



Health impact assessment in New Zealand

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Abstract

Health impact assessment (HIA) has its origins in environmental impact assessment methodology. New Zealand's approach to health impact assessment is consistent with other countries. During the 1990s, legislation that related to the management of natural and physical resources provided the basis for public health engagement in impact assessment. In the mid 1990s, the Public Health Commission released guidelines on health impact assessment that adopted a risk assess-

ment approach and was aimed at particular environmental projects. The transition to policy-level impact assessment occurred in 2000 with the national health strategy identifying impact assessment as one its key objectives. Guidelines developed by the Public Health Advisory Committee in 2004 have been applied in a small number of policy-level health impact assessments in New Zealand. One of these projects was the review of a Liveable Communities Plan, a policy proposal for town centre growth and development.

Introduction

Internationally, the application of health impact assessment (HIA) has emerged from environmental impact assessment methodology. Commonwealth countries such as Australia, Canada, New Zealand, and the United Kingdom have implemented a number of initiatives to promote health impact assessment including the development of guidelines, workforce development activities, networking opportunities and research and evaluation. Countries within the European Union continue to use cross-country agreements to implement health impact assessment processes including both risk assessment and impact assessments as well as broader policy issues such as housing, employment, and energy. This article summarises New Zealand's experience of health impact assessment from the 1990s until now.

Application of health impact assessment in New Zealand

Health impact assessment methodology in New Zealand is applied at both a project and policy level. There are different mandates for the application of health impact assessment. For example, project-level and risk assessment based impact assessment is driven by requirements under the Resource Management Act and is most often led by local authorities. Policy-level health impact assessment reflects the government's commitments to a population health approach, including reducing inequalities and addressing determinants of health, and is most often led by the health sector in partnership with a key stakeholder, such as a local authority.

Table 1 summarises the current situation of environmental and health impact assessment in New Zealand. The table demonstrates that environmental impact assessment, under the Resource Management Act, is legally required where as policy-level health impact assessment is not legally required but supported by the national health strategy. The need for environmental and health impact assessment is also being ar-

ticulated in regional policy documents, such as the Auckland Regional Land Transport Strategy.

Resource Management Act 1991

The Resource Management Act 1991 (the Act) makes provisions for the sustaining and safeguarding of natural and physical ecosystems (a sustainable management approach). The approach of the Act ensures that adverse effects on the environment are avoided, remedied or mitigated. It also recognises the issue of societal and economic growth and development where sustainable management means using the natural or physical resources in a way, or at a rate, which enables people and communities to provide for their social economic, and cultural wellbeing as well as for their safety and health.

The introduction of the Act requires a new approach to the sustainable management of natural and physical resources such as air, water and land. Decisions on the sustainable management of these resources should consider the effects on the environment and the effects of the people involved in activities involving the natural and physical environment. In its purpose, the Act acknowledges that people and communities are part of the environment. As a result, consideration of environmental effects, such as air or water quality, should also consider the effect on people's health, safety and wellbeing.

A Guide to Health Impact Assessment (1995)

To support the implementation of environmental impact assessment that addresses human health concerns, the Public Health Commission released two documents in 1995 on health impact assessment and risk assessment.^{1,2} The aims of the guide are to:

- facilitate and encourage the integration of health impact assessment into the «assessment of effects on the environment», as outlined in the Resource Management Act 1991;
- to assist those involved in the preparation and assessment of health impacts;

■ to promote a better understanding of the links between environmental quality and health and to improve decision making on resource management issues which may affect the environment and health.

The definition of health impact assessment outlined in the Guide is «a systematic process to assess the actual or potential effects of policies, objectives, programmes, plans, consents, or activities on the health of individuals, groups or communities. An assessment of risks to people either directly or indirectly as a result of environmental conditions or hazards».²

The Guide makes it clear that the consideration of public health issues is only one factor that needs to be taken into account for resource management processes. It also states that there are seven steps in the health impact assessment process which fall under three headings:

- preliminary analysis: screening, scoping, profiling;
- risk analysis: risk assessment, risk communication, risk management;
- implementation: decision-making and monitoring.

Examples of activities which may require a health impact assessment under the Resource Management Act are: water supply and/or disposal plans or projects; discharges of contaminants to air, water or land; and hazardous installations or activities. While public health services have a role in providing technical input into resource management processes, local authorities (both territorial and regional authorities) are the lead agencies in the implementation of such processes including environmental impact assessments. The role of local authorities include providing clear guidance on the type and level of assessment required for a resource management proposal, ensuring that total and cumulative effects on the environment and health receive explicit consideration, and ensuring that monitoring and assessing environmental and health effects are clear.² Reflecting the advisory nature of public health services in relation to resource management processes, their role includes ensuring that adequate resources and expertise are available to participate in and contribute to health impact assessment, promote the improvement and protection of public health and the coordination of public health advice, and establish and maintain information on the health status of the community.

There has, however, been some criticism of the approach taken by these guidelines. It has been commented that the HIA guidelines released in 1995 adopt a conservative view with an emphasis on assessing the risk of exposure to toxic substances.³ The guidelines also apply to project-level impact assessment rather than broader policy-level impact assessment which tends to adopt a wider determinants of health approach.

New Zealand Health Strategy 2000

The New Zealand Health Strategy⁴ sets out the Government's framework for action on improvement in health outcomes. It takes a population health approach, with a particular focus on

reducing inequalities in health. The Strategy identifies 13 population health priority goals with a number of associated objectives. The implementation of the Strategy is supported by a range of health agencies, including district health boards and public health services, that deliver services reflecting the needs of the local population in line with national priority areas.

The first goal of the New Zealand Health Strategy is a healthy social environment and the first of the objectives under this particular goal in the Strategy is «assess public policies for their impact on health and health inequalities». This gives strong support to the application of policy-level HIA in New Zealand. It is important to note that while health impact assessment is supported by the Resource Management Act in relation to sustainable management, policy-level health impact assessment is not directly supported by legislation. It is, however, identified as a key objective under the New Zealand Health Strategy. In addition, a discussion paper on public health legislative reform (4) states that the Public Health Advisory Committee (an independent advisory committee to the Minister of Health) will provide ongoing advice to the Ministry of Health on whether HIA should be included in the development of the Public Health Bill, replacing the current Health Act 1956.

A Guide to Health Impact Assessment (2005)

To assist in the implementation of policy-level HIA, the Public Health Advisory Committee launched a guide in March 2004. In June 2005, the second edition of the guide was released reflecting the comments received during the first year of implementation. In the 2005 guide, HIA is defined as: «a combination of procedures, methods and tools by which a policy may be assessed and judged for its potential effects on the health of the population, and the distribution of those effects within the population».⁵

The Guide articulates that the key reasons to undertake HIA are to:

- help policy-makers incorporate evidence into policy-making; HIA can strengthen the links between research and policy and it also promotes the contribution of research and other evidence to policy-making;
- improve health and reduce health inequalities: HIA can contribute to improvements in the overall health of the population by ensuring that policies do not produce serious adverse effects on health;
- help policy-makers use a sustainable development approach; assist policy-makers meet public health requirements of legislation and policy direction;
- promote cross-sectoral collaboration.

The four stages in the process of health impact assessment under these guidelines are:

- screening: a selection process where policies are quickly judged for the potential to affect the health of the population;
- scoping: establishes the foundations for undertaking the health impact assessment;

Mandate	type of assessment	assessment level	legally required	who carries it out	supporting guidelines
national level					
Resource Management Act 1991	environmental impact assessment	project	yes	local authorities	A Guide to Health Impact Assessment (1995)
New Zealand Health Strategy (2000)	health impact assessment services	policy	no	local authorities, public health	A Guide to Health Impact Assessment (2005)
regional level					
Auckland Regional Land Transport Strategy (2005)	environmental impact assessment and health impact assessment	policy and project	no	local authorities, public health services	A Guide to Health Impact Assessment (1995 and 2005)

Table 1. Summary of environmental and health impact assessment in New Zealand.

- appraisal and reporting: describes the potential benefits and risks to health, then determining their nature and magnitude;
- evaluation: assesses the processes, impacts and outcomes of the HIA.

Since the late 1990s, New Zealand's health system has implemented a population health approach which focuses on the determinants of health and reducing inequalities in health. Addressing the determinants of health requires working with non-health sectors such as housing, transport, and education to improve the health of communities and populations. The 2005 HIA guide was developed with policy-makers specifically in mind. Policy making in New Zealand operates at a central, regional and local level. The policy-level HIA guide is intended for all these audiences within and outside the health sector.

A number of related legislative changes have occurred since early 2000 that allow greater opportunities for public health involvement in issues that are likely to affect health. These include the Local Government Act 2002 that requires local authorities to address economic, cultural, environmental, and social wellbeing. In addition, the Land Transport Management Act 2003 and the Building Act 2004 both have specific references to health and/or wellbeing. One of the ways in which the public health sector can engage with sectors such as transport and local government is through health impact assessment.

Auckland Regional Land Transport Strategy 2005

The Auckland Regional Land Transport Strategy,⁶ launched in December 2005, is a response to legislative changes in the transport sector. The Land Transport Management Act 2003 (the Act) establishes a new national policy framework for transport. It identifies a number of objectives for transport that regional authorities must take into account when they prepare regional land transport strategies. The Auckland Regional Land Transport Strategy has adopted seven objectives to achieve the goal and vision for transport in the region. These objectives include: protecting and promoting public health; assisting safety and personal security; assisting economic development; im-

proving access and mobility; ensuring environmental sustainability; supporting the Auckland Regional Growth Strategy; and achieving economic efficiency.

The Strategy identifies that land transport affects health in a number of ways, both directly and indirectly, and both beneficially as well as harmfully and that together, they have a substantial influence on mortality, morbidity, and disability. At a local level, the environment and human health are adversely effected from the use of motor vehicles and the construction of transport infrastructure. For example, it is estimated that between 60 and 80 per cent of all air contaminants in the Auckland region come from motor vehicles.⁶

In order to achieve the objectives of the Regional Land Transport Strategy, a number of detailed policies have been developed. It is important to recognise that for policies relating to environmental sustainability and public health, there are a number of existing national strategies that form the basis of the management of issues such as air and water quality. These national policies are implemented at a regional level through regional-level policy and planning documents. There are seventeen detailed policies identified under the environmental sustainability and health outcomes section of the Auckland Regional Land Transport Strategy. Two of these relate to impact assessment:

- develop and implement consistent procedures for assessing the environmental and health impact and health risk assessment of transport policies and projects;

- encourage, enhance and increase the capacity for research to provide information and education on the environmental and human health impacts of transport, and promote environmentally friendly transport alternatives.

A number of other policies listed in the Strategy provide opportunities for public health engagement with the transport sector. For example walking and cycling policies and road safety measures.

Case study of a policy-level HIA

One of the first policy-level health impact assessments to be undertaken in New Zealand focused on the future growth

framework for a suburban area in the Auckland region. The draft Avondale future framework aims to help Auckland City effectively plan and manage the urban growth and changes within the Avondale township, while strengthening the community, the economy, and protecting the environment. The framework seeks to provide for more people in the area through rezoning as well as outlining a programme of projects for roads, public transport, stormwater systems, open spaces and community facilities and services. The Avondale town centre has been identified as an «area of change» in Auckland City's growth management strategy and is projected to gain an additional 2000 households within an 800 metre radius of the town centre over the next twenty years. This is because Avondale has a town centre with a mix of retailing and commercial services with a capacity for growth, schools and community facilities as well as good and improving access to public transport.

The Auckland Regional Public Health Service (ARPHS) considered that the projected level of urban intensification is likely to affect the future health of the local community, and the draft framework for Avondale's growth was at a point in the consultation process where a policy-level health impact assessment could be carried out. ARPHS approached the Auckland City Council, the local authority responsible for the Avondale area, to seek agreement to undertake an HIA of Avondale's growth framework. The Council strongly supported the project and a consultant was employed by ARPHS to undertake a rapid health impact assessment.

Characteristics of the Avondale area. The Avondale area has a number of key community profile characteristics that informed the issues raised in the HIA. For example, there had been a 15% growth in the population between 1996 and 2001 with high relative proportions of people aged under 20 years and over 55 years. Educational attainment of the current population in Avondale is close to the New Zealand average but well below the Auckland average. School rolls in three electorate areas have grown between 8 and 18% from 1999 to 2004. In terms of health statistics, the heart disease rate in the larger city district is 18% higher than the national average, with 66 ischaemic heart disease deaths in older people over a two year period from 2000 to 2001. Fall-related hospitalisations for the Auckland city district are 21% higher than national averages, with 389 fall-related hospitalisations over a five year period (2000-2004). The Avondale area has two major transport routes crossing through the area with between 20000 and 40000 vehicles per day going through those areas. There has been a 30% growth in jobs in the last years in one part of the area with 80% of the jobs of the area in the retail sector.

Aims of the HIA. The aims of the Avondale HIA include to:

- identify the positive and negative health and wellbeing impacts of the Avondale Liveable Communities Plan;
- inform the writing of the plan so that connected communities are enhanced, any trade-offs made are transparent, and to provide recommendations that enhance or mitigate impacts;

- provide information on the positive impacts that can then be used to support the progress of the plan;

- strengthen partnerships between public service providers, funders and other interested agencies.

The HIA focuses on the action points of the plan, rather than the principles behind the growth framework, and identifies a number of key population groups to focus on: Pacific people, Asian people, employers, workers, young people (18-25 years), infants and children (0-5 years and 6-18 years), and older people (over 65 years). The geographical focus of the HIA is consistent with the proposed growth area for Avondale, including an 800m radius from the town centre. The major determinants of health considered in the impact assessment include transport, social cohesion, community facilities, open space, urban design, housing, waste, education, waterways, and employment and town centre development. A day-long rapid appraisal workshop was hosted by the Auckland City Council. Participants at the workshop represented a wide range of organisations and disciplines, including community representation.

Conclusions and recommendations of the HIA. A number of recommendations were made by invited stakeholders in the rapid HIA workshop. The recommendations taken forward to the final report were assessed on: whether they had matching evidence; were practically able to be mitigated or enhanced; and matched residents' concerns; and/or affected a large number of people; and/or caused a significant impact; and/or disproportionately affected a vulnerable group. The recommendations were drafted in line with the action points of the plan making either suggested changes to existing action points or adding new action points. Examples of issues raised in new action points include the need for a coordinated approach to schools and child care facilities, the benefits of local employment opportunities, the provision of shared community areas, and the development of agreements between building owners on noise, rubbish, and parking.

The recommendations from the health impact assessment were provided to the Auckland City Council in June 2005 and the majority of the recommendations were adopted by the political level of the Council in November 2005. As one of New Zealand's first policy-level health impact assessment, the Avondale assessment demonstrated that the local public health service and the local authority can work together to address broader health and wellbeing issues through a health impact assessment methodology.

Current HIA capacity in New Zealand

While there is a significant level of expertise on environmental impact assessment in New Zealand, there is relatively little experience and capacity for policy-level health impact assessment. In the recognition that there is no legislative mandate or specific funding for the implementation of HIA, the Public Health Advisory Committee has been hosting two-day workshops around the country on policy-level HIA. This course

provides participants with a general level of understanding of HIA methodology and how to apply it to particular policy situations. Attendees at these courses include health and non-health sector professionals. While some central government agencies have used HIA methodology, the majority of the application of policy-level HIA methodology occurs at a regional or local level. Some regional public health services have taken the lead to work with key partner agencies, such as local councils, to review a policy or project that is likely to have significant health impacts. In these cases, funding for policy-level HIA continues to be provided by through one-off projects rather than included in budgeting processes.

A recent policy-level health impact assessment in Christchurch New Zealand has led to the reorientation of human resources. The HIA focused on the urban growth plan for the Christchurch region and used a stakeholder methodology to draw out the potential or actual health effects of regional growth. The HIA was implemented in partnership with the Christchurch City Council. As a result of the HIA, a public health specialist is now employed half time with the City Council and half time with the regional public health service. The focus of the public health specialist time at the City Council is to support the implementation of future HIAs.

To date, there have been some clear benefits of utilising policy-level HIA methodology including an increased:

- understanding of the determinants of health: applying the HIA methodology has allowed the health sector and local authorities to have a stronger understanding of how the broader determinants of health, such as housing and transport, affect community health and wellbeing.
- Commitment to intersectoral approaches: the majority of policy-level HIAs have been carried out in partnership between a health and non-health sector agencies. This type of partnership approach is consistent with public health approaches.
- Emphasis on policy-level changes to improve population health outcomes: while much of the local public health action focuses on the management of communicable disease, non-communicable disease or environmental hazards, there is growing evidence that influencing national, regional, and local public policy can have significant positive impacts on the health of populations.

There are a number of concerns, however, in the use of policy-level methodology. These include:

- a lack of experienced HIA practitioners: while the Public Health Advisory Committee's two-day workshops provide a general level of understanding of policy-level HIA methodology, there are only a few experienced HIA practitioners in New Zealand. This requires public health practitioners advocating for HIA to be selective about which policy issues require an HIA.
- The use of quantitative and/or qualitative evidence: the majority of policy-level HIAs in New Zealand are focussing on issues such as land transport, urban growth, and/or urban redevelopment. While there is some ecological-level evidence

on these areas in relation to health impacts, it is not clear to what extent this evidence can be applied to the type of HIAs being undertaken in New Zealand.

- Funding for HIA: currently, there is limited funding available for undertaking HIA. Generally, regional public health services lead and fund health impact assessments with the possible support of funding from key partner organisations.

Future Health Impact Assessments in New Zealand

A number of health impact assessments are proposed for implementation in the near future. These HIAs include assessments of a public transport project in the Auckland region, the Wellington Regional Land Transport Strategy, and an HIA of a business and residential redevelopment proposal. This last project is part of a broader plan relating to a district-wide and cross-sectoral initiative to reduce the incidence and impact of diabetes. The HIA is likely to focus on a range of public health issues such as access to healthy food, access to and use of public parks, the location of primary health care services, and the provision of appropriate transport infrastructure.

Conclusion

New Zealand's experience of health impact assessment is very similar to that of other countries with the origins in environmental impact assessment and a transition to policy-level impact assessment. In particular, policy-level health impact assessment in New Zealand focuses on reducing health inequalities and addressing the determinants of health. Current legislation as well as the government's national health strategy provides many opportunities for public health practitioners to become involved in influencing non-health sectors to address health and wellbeing at a national, regional, and local level. The application of policy-level impact assessment is still relatively new in New Zealand with only a small number of HIAs completed. However, the increasing number of proposed policy-level health impact assessments allows the health and non-health sectors to have a growing confidence of health impact assessment methodology.

Conflict of interest: none

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