it has attracted such as 'the sixth great extinction'.

To re-work an analogy first suggested by ecologist Paul Ehrlich, we are like passengers in an airplane. When we see some rivets missing here and there we are (perhaps uncharacteristically) not too fazed. We know the plane is over engineered and has hundreds of thousands of rivets and bolts and so on holding it together. Losing some species here and there may not make much difference, we are still airborne. Some rivets like those holding the seats together don't seem too important anyway.

However, as more and more rivets pop out and create stresses that lead to more rivets popping out we slowly begin to worry about our aircraft's airworthiness especially when we see the odd rivet disappearing from wing panels. It's not until we hear of, for example, mass coral bleaching events and that the Great Barrier reef will be gone and most of its species extinct in 20 years, that we realise a section of panels of the fuselage has just started to come away, leaving us with a sick and helpless feeling. This is made only worse by the unseasonal summer days we experience in mid-winter, and news that the United States has pulled out of the Paris climate accord. Never before have we so urgently needed global collaborative approaches and cooperation so that our 'aircraft' does not crash and burn.

The United Nations Sustainable Development Goals³ recognise that globally, on average, life expectancy has increased, child mortality has decreased and poverty has decreased but in achieving this there have been rapidly increasing carbon emissions, deforestation, species loss, soil degradation, ocean acidification and unsustainable demand for water. Not surprisingly, all seventeen of the United Nations Sustainable Development Goals align strongly with a health and environment agenda but eleven are very explicitly so. These focus on: no poverty, zero hunger, good health and well-being, clean water and sanitation, affordable and clean energy, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, and life on land.

New Zealand, like the other 192 member states of the United Nations, has adopted these goals. What exactly it will mean in practice is not yet clear. However, the Sustainable Development Goals provide a clear signal of the importance and opportunities that arise with aligning health and environmental concerns. These goals signpost the way to a global, national and local health agenda that addresses our most urgent population health risks and will also contribute substantially towards environmental goals. If we are to achieve this essential transition in human history where we sustain and improve both health and the planet's ecosystems, we very urgently have to work out how to achieve this synergy in practice.

Where are the practical opportunities where a preventative public health agenda can drive the equally important ecological sustainability agenda?

In my view, and aligning with the Sustainable Development Goals, I think there are three primary areas where there is a high synergy between very immediate public health goals (such as reducing the prevalence of obesity and chronic diseases such as diabetes and cardio-vascular disease, improving mental health, improving social-economic determinants of health and reducing health disparities) and achieving longer term ecological goals that relate to preserving and restoring biodiversity, addressing climate change, and even achieving ecosystem restoration and reconstruction. Or to put it another way, ambitiously pursuing immediate and important health imperatives such as reducing obesity, diabetes, cardio-vascular and other non-communicable diseases (and even helping contain the cost of health services) can also enable dramatic ecological improvements in terms of improving air and water quality, saving native species, enhancing biodiversity and reducing greenhouse gas emissions, in the longer term.

These three areas that can define a practical national and local health-environment transition relate to:

Food

What we eat, how it is produced and how it gets to our table has a profound effect on the environment. It seems that when it comes to what we choose to eat, much of what is bad for us is also bad for the environment. Monocultural meat and sugar production are both associated with extensive environmental damage with impacts on land, soil, water and biodiversity. Food production is responsible for a substantial proportion of greenhouse gas emissions with meat production, especially red meat production, being a lead contributor. Shifting to a plant-based diet and with less or no meat, with an emphasis on locally sourced and seasonal produce, with no or minimal added sugar, and reducing processed and packaged food consumption would have substantial benefit in terms of climate change

mitigation, reducing deforestation, and reducing biodiversity loss. At the same time it would improve our health, contributing markedly to the reduction of the prevalence of obesity, diabetes, cancer, and cardio-vascular diseases. Eating for optimal health and for minimal environmental impact is not only entirely compatible but making the transition to eating healthily is actually essential for both balancing the health budget and saving the planet for future generations.

Water

Water quality issues are priority public health issues whether it's about drinking water safety, the water quality of our rivers and lakes and their fitness and appeal for recreational use, or the water quality of our coastal environments for recreational use as well as related to kaimoana and food safety. Protecting water resources and ensuring their use is sustainable for human and ecosystem needs are primary concerns. Ensuring drinking water is safe, appropriate removal and management of sewage and preventing contamination of stormwater has long been within the purview of public health. More recently, land use changes such as the expansion of intensive dairying and its impacts on river flow and water quality, such as through bacterial and nitrate pollution have become environmental problems with health effects and of increasing public concern. Therefore sustainable land use, improved stocking practices, riparian planting and catchment reforestation projects are all of immediate benefit to both health and the environment. Consequently, these water quality, land use and catchment management issues are at the core of this emerging health-environment agenda. The approaches and transitions necessary to improve water quality, protect health and prevent water-borne disease outbreaks are in many instances the same changes that can prevent land degradation, and protect and enhance biodiversity.

Cities

New Zealanders, as with much of the world's population, increasingly live in cities. How we design and live in our cities possibly afford us the greatest opportunities for health and environmental gains within, and well beyond, our city boundaries. Cities are the new frontier for both health and ecology and the decisions we do or don't make about our cities will determine how well we will progress with both. I think there are four key, urban design transitions required to transform our cities to places that produce health and become powerhouses for positive local and global environmental change. These are highly interconnected but useful to consider as four different aspects of an overall transformation required. These possibly represent developmental stages of city transformation - outlined briefly:

- **Transport.** Public health has an established record of promoting the health and environmental synergies related to active transport. Foot paths, walkable cities, pedestrian-centred design, safe and useful cycle ways for transport and recreation are some of the essentials to make active transport practical and normal. At scale, and complemented with effective and efficient public transport infrastructure, there are substantial potential population health benefits in terms of, for example, prevention of obesity, diabetes, respiratory and cardio-vascular disease. At the same time there are significant environmental co-benefits especially in terms of air quality and greenhouse gas emission reduction. There is a substantial body of evidence to inform and support these approaches to development.
- **Green (and blue) spaces.** There is a growing literature on the benefits for health and wellbeing that are associated with access to green spaces. One of the original studies in this literature showed that patients with simply a view of a tree from their hospital window had shorter hospital stays. Health benefits of access to and greater availability of green spaces not only relate to increased opportunity for physical activity and recreation but a whole range of other health benefits such as positive feelings of wellbeing, less stress and anxiety, improved social interaction, and better sleep. It is not yet conclusive but it appears likely that more green space in cities translates into better health, less chronic disease and lower mortality. Green spaces provide additional benefits such as reducing urban heat island effects which is important in terms of both climate change mitigation (for example, less power use for air conditioning) and adaptation (for example, less

mortality with heat waves). There is opportunity to re-think neighbourhood roads, so that instead of being designed around cars, they become community spaces with green space, centred on pedestrian and cyclist use, and providing opportunity to support social interaction. The body of evidence for health benefits of blue (water associated) spaces is less robust but there is no doubt that people value and appreciate blue spaces and connections with water. The popularity and amenity value of the new tidal steps in the Tauranga city centre providing a connection with the harbour being a case in point.

- **Ecosystem restoration and reconstruction.** There is opportunity to take urban green space development a leap further to include not simply parks and reserves but also areas that are active ecosystem restoration and reconstruction projects and so enhance not only health but also biodiversity in our urban environments. This would seem rather ambitious and a pipedream if it were not for examples already underway across the world including pioneering work in Hamilton with volunteer armies reforesting gullies, motorway corridors being extensively planted with native species and native tree reforestation projects drawing a couple of thousand volunteers on one day. The ecologist Bruce Clarkson of Waikato University is a keen advocate for this work and sees the urban environment as the new frontier for ecological restoration and reconstruction. Not only is there significant opportunity to restore ecological wealth but clearly there is opportunity for communities to mobilise and build social capital with its documented benefits for health and wellbeing.
- **Biophilic cities.** Drawing on and enhancing the above and integrating these themes throughout urban planning and building design aligns with the idea of biophilic cities. The concept of biophilic cities gives expression to our innate affinity for experiences of nature and the sense that wellbeing and quality of life is enhanced by other species, plant and animal:

“We need nature in our lives more than ever today, and as more of us are living in cities it must be urban nature. Biophilic Cities are cities that contain abundant nature; they are cities that care about, seek to protect, restore and grow this nature, and that strive to foster deep connections and daily contact with the natural world. Nature is not something optional, but absolutely essential to living a happy, healthy and meaningful life.”⁴

The literature describes benefits not only for hospital patient recovery time but also for workplaces that include biophilic design, boosting creativity and productivity and providing very real economic returns. Such cities also promote sustainability, energy efficient design and transport systems and economies powered by renewable resources. There is emerging evidence indicating that cities like these are likely to support better mental and physical health. Health is improved not only by increasing feelings of wellbeing, enhancing social cohesion, improving self-esteem and reducing stress and anxiety but also in possibly reducing the prevalence of respiratory disease, diabetes and heart disease and overall lowering mortality.

‘Health for All’ has been a concept developed and promoted by the World Health Organisation for nearly half a century. With the ambition that all people should be healthy, have access to health care and have the same opportunities for health, ‘health for all’ has been a central concept in landmark developments such as the Declaration of Alma Ata. Toi Te Ora Public Health continues the tradition of reflecting this theme through our vision of ‘lifelong health and wellbeing for all’. However, I believe it is now necessary to re-think and extend the concept of health for all to a broader, ecological understanding. Up until now we have thought of it as health for all people. Now we should think of it as for all, really all that is health for all species and ecosystems including those that are human. This understanding of ‘health for all’ recognises that health problems have ecological solutions and ecological problems have health solutions – our health is inseparably bound up in the health of all species and ecosystems at all scales, from our backyards to the global.

Urgently and enthusiastically embracing this planetary health perspective and a common health-environment agenda will be essential for our current peak experience of human health to be sustained for future generations.

Neil de Wet
Medical Officer of Health report
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References

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3. See: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
4. Quoted from: <http://biophiliccities.org/>