

The Effectiveness of Health Impact Assessment in New Zealand and Australia 2005-2009



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Executive Summary

Health Impact Assessment (HIA) is intended to produce a set of evidence-based recommendations to inform decision-making. HIA seeks to maximise the positive health impacts and minimise the negative health impacts of proposed policies, programs or projects. The procedures of HIA are similar to those used in other forms of impact assessment, such as environmental impact assessment or social impact assessment. HIA is a relatively new approach, having evolved over the past 20 years from origins in environmental impact assessment. It emphasises the need to define health broadly, incorporating consideration of a broad range of social, environmental and economic factors that determine health outcomes. HIA focuses on the impacts of proposals on human health, whereas Environmental Impact Assessments (EIAs) have traditionally focused on environmental management, often failing to adequately consider the impacts of developments on human health.

This research is the first systematic, empirical study of the influence of HIA on decision-making and implementing policies, programs and projects in Australia and New Zealand. The growing use of HIA needs to be supported by a strong evidence base, both to validate the value of its application and to make its application more robust. If HIA is to become routine in the already complex set of planning and assessment processes of both government and the private sector it will require decision-makers to be convinced of its value adding capacity.

Our aim has been to describe and explain changes to decision-making and implementation associated with the use of HIAs completed in Australia and New Zealand between 2005 and 2009. The research involved the use of multiple methods for the gathering and analysis of both qualitative and quantitative data. Two conceptual frameworks were used to assess effectiveness. The first by Wismar⁴⁸ was used to assess the effectiveness of HIA and a second by Harris-Roxas and Harris⁴² was tested, specifically in the analysis of case study interviews.

We adopted a pragmatic approach to methodology and a four-phase process was used.

- Phase 1 - Identification and review: This provided information about the use and characteristics of HIAs in Australia and New Zealand during the study period;
- Phase 2 - Survey in conjunction with interviews: Surveys and single follow-up interviews enabled additional information to be gathered from a broader range of HIAs than could be catered for in the case studies.
- Phase 3 - Meta-evaluation of case studies involving

key informant interviews and document analysis. This allowed for developing a more in-depth understanding of HIA processes, studying complex systems and identifying contextual factors.

- Phase 4 – Integrative evaluation. Final analysis and evaluation of the research data was carried out by the research team over a three day meeting.

We identified 55 HIAs for inclusion in the study and information from 48 of the HIAs was collected using a survey. Eleven detailed case studies were undertaken.

Carrying out a survey and follow-up interviews provided us with valuable information about the context, process and outcomes of HIAs. We learned that HIAs are effective in influencing decision-making processes. They are often directly effective in that they result in changes to the proposals they assess.

Using the Wismar framework⁴⁸ 31 of 47 (66%) were classified as having direct effectiveness and 11 of 47 (23%) were classified as having general effectiveness.

We used the data collected in the first three study phases to test the conceptual framework of Harris-Roxas and Harris.⁴² We learned that the framework is a useful approach to considering and understanding effectiveness. In our sample of HIAs some factors tended to emerge more strongly than others. The terminology used in the framework was sometimes challenging and we propose that when using the framework those involved should discuss its terminology and develop a shared understanding of concepts.

We have a deepened understanding of some issues, such as time. We have challenged some existing beliefs: the role of decision-makers, timing, and the linear nature of decision-making and planning processes. There were some factors that cut across the three domains of context, process and impacts: time; relationships/partnerships; factors operating at organisational and individual levels; and legitimacy.

We found that all the HIAs were reported to be effective in some way.

We were unable to identify a simple set of factors that predicted the effectiveness of an HIA but we were able to unpack some of the factors sometimes mentioned, such as timing and involvement of decision-makers, and challenge their importance.

The study has clearly demonstrated the direct and indirect effectiveness of HIA in Australia and New Zealand as an assessment tool. It suggests that public health leaders and policy makers should invest in building capacity to undertake high quality HIAs.

Research question 1: Is there evidence that HIAs have changed decision-making and implementation?

Yes. All the HIAs in the study demonstrated some evidence of effectiveness: directly in changing, influencing and broadening areas under consideration and in some cases having an immediate effect on outcomes. But participants saw effectiveness as a much broader matter than direct impacts on decisions. Many saw changes in relationships, better understanding of the determinants of health and positive working relationships as major and sustainable impacts of their involvement. Effectiveness of HIA should be understood as being direct or indirect.

Effectiveness of HIA should be understood as being direct or indirect.

Research question 2: What factors are associated with increased or reduced effectiveness of the HIAs in changing these decisions and the implementation of policies, programs or projects?

HIAs are carried out in open nonlinear systems. We have identified factors that are perceived to be associated with effectiveness and we found that in effective HIAs there is often a conjunction of factors that contribute to effectiveness. There appears to be a confluence of combined factors that influence the effectiveness of HIAs (the time was right, time was available, the opportunity was recognised, the right person was available, the HIA fitted into existing work, funding was available). This can give the impression that HIAs are serendipitous in both their initiation and effectiveness. We have identified a meta-concept, 'proactive positioning', which is linked to organisational and personal capacity.

...we found that in effective HIAs there is often a conjunction of factors that contribute to effectiveness.

Research question 3: What impacts do participants/stakeholders report following involvement in these health impact assessments?

The impacts identified by participants and stakeholders following involvement in an HIA were mainly indirect. Participants reported development of technical skills and knowledge (use of data/literature reviews, HIA process), conceptual learning (better understanding of the way their sector/work affected health) and social learning (developing new relationship, skills in negotiation). In turn these learnings influenced their values, purpose and goals. A strong finding of the study is that these learnings are central to the importance participants place on their involvement, but are rarely articulated as valued impacts of HIA.

The impacts identified by participants and stakeholders following involvement in an HIA were mainly indirect.

Background

Health Impact Assessment (HIA) is "a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential, and often unanticipated, effects on the health of a population, and the distribution of those effects within the population".¹ HIA involves an assessment of how a proposal may alter the determinants of health prior to implementation and recommends changes to implementation to enhance positive and mitigate negative impacts; it is not an evaluation. Its primary output is evidence-based recommendations.¹⁻³ HIA is a relatively new approach, having evolved over the past 20 years from origins in environmental impact assessment.⁴ It emphasises the need to define health broadly, incorporating consideration of a broad range of social, environmental and economic factors that determine health outcomes.^{2,5,6} HIA focuses on the impacts of proposals on human health, whereas Environmental Impact Assessments (EIAs) have traditionally focused on environmental management, often failing to adequately consider the impacts of developments on human health.^{7,8}

The World Health Organization (WHO) has called for the implications for health and the distribution of health impacts to be routinely considered in policy-making and practice, via action on the health sector and non-health sector activities that determine health outcomes.⁹⁻¹³ While the need to address this has been understood for a long time, efforts by the health sector to work effectively with other sectors to influence their policies and practices have been constrained, in part by the lack of assessment tools and mechanisms through which to negotiate recommended actions.¹³⁻¹⁶ HIA has been identified as one of a limited number of interventions that are available to address the social and environmental determinants of health prior to implementation in order to maximise future health benefits and to minimise risks to health.^{9,17,18} It is only by working collaboratively within the health system, across government and with the private and community sectors that many of these issues can be addressed.^{19,20} The use of HIA in conjunction with EIA processes has been adopted by a wide range of agencies including the International Finance Corporation^{21,22} and the private sector as part of the Equator Principles, which are financial industry benchmarks for major project lending and have been adopted by a number of banks in Australia and New Zealand.²³ It is also being promoted as a cornerstone of healthy public policy,²⁴ for example as part of South Australia's Health in All Policies initiative.^{25,26}

Australia and New Zealand have been world leaders in advocating for and developing guidelines for incorporating health within statutory EIA processes with a strong focus on major projects.²⁷⁻³³ However

reviews, including those undertaken by Harris et al, the National Health and Medical Research Council and the National Public Health Partnership, have demonstrated that health is poorly assessed in EIA processes, often having a narrow focus on health risks and toxicology rather than on the broader determinants of health.^{7,27,34,35} HIA has developed as a field partly to address these limitations.^{4,30,36-40}

Although there is increased interest in developing capacity to undertake HIAs across all jurisdictions in Australia and New Zealand, there is considerable variation in how HIA is being implemented (see Box 1). The use of HIA has been promoted in all Australian states and territories and New Zealand, though the level and intensity of investment has varied markedly.^{33,41}

Box 1 Approaches to institutionalising consideration of health impacts in Australia and New Zealand⁴²

There are currently several approaches in Australia and New Zealand to institutionalising HIAs' use:

- Requiring health to be considered as part of EIAs or broader impact assessment (EIA legislation in most jurisdictions);
- Requiring stand-alone HIAs on a type/category of proposals (Tasmania's requirement that a stand-alone HIA be conducted on projects beyond a certain scale);
- Giving health officials the right to conduct HIAs where they deem it necessary or appropriate (Victoria's Public Health Act empowers the Minister for Health to require HIAs on proposals that the Minister identifies); and
- Regulations or policies that support HIAs' discretionary use but do not require it (many local governments and authorities in New Zealand, New South Wales, Victoria and Western Australia).

The following approaches are not exactly requirements for HIA but are related, or may lead to HIAs' use:

- Requiring a health review or screening of government policies (New South Wales Aboriginal Health Impact Statement); and
- The discretionary use of a structured process to look at health issues inter-sectorally (South Australia's Health Lens and its Health in All Policies initiative).

Recent efforts have been made to examine the effectiveness of completed HIAs in the US, the UK, Europe and New Zealand. The US study⁴³ reviewed the characteristics of 27 completed HIAs, including the type of policy or project examined, HIA methods, the nature of recommendations and any information available on the impacts of the HIA on decisions. The study provides a comprehensive overview of HIA practice in the US and some evidence of direct impacts on decision-making and implementation, as well as indirect impacts leading to raised awareness of health issues and health analysis of other proposals. This evidence is limited by the study's reliance on HIA reports and other documentation in place of primary research to evaluate previously completed HIAs. A major revision of this project is currently under way and complements recent US reviews and guidance.⁴⁴⁻⁴⁶

In the cost-benefit analysis of HIAs undertaken in the UK in 2006⁴⁷ willingness to pay analysis was used to place a monetary value on the benefits of HIA to decision-makers and other stakeholders. This study found that HIA enhanced the consideration of health impacts in decision-making and was given a high monetary value by those involved in the process, but it was difficult to attribute changes to the proposal to the HIA itself, though willingness to pay analysis has been criticised for its contextual and cultural specificity.

In the European study⁴⁸ 17 completed HIAs from 15 countries were examined in some detail, using case reports written by the assessors specifically for the study. It was found that the HIAs were successful in changing "the context, leading in some cases to political action, and paving the way for further HIA activity".⁴⁸ Similarly to the UK study it found that it was difficult to attribute changes to proposals solely to the

HIAs, but the investigators were clearly able to reject the null hypothesis that HIA had no impact on decision-making and implementation.

In New Zealand a review of three completed HIAs found that they led to changes in the planning and implementation of the proposals and to improved stakeholder relationships, and introduced relevant information into decision-making processes.⁴⁹

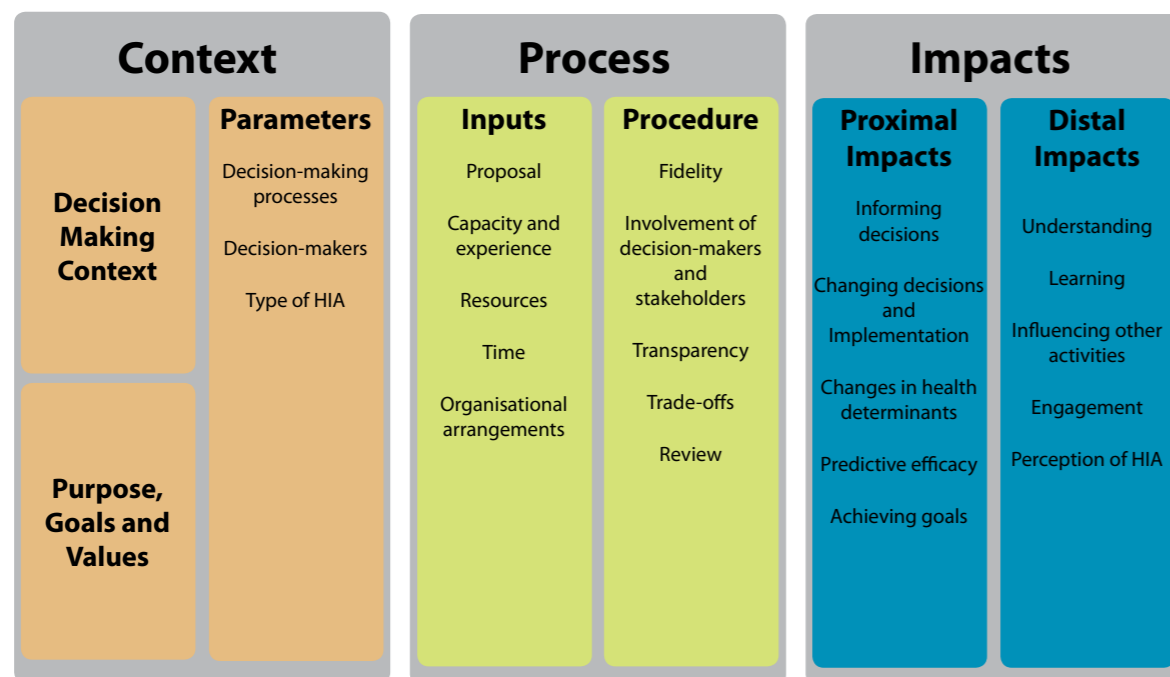
Analytic Frameworks

The European study⁴⁸ described above proposes a framework for examining effectiveness of HIA (see Box 2) which has also been used in subsequent studies.⁴³

Though this model has been criticised for presuming a top-down approach to HIA and for focusing excessively on administrative functions⁵⁰ it has been the most widely utilised framework developed to date.^{43, 48, 51} A simpler framework has also been suggested,⁵² although this has not been tested to date, whereas a fault analysis procedure for HIA⁵³ and a review package for HIA reports⁵⁴ both have been. These frameworks are described and critiqued in greater detail in Harris-Roxas and Harris.⁴²

Harris-Roxas and Harris⁴² developed a conceptual framework (see Figure 1) based on a review of seven completed HIAs, a review of the literature and a review of a major HIA capacity-building project. Their framework goes beyond Wismar's⁴⁸ and emphasises three broad domains: context, process and impacts. The elements within the conceptual framework are based on a modified version of the conceptual framework developed by Donabedian,⁵⁵ which has been widely adopted and is based on robust theory more widely

Figure 1 Conceptual framework for evaluating the impact and effectiveness of Health Impact Assessment⁴²



underpinning program evaluation.⁵⁶

This project has aimed to test and refine this conceptual framework through detailed case studies, as described in the following sections. It should be noted that no single HIA will address all elements of this framework, nor should one. The framework provides an overview of the broad range of factors that can determine whether an HIA is successful or not, across a range of decision-making and impact assessment contexts.⁴²

In the time since this project commenced in 2010 there has been a general and increasing recognition within the broader field of impact assessment that viewing effectiveness in narrow terms (i.e. did the impact assessment change decisions?) both overlooks distal impacts and misrepresents how decision-making actually works.⁵⁷⁻⁶¹ There is an increasing recognition of the importance of learning in evaluating the effectiveness of any form of impact assessment.^{4, 36, 60, 62} The value of informed debate and critical reflection is often recognised but hard to calculate.^{63, 64} The literature consistently refers to the value of learning as both part of the impact assessment process and as an outcome of it.^{61, 65} As Bond and Pope⁶⁰ succinctly explain:

What is clear here is that impact assessment is beginning to be seen not just as a tool for informing and influencing decision-makers, but as a process which changes the views and attitudes of stakeholders who engage with the process such that their own attitudes and practices change outside of the immediate decision making context. That is, the influence of impact assessment processes may extend well beyond the narrow decision window in which they operate. There is also recognition that such learning operates on an institutional and social level as well as on an individual level.⁶⁰

Introduction

This research is the first systematic, empirical study of the influence of HIA on decision-making and implementing policies, programs and projects in Australia and New Zealand. It examines the extent to which the distribution or equity of impacts have been assessed. This growing use needs to be supported by a strong evidence base, both to validate the value of its application and to make its application more robust. If HIA is to become routine in the already complex set of planning and assessment processes of both government and the private sector it will require decision-makers to be convinced of its value adding capacity.

To date most international studies on the effectiveness of HIA have relied on reviews of documentation of HIAs. This study is significant because it went further through interviewing: (i) key decision-makers who were responsible for taking the recommendations forward; (ii) HIA assessors; and (iii) other stakeholders involved in the process. This was done to determine not only how the recommendations were or were not accepted, but whether they were implemented, whether there were other indirect effects of the HIA outside the scope of the recommendations and what factors led to this.

This study is also innovative in the way in which it brings together national and international leaders in HIA from across the Asia Pacific region and the USA to critically examine its impact on decision-making and to develop a broad consensus on the dimensions that should be routinely considered in studies of effectiveness of HIA.

Aim

Our aim has been to describe and explain changes to decision-making and implementation associated with the use of health impact assessments (HIAs) completed in Australia and New Zealand between 2005 and 2009.

Research Questions

1. Is there evidence that HIAs completed in Australia and New Zealand between 2005 and 2009 have changed decision-making and the implementation of policies, program or projects to strengthen positive and mitigate negative health impacts?
2. What factors are associated with increased or reduced effectiveness of the HIAs in changing these decisions and the implementation of policies, programs or projects?
3. What impacts do participants/stakeholders report following involvement in these health impact assessments?

Box 2 Four Types of HIA Effectiveness⁴⁸

		Modification of pending decisions	
		Yes	No
Health adequately acknowledged	Yes	Direct Effectiveness <ul style="list-style-type: none"> • HIA-related changes in the decision • Due to the HIA the project was dropped • Decision was postponed 	General Effectiveness <ul style="list-style-type: none"> • Reasons provided for not following HIA recommendations • Health consequences are negligible or positive • HIA has raised awareness among policy-makers
	No	Opportunistic Effectiveness <ul style="list-style-type: none"> • The decision would have been made anyway 	No effectiveness <ul style="list-style-type: none"> • The HIA was ignored • The HIA was dismissed

Methodology

The research involved the use of multiple methods for the gathering and analysis of both qualitative and quantitative data. These included: identification and mapping, survey and structured interviews and retrospective multiple case studies using qualitative methods.^{66,67} Yin⁶⁷ defines the case study research method “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.” Case studies also allow for triangulating multiple data sources in order to capture the complex and multi-faceted nature of the situations being studied.⁶⁸ cited in 69

The study is grounded in a social constructionist approach.⁷⁰ We understand knowledge to be a human product that is socially and culturally constructed⁷¹ and emphasises the importance of culture and context. The use of case studies aligns with an interest in capturing rich insights into the experiences of multiple stakeholders involved in HIA processes.

The conceptual framework for this study was based on both the HIA effectiveness model developed by the EU HIA Effectiveness Project⁴⁸ and the Conceptual Framework for the Impact and Effectiveness of HIA.⁴² In line with our social constructivist approach we expected that different people would perceive the same thing in different ways and there would be multiple perspectives on both what effectiveness is and the effectiveness of specific HIAs.

Figure 2 Project process



Research team

The research was led by an international team of 11 investigators (Australia, New Zealand, United States, Thailand). Within the team there was a high level of expertise in HIA and qualitative and quantitative research methods. The investigators were supported by a research fellow (FH), who was the research manager, and a research assistant (HNC). FH is an experienced HIA practitioner and researcher with a post-graduate degree in Public Health and training and experience in qualitative research methods. HNC has a BSC, MPH with training in qualitative research methods and no previous HIA experience. The interviews for phase 2 were carried out by FH and HNC. Initially all interviews were carried out jointly and later interviews were carried out individually. The phase 3 (case study) interviews were all carried out by FH.

Some of the participants in the study were known to the research team. Members of the research team have also been involved in a number of the HIAs included in the study. FH and HNC, the researchers who made contact with the interviewees and carried out the interviews, had no prior relationships with the participants. Before interviews participants were provided with information about the purpose of the research and general themes to be covered in the interview.

Ethics

Ethics approval was given by the UNSW Human Research Ethics Committee (23 April 2010).

Written consent forms were provided to participants. The consent forms provided information about the project, purpose of the interview, conditions of consent and contact details. Some telephone participants did not return consent forms before the interview. In these cases verbal consent was given.

In phase 2 participants in the follow-up interviews were informed before the interviews of their purpose and general information to be sought. The interviews were a mix of set prompts with unstructured follow-up questions.

In the case studies (phase 3) participants were informed either in writing or verbally of the purpose of the interviews and areas to be covered.

One-page case study summaries were produced and sent to participants for comment and correction.

1

Phase One: Identification, Description and Quality Assessment

What we did

- Identified the study sample through web searching, investigator networks, consultation with jurisdictional informants and emails to HIA practitioner lists.
- 115 HIAs were identified and 55 met the study criteria.
- Described the key characteristics of the HIAs undertaken.
- Reviewed the quality of the HIAs using the *Review Package for Health Impact Assessments Reports of Development Projects*, a standardised HIA review package.
- The focus of analysis was on quality and characteristics.

55 HIAs met the study criteria

What we found out

- Of the 55 HIAs, 31 were undertaken in Australia and 24 in New Zealand.
- The predominant proposal on which an HIA was undertaken was for plans.
- The overall numbers of HIAs that were carried out within capacity-building projects are similar in both countries.
- Most HIAs were conducted to support decision-making.
- There were problems in the scoring system within the *Review Package for Health Impact Assessments Reports of Development Projects*.

The predominate proposal on which an HIA was undertaken was for plans.

Conclusion

- HIA has been used in both Australia and New Zealand on a wide range of policies, programs and projects.
- There are some differences in practice between New Zealand and Australia.
- Assessing the quality of HIA reports was challenging.
- A majority of the HIA reports were found to be adequate.
- Assessing the quality of HIA reports does not necessarily correspond with the quality or effectiveness of the HIA itself.

A majority of the HIA reports were found to be adequate.

Phase 1: Identification, Description and Quality Assessment

Identification of HIAs

We used several strategies to identify all Australian and New Zealand HIAs undertaken between 2005 and 2009. HIAs conducted or supported by the authors were included (N=16). Between August and December 2010 HIAs were identified by searching established websites in the region, including HIA Connect in Australia and the New Zealand Ministry of Health. Web search engines (Google, including Google Scholar) were used to identify published reports. We also completed a search of the Australian Public Affairs Information Service (APAIS) bibliographic database. The electronic searches were supplemented by communications with professionals working in the HIA domain. Assistance was sought from existing HIA and health equity networks and contacts within Australia and New Zealand to recruit and identify HIAs for the study. Social media, including Twitter and blog posts (such as the International Association for Impact Assessment HIA Blog and Croakey), and email lists were also used to request HIAs and publicise the study.⁷²

Each HIA was evaluated for inclusion based on the following criteria:

- the HIA was prospective;
- a completed HIA report was publicly available on the web or in print (some HIAs were not released due to political sensitivity or commercial-in-confidence agreements);
- an HIA was reported on discretely, not as part of a broader assessment process;
- recommendations that can be assessed for their implementation are included in the report; and
- there was an identifiable contact person involved in conducting the HIA.

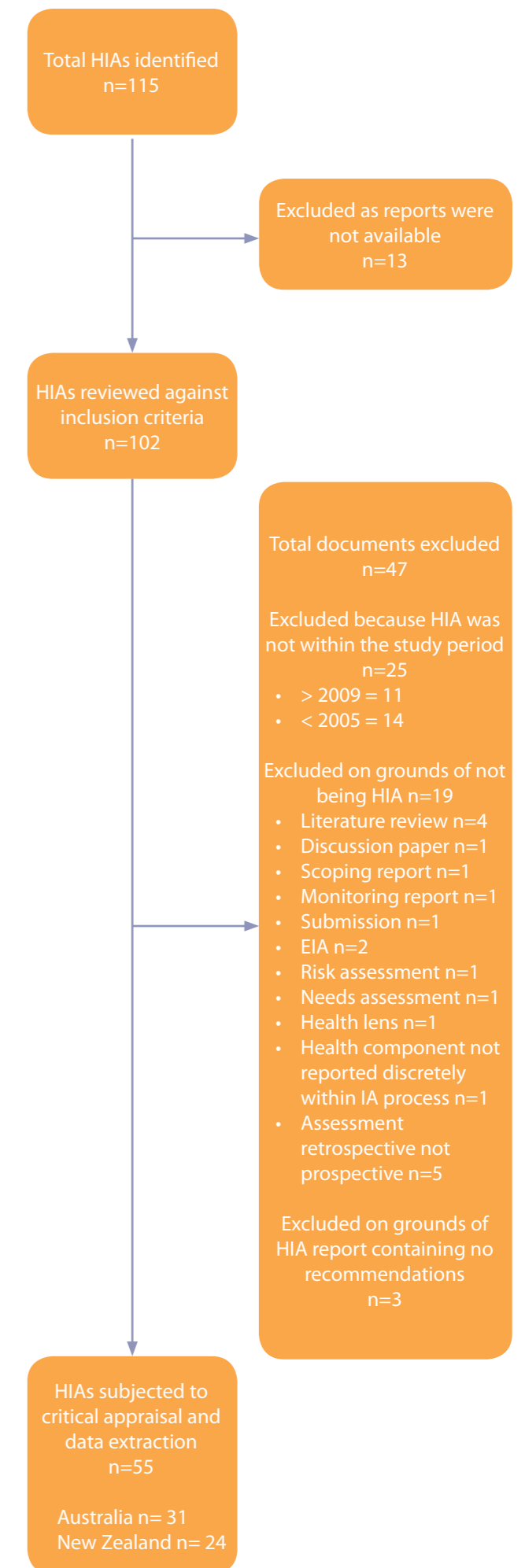
HIAs were assessed by EH and BHR to resolve questions about inclusion.

A total of 118 HIAs were identified and 55 met the inclusion criteria.

During the process the inclusion criteria were amended to include Social Impact Assessments where there was a clear health component and health system involvement and that followed the standard HIA steps.

Figure 3 outlines the assessment for the inclusion process.

Figure 3 Phase 1 inclusion diagram



Characteristics of HIA

The study sample comprised 31 HIAs from Australia and 24 HIAs from New Zealand. The predominant type of proposal on which an HIA was undertaken was for plans (see Table 1). There were more program type HIAs in Australia than in New Zealand.

We attempted to identify which HIAs were carried out within capacity-building projects (see Table 2). The overall numbers for capacity building projects are similar in both countries.

Table 3 provides an overview of HIAs based on the HIA typology developed by Harris-Roxas and Harris (see Box 3).³⁶ It shows that most HIAs are mainly conducted to support decision-making and this was evident for all HIAs carried out in New Zealand. However there were a few identified in Australia that were not necessarily decision support HIAs. There was one community-led HIA, two advocacy-type HIAs and four mandated assessments which were Social Impact Assessments conducted as a requirement for part of an Environmental Impact Assessment but presented as separate reports (see Table 4 for an overview of the HIAs in the study).

Box 3 Typology of HIA³⁶

Type	Definition
Mandated	carried out to fulfil a mandatory or regulatory requirement
Decision Support	usually undertaken voluntarily by, or in partnership with, the organisation responsible for developing the policy, program or project that is being assessed
Advocacy	undertaken by organisations and groups who are neither proponents nor decision-makers, with the goal of influencing decision-making and implementation.
Community led	conducted by communities to help define or understand issues and contribute to decision-making that impacts directly on their health

Table 1 Trends in HIA activity across Australia and New Zealand

Year	Australia					New Zealand				
	Policy	Plan	Program	Project	Total	Policy	Plan	Program	Project	Total
2005	0	1	0	0	1	0	1	0	0	1
2006	0	6	3	0	9	2	3	0	1	6
2007	1	6	0	2	9	0	1	0	0	1
2008	0	4	3	3	10	2	5	0	0	7
2009	0	2	0	0	2	1	6	0	2	9
Total	1	19	6	5	31	5	16	0	3	24

Table 2 Trends in Capacity Building HIAs in Australia and New Zealand

Year	Australia		New Zealand	
	HIAs carried out within Capacity Building Projects		HIAs carried out within Capacity Building Projects	
	Yes	No	Yes	No
2005	0	1	1	0
2006	8	1	0	6
2007	5	4	0	1
2008	2	8	3	4
2009	0	2	8	1
Total	15	16	12	12

Table 3 Type of HIAs in Australia and New Zealand

Year	Australia					New Zealand				
	Decision support	Community led	Advocacy	Mandated	Total	Decision support	Community led	Advocacy	Mandated	Total
2005	1	0	0	0	1	1	0	0	0	1
2006	7	0	1	1	9	6	0	0	0	6
2007	7	0	0	2	9	1	0	0	0	1
2008	8	0	1	1	10	7	0	0	0	7
2009	1	1	0	0	2	9	0	0	0	9
Total	24	1	2	4	31	24	0	0	0	24

Table 4 Australian and New Zealand Health Impact Assessments 2005-2009

Year	Country	Name of HIA	Proposal	Type	Capacity Building Project	Policy, Plan, Program, Project	Depth	Sector
2009	Australia (QLD)	An equity focused health impact assessment of alternative patterns of development of the Whitsunday Hinterland and Mackay Regional Plan, Australia ⁷³	Regional land use plan	Decision support	No	Plan: options	Rapid	Land-use
2009	Australia (NSW)	Equity Focused Health Impact Assessment of the Review of Goodooga Health Service ⁷⁴	Health service review implementation plan	Community led	No	Plan: options	Intermediate	Health service
2009	New Zealand (Hawke's Bay)	Preliminary Report: Health Impact Assessment on the proposed Air Quality Plan Change ⁷⁵	Changes to air quality standards	Decision support	Yes	Plan: options	Rapid	Air
2009	New Zealand (Wellington)	Learning by Doing Health Impact Assessment: Impact on Whanau Ora of Not-Fluoridating Water in Southern Wairarapa Report ⁷⁶	Water fluoridation plant to supply two local governments	Decision support	Yes	Plan: options	Desktop	Water
2009	New Zealand (Wellington)	Health Impact Assessment of the Makoura College Responsibility Model ⁷⁷	School based behaviour management system	Decision support	Yes	Project	Rapid	Education
2009	New Zealand (Hawke's Bay)	HIA on the draft Wairoa District Council Waste Management Activity Management Plan ⁷⁸	Waste management plan	Decision support	Yes	Plan: options	Desktop	Waste management
2009	New Zealand (Hawke's Bay)	HIA on Flaxmere Town Centre Urban Design Framework Proposal ⁷⁹	Local area development plan	Decision support	Yes	Plan: options	Desktop	Land-use
2009	New Zealand (Hawke's Bay)	HIA on implementation of Oral Health Strategy: Location of a community clinic in Flaxmere ⁸⁰	Local area implementation of oral health strategy	Decision support	Yes	Project	Intermediate	Health service
2009	New Zealand (Waikato)	An Age Friendly Community: Shaping the future for Waihi Beach. An Age-Friendly Health Impact Assessment ⁸¹	Age friendliness of local government and health board policy, services and structures	Decision support	Yes	Plan: options	Intermediate	Community service
2009	New Zealand (Auckland)	Regional Land and Transport Strategy 2010 HIA ⁸²	Regional land transport strategy	Decision support	No	Policy	Comprehensive	Transportation
2009	New Zealand (Auckland)	Manukau Built Form and Spatial Structure Plan HIA ⁸³	City area development plan	Decision support	Yes	Plan: options	Intermediate	Land-use
2008	Australia (SA)	Equity Focused HIA Report: South Australian ABHI School and Community Initiatives ⁸⁴	State-wide school and community health promotion initiatives	Decision support	No	Program	Intermediate	Health service
2008	Australia (QLD)	HIA Flinders Street Redevelopment Project ⁸⁵	Central city area redevelopment	Decision support	No	Project	Rapid	Land-use
2008	Australia (NSW)	Good for kids good for life: Equity-Focused Health Impact Assessment ⁸⁶	State-wide school and community health promotion initiatives	Advocacy	Yes	Program	Rapid	Health service

Year	Country	Name of HIA	Proposal	Type	Capacity Building Project	Policy, Plan, Program, Project	Depth	Sector
2008	Australia (NSW)	Health Impact Assessment Report of Lithgow City Council Strategic Plan 2007 ⁸⁷	Local government strategic plan	Decision support	No	Plan: options	Intermediate	Land-use
2008	Australia (VIC)	Leopold Strategic Footpath Network HIA ⁸⁸	Local area strategic footpath network	Decision support	No	Project	Intermediate	Land-use
2008	Australia (NSW)	Health Impact Assessment Oran Park / Turner Road ⁸⁹	Local area development plan	Decision support	No	Plan: options	Intermediate	Land-use
2008	Australia (VIC)	A Matter of Equity — Case Study, Frankston City Council ⁹⁰	City based healthy eating health promotion community education program	Decision support	No	Program	Rapid	Food
2008	Australia (VIC)	SHIA of Dandenong High School Doveton Campus closure ⁹¹	School closure and amalgamation	Decision support	No	Project	Intermediate	Education
2008	Australia (NSW)	Potts Hill Social Impact Assessment ⁹²	Local area development plan	Mandated	Yes	Plan: options	Rapid	Land-use
2008	Australia (WA)	Health impacts of climate change: Adaptation strategies for Western Australia ⁹³	State-wide scenarios and strategies for climate change adaptation	Decision support	No	Plan: options	Intermediate	Climate change
2008	New Zealand (Canterbury)	HIA Central Plains Water Scheme ⁹⁴	Irrigation scheme for 60,000 ha of land	Decision support	Yes	Plan: options	Rapid	Water
2008	New Zealand (Wellington)	Health impact assessment of regional policy statement: regional form and energy draft provisions ⁹⁵	Regional land-use and energy provision	Decision support	No	Policy	Rapid	Land-use
2008	New Zealand (Auckland)	Health Impact Assessment of Ranui Urban Concept Plan ⁹⁶	Local area development plan	Decision support	No	Plan: options	Intermediate	Land use
2008	New Zealand (Auckland)	HIA McLennan Housing Development ⁹⁷	Local area housing development	Decision support	No	Plan: options	Rapid	Housing
2008	New Zealand (Otago)	Health Impact Assessment: Proposed Liquor Restriction Extensions in North Dunedin ⁹⁸	Local area liquor restrictions	Decision support	Yes	Policy	Intermediate	Harm minimisation
2008	New Zealand (Waikato)	Tokoroa Warm Homes Clean Air Project: Health and Well-being Impact Assessment ⁹⁹	Changes to air quality standards	Decision support	No	Plan: options	Rapid	Air
2008	New Zealand (Hawke's Bay)	Health Impact Assessment on the draft Hastings District Council Graffiti Vandalism Strategy ¹⁰⁰	City area - graffiti vandalism strategy	Decision support	Yes	Plan: options	Rapid	Community service
2007	Australia (VIC)	Hobson Bay Urban Greywater Diversion Project Health Impact Assessment ¹⁰¹	Greywater diversion system	Decision support	No	Plan: options	Rapid	Water
2007	Australia (NSW)	Coffs Harbour our Living City Settlement Strategy Health Impact Assessment ¹⁰²	City urban development strategy	Decision support	No	Plan: options	Intermediate	Land-use
2007	Australia (NSW)	Greater Western Sydney Urban Development Health Impact Assessment ¹⁰³	Regional growth and urban development plan	Decision support	Yes	Policy	Intermediate	Land-use

Year	Country	Name of HIA	Proposal	Type	Capacity Building Project	Policy, Plan, Program, Project	Depth	Sector
2007	Australia (NSW)	Health Impact Assessment of the Redevelopment of Liverpool Hospital ¹⁰⁴	Hospital redevelopment	Decision support	Yes	Project	Intermediate	Health service
2007	Australia (WA)	HIA of Landfill Site and Housing Development in Mundijong, WA ¹⁰⁵	Expansion of landfill site and housing development	Decision support	No	Plan: options	Intermediate	Land-use
2007	Australia (NSW)	Proposed Car Park Waste Encapsulation Remediation Human Health Impact Assessment ¹⁰⁶	Carpark waste remediation	Decision support	Yes	Plan: options	Rapid	Waste management
2007	Australia (QLD)	Gatton Correctional Precinct Social Assessment ¹⁰⁷	Development of correctional facility	Mandated	Yes	Plan: options	Comprehensive	Institution
2007	Australia (NSW)	HIA on Rural Health Service Redesign Proposal ¹⁰⁸	Plan to redesign a rural health service	Decision support	Yes	Plan: options	Comprehensive	Health service
2007	Australia (NSW)	Bonnyrigg Living Communities Project Social Impact Assessment ¹⁰⁹	Local area development plan	Mandated	No	Project	Comprehensive	Housing
2007	New Zealand (Far North)	Wellbeing Assessment of the Draft Far North District Council Kerikeri-Waipapa Structure Plan ¹¹⁰	Regional growth and urban development plan	Decision support	No	Plan: options	Intermediate	Land-use
2006	Australia (NSW)	HIA of Greater Granville Regeneration Strategy ¹¹¹	City area development plan	Decision support	Yes	Plan: options	Rapid	Land-use
2006	Australia (NSW)	Indigenous Environmental Health Worker: Health Impact Assessment ¹¹²	Indigenous environmental health worker proposal	Advocacy	Yes	Plan: options	Intermediate	Health service
2006	Australia (NSW)	Rapid Equity Focused HIA of the Australian Better Health Initiative: assessing the NSW components of priorities 1 and 3 ¹¹³	State-wide health promotion program	Decision support	No	Program	Intermediate	Health service
2006	Australia (NSW)	Wollongong Foreshore Precinct Project ¹¹⁴	Local area development plan	Decision support	Yes	Plan: options	Desktop	Land-use
2006	Australia (NSW)	Bungendore Health Impact Assessment: A Rapid Health Impact Assessment of Two Development Scenarios in Bungendore, New South Wales ¹¹⁵	Local area development plan	Decision support	Yes	Plan: options	Rapid	Land-use
2006	Australia (NSW)	SIA of Lower Hunter Regional Strategy ¹¹⁶	Regional development plan	Mandated	Yes	Plan: options	Intermediate	Land-use
2006	Australia (VIC)	HIA in the East Gippsland Shire Council five-year arts and culture strategic plan ¹¹⁷	Local government art and cultural program	Decision support	Yes	Program	Desktop	Community Service
2006	Australia (VIC)	HIA in the East Gippsland Shire Council Kerbside Waste Collection Strategy ¹¹⁸	Waste management plan	Decision support	Yes	Program	Rapid	Waste management
2006	Australia (NSW)	Health Impact Assessment on an integrated chronic disease prevention campaign ¹¹⁹	State-wide integrated chronic disease prevention strategy	Decision support	Yes	Plan: options	Rapid	Health service
2006	New Zealand (Marlborough)	Wairau/Taharoto Corridor Road Widening Project Mini Health Impact Assessment ¹²⁰	Main road widening	Decision support	No	Project	Rapid	Transportation

Year	Country	Name of HIA	Proposal	Type	Capacity Building Project	Policy, Plan, Program, Project	Depth	Sector
2006	New Zealand (Wellington)	The Greater Wellington Regional Land Transport Strategy Health Impact Assessment ¹²¹	Regional land transport strategy	Decision support	No	Policy	Rapid	Transportation
2006	New Zealand	Healthy, wealthy, and wise- A health impact assessment of Future currents: Electricity scenarios for New Zealand 2005–2050 ¹²²	Plan to implement new energy saving provisions	Decision support	No	Plan: options	Intermediate	Energy
2006	New Zealand (Canterbury)	HIA Greater Christchurch Urban Development Strategy Options ¹²³	City area development plan	Decision support	No	Plan: options	Intermediate	Land-use
2006	New Zealand (Marlborough)	SIA of the Draft Nelson City Council Gambling Policy ¹²⁴	City area gambling policy	Decision support	No	Policy	Rapid	Harm minimisation
2006	New Zealand (Auckland)	The Mangerere Growth Centre Plan Health Impact Assessment ¹²⁵	City area growth management plan	Decision support	No	Plan: options	Rapid	Land-use
2005	Australia (QLD)	Health & Social Impact Assessment of the South East Queensland Regional Plan (2005-2026) ¹²⁶	State-wide growth and urban development plan	Decision support	No	Plan: options	Comprehensive	Land-use
2005	New Zealand (Auckland)	Avondale's Future Framework Rapid HIA ¹²⁷	City area development plan	Decision support	Yes	Plan: options	Rapid	Land-use

Definitions

Type of Proposal^f

- Plan**
In the context of this report, a document, often adopted by a government entity, that describes a future course of action for a community to achieve a desired vision or goal. A plan typically describes the vision and goals of a community or a problem that must be solved, includes a systematic synthesis of available information to analyze the problem, and identifies future actions that must be taken and future investments that must be made to address the stated problem and achieve the desired vision. Plans are prepared and implemented by all levels of government but are especially common at local government levels. Plans include general or comprehensive plans, land-use plans, economic-development plans, and transportation plans. Plans that are commonly subjected to health impact assessment include plans for land use, infrastructure, and natural-resource management.
- Policy**
Generally, "an agreement or consensus on a range of issues, goals and objectives which need to be addressed...For example, 'Saving Lives: Our Healthier Nation' can be seen as a national health policy aimed at improving the health of the population of England, reducing health inequalities and setting objectives and targets which can be used to monitor progress towards the policy's overall goal or aims." In the committee's report, the use of the term is extended to refer to anything other than land-use plans or development and infrastructure projects. In this context, policy includes formal and informal social rules, including legislation, regulation, budgets, guidelines, and practices.
- Program**
"Usually refers to a group of activities which are designed to be implemented in order to reach policy objectives... For example, many Single Regeneration Budget programmes and New Deal for Communities initiatives have a range of themes within their programmes—often including health, community safety (crime), education, employment and housing—and within these themes are a number of specific projects which, together, make up the overall programme."
- Project**
"Usually a discrete piece of work addressing a single population group or health determinant, usually with a pre-set time limit." "Usually (but not always), the term refers to 'bricks and mortar' projects involving construction of a discrete structure or group of structures, such as a power plant, highway, or housing development."
- Depth/Level^f**
- Comprehensive**
Takes approximately 6-12 months for one assessor to complete and provides an in-depth assessment of potential health impacts.
- Desktop**
Takes 2-6 weeks for one assessor to complete and provides a broad overview of potential health impacts.
- Intermediate**
Takes approximately 3-6 months for one assessor to complete and provides a more thorough assessment of potential health impacts, and more detail on specific predicted impacts.
- Rapid**
Takes approximately 6-12 weeks for one assessor to complete and provides more detailed information on potential health impacts.

^fDefinitions are from: National Research Council (US) Committee on Health Impact Assessment. Improving Health in the United States: The Role of Health Impact Assessment. Washington (DC): National Academies Press, 2011. - Appendix D, Glossary. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK83537>

^gDefinitions are from: Harris P, Harris-Roxas B, Harris E, Kemp L. *Health Impact Assessment: A practical guide*. Sydney: UNSW Research Centre for Primary Health Care and Equity and NSW Health, 2007.

Review of the quality of HIAs

HIAs were analysed using the *Review Package for Health Impact Assessment Reports of Development Projects*.⁵⁴ The rationale for this procedure is that the HIA report is often the only formal documentation of the process and the findings form the basis on which makers of policy and other decisions determine whether recommendations should be acted upon.

This HIA review package was developed by Ben Cave and Associates specifically to review HIA reports carried out for projects in the United Kingdom. The Review Package was initially based on an existing review tool for Environmental Impact Assessment (EIA) and the modified form for use with HIA reports. The draft review package was presented and discussed at national and international conferences, and reviewed by an expert panel.⁵⁴

The authors recommended that the review package be modified when used to review HIA reports from different contexts. However, due to the short time available and also to an interest in testing the review package's suitability for application in the New Zealand/Australian context it was decided to leave the package unchanged. It was suggested that recommendations for modifying it would be developed.

The review package covers four domains: context, assessment, management and reporting (see Box 4).⁵⁴ It contains four sets of nine review questions (criteria) that are used to review the quality of an HIA report. Each domain includes nine review questions (or criteria) that require the reviewer to provide a grading between A and D (highest to lowest quality grading) in response to the review questions. The domain results are used to decide an overall grade based on a subjective overall assessment by the reviewer.

What we did

The initial assessment of six HIA reports was undertaken by HNC and discussed with EH and BHR. All members of the research team also reviewed at least one of the HIAs in the study. Difficulties in making the assessments were discussed and resolved in team meetings. EH subsequently independently reviewed a random 20% sample of HIAs to assess potential differences between the assessments of EH and HNC.

To ensure consistency in coding, investigator BHR and researcher HNC randomly selected five HIAs that were part of the study and independently coded them. After each assessment they met to discuss similarities and discrepancies in coding and arrived at a common understanding. HNC then took primary responsibility for coding the rest of the HIAs. As well as all Chief Investigators (CI)s were sent one HIA to assess. A number of difficulties with the coding

system were identified at that time. In the process of finalising the report Chief Investigator EH selected a 20% random sample of the HIAs (n=11), read them and independently assessed them at domain level to see if there were significant discrepancies and to better understand and comment on the strengths and weaknesses of the review package.

What we found

Results from the review are presented under the domain headings. The findings are described qualitatively due to significant problems in the scoring system within the review package. Despite this the review process did highlight some gaps and inadequacies in current practice that are mentioned below and highlighted in the summary.

It is important to recognise that the quality of the report may not reflect the quality of the HIA and its effectiveness but it does give an idea what those undertaking the HIA thought was important to report and reflects current practice.

Box 4 Summary of key features of review package

Outline of review package	<p>1. Context</p> <ul style="list-style-type: none"> 1.1 Site description 1.2 Description of project 1.3 Public health profile <p>2. Management</p> <ul style="list-style-type: none"> 2.1 Identification and prediction of potential health impacts 2.2 Governance 2.3 Engagement <p>3. Assessment</p> <ul style="list-style-type: none"> 3.1 Description of health effects 3.2 Risk Assessment 3.3 Analysis of distribution of effects <p>4. Reporting</p> <ul style="list-style-type: none"> 4.1 Discussion of results 4.2 Recommendations 4.3 Communication and Layout
Summary of grading	<p>A: relevant tasks well performed, no important tasks left incomplete, only minor omissions or inadequacies.</p> <p>B: can be considered satisfactory despite omissions and/or inadequacies.</p> <p>C: parts well attempted but must, as a whole, be considered unsatisfactory because of omissions or inadequacies.</p> <p>D: not satisfactory, significant omissions or inadequacies, some important task(s) poorly done or not attempted.</p>

Context

This refers to the population profile, social, economic, environmental, political, and spatial backgrounds of the HIA and the factors to which the HIA process (on a macro level) was predisposed at the time of HIA reporting. It also consists of a site description, policy framework, and description of the project. This information is important for understanding the mechanisms that could have driven the HIA, the enablers and/or barriers to the process and the stakeholders involved. Providing a good degree of contextual information in an HIA report provides transparency for readers, and particularly for decision-makers, in order for them to understand the nature and the scope of the impacts on population groups, which in turn can inform decision-making processes.

Site description and policy framework

Most HIAs described the relationships between the funding source and those who were commissioned to undertake the HIA (85%, 47/55). The relationship of the project to other proposals occurring at the time was also well reported. Links were made between the proposal and relevant policies that underlay the HIA work and coincided with the partnerships made during the HIA process.

Description of project

Most HIAs described the aims and objectives of their respective projects well, although most failed to mention the breakdown of the project after its construction and implementation, e.g., the deconstruction of a project and the impact of that on a population. (This probably reflects differences among the types of projects the review was developed to address).

Public health profile

All HIAs included either local census data or public health profiles to assess potential impacts on local communities (67%, 37/55 included public health profiles). Most HIAs gathered population profile data and described these geographically from their respective census sources.

Management

The management domain refers to the structure and framework in which the HIA process was conducted. The management domain required the reviewer to identify the terms of reference, governance structure and level of engagement that those commissioned to conduct the HIA had with other stakeholders involved in the HIA process.

Identification and prediction of health impacts

The screening and scoping stages of the HIAs are generally done well. Most HIAs rely heavily on qualitative evidence as a basis of information. The impacts are often identified using evidence provided by people from the area affected. Quantitative evidence in regard to statistical analyses is poorly covered in the HIAs.

Governance

Most HIAs (76%, 42/55) were guided and scrutinised by a steering group with members identified and terms of reference included. Thirty-eight (69%) described a process for developing a common understanding of the scope of the HIA among stakeholders. Most HIAs noted constraints of time and resources and often included a limitations section or detailed them in the discussion section as issues to be considered in undertaking future HIAs (75%, 41/55).

Engagement

Most HIAs listed the core groups involved but did not explicitly specify an engagement strategy as required in the review package, i.e., they did not explicitly detail how stakeholder groups were sought after, meeting strategy (frequency of meetings) or the proactive inclusion of vulnerable groups and those socially isolated.

Most HIAs did not provide a documented basis for making future decisions and for confirming or developing a common understanding of the scope among stakeholders.

Assessment

The assessment domain refers to the process of analysing and predicting impacts whether they be on health or otherwise related (triple bottom line). This section requires that a 'good' HIA describe the methodology used in gaining this information, makes links between the proposal and outcomes through a causal pathway and provides a description of these impacts and distribution of impacts in the population.

Description of health effects

Most HIAs provided descriptions and assessments of the beneficial and adverse impacts of the proposal and these were presented in a systematic way (95%, 52/55). Little attention was paid to the temporal impacts of the proposal and how impacts may change during development, implementation and wind-down phases of the proposal. Causal pathways for impacts were rarely presented. Most HIAs did not include assessments of the severity, intensity, reversibility, magnitude or importance of the impacts.

A temporal analysis of the impacts, specifically, the

short-, mid- and long-term ones, and the identification of the different stages of a proposal (construction, operation and de-construction) were seldom mentioned. Causal pathways linking health effects were poorly mentioned in HIAs.

Risk assessment

Most HIAs described the potential health effects. The review package requires the reviewer to critique this by looking at a range of factors, e.g., severity, intensity, reversibility, magnitude and importance of an impact. Some HIAs rank and prioritise health impacts and also formulate recommendations based on these factors.

The review of relevant literature was of good quality and in some HIAs there was rigorous use of evidence from local and international studies and other credible sources of information, including peer-reviewed journals, interviews, information from the WHO and census data. Some HIAs refer to national and international standards and thresholds when assessing the significance of health impacts. However this varied from proposal to proposal.

In the majority of HIAs there was a lack of emphasis on the severity of impact/exposure, intensity, reversibility and duration of impacts. Most HIAs were qualitative, and certainty and use of statistics were poorly utilised. Only five HIA reports (9%) attempted to quantify health impacts.

Analysis of distribution of effects

The impacts on vulnerable groups were not only poorly addressed but also poorly defined, presenting limited or no evidence as to why the identified groups in the HIA are vulnerable. Equity issues were mentioned in 75% of the reports (41/55). Recommendations targeting differential impacts on population groups were noted in 84% of the reports (46/55). Differential impacts on vulnerable and disadvantaged groups were poorly dealt with in the assessment phase. Most HIAs also failed to link the community profile to the assessment.

Reporting

The reporting domain refers to the manner in which the discussion of results, outputs, influence of engagement on results and conclusions were reached in the HIA process. It also refers to the recommendations made for decision-makers to act on during implementation, as well as the communication of these findings and layout presentation.

Discussion of results

The description of how the engagement between different stakeholders influenced the HIA in terms of results, conclusions or approach taken was not explicitly detailed as per the review package. These issues may be deemed too in-depth and beyond the scope of

decision-makers to go through.

Reporting different options and scenarios for a proposal varied across all Australian and New Zealand HIAs: some explicitly described different alternative options to a proposal and some did not. The modifiability of an impact of a proposal was seldom mentioned in the HIAs.

Recommendations

Reporting of recommendations was an inclusion criterion for the study. All the HIAs provided a list of recommendations and summarised these in an executive summary.

The level of commitment of the project proponent to the recommendations and mitigation methods was infrequently mentioned, as were the differing perspectives of various stakeholders in arriving at recommendations. Reporting of differing options and alternatives to the proposal varied. Modifiability of impacts was also rarely addressed in the reports.

Across the board some HIAs provided a strategy to monitor future health effects using relevant indicators, but this was variable. Evaluation strategies for HIAs are also sparsely mentioned but the uptake of these depends on funding and resources.

Communication and layout

Most HIAs provided an executive summary; contents and tables page, reference page and were generally well presented (87%, 48/55). Little information was available on whether additional communications had been created for specific audiences, such as press releases or a short summary designed for high level decision-makers.

What did we learn?

Reading the HIA reports, using the review package domains as general guide, enabled broad agreement on the grading of the HIA in the two assessment processes. However there were a number of difficulties.

- Scores at domain level fell within a very narrow band, resulting in HIAs quickly becoming described as unsatisfactory.
- The assessment of quality was very subjective and the level of detail required to make an assessment often was not included in the report. Differences emerged in the ranking of questions within the domains, often due to lack of detail on the characteristics at the various levels within the reports and the subjective nature of the assessment.
- The assessors also felt that the final score given to the HIA did not always reflect their own assessment of its overall quality. For example, the point at which HIAs were ranked as unsatisfactory (parts are well attempted but must, as a whole, be considered unsatisfactory because of omissions or inadequacies) was seen as needing a more graded approach.

We addressed this by including a plus and minus ranking to each grading, again in recognition that these assessments were subjective and required a more subtle process.

Implications for policy, practice and research

Despite the limitations of the review package it did highlight a number of areas where existing reporting practice could be improved. These include:

- The distributional and/or equity impacts have to be routinely reported if HIA is to be promoted as a mechanism for addressing equity implications of policies and programs as has been suggested by the WHO Commission on the Social Determinants of Health.
- The need for greater attention to be given to the way stakeholders and communities are engaged in the assessment process and how this is reported.
- The need to address the limited use of quantitative data by developing an evidence base and workforce competence in using data that have strong predictive power to quantify potential impacts, and by training people in the use of best available evidence. It would be helpful to explore ways in which traditional processes of health risk assessment can be integrated into HIA and to build modelling capacity into HIA practitioner training and networks.

- The need for practitioners to face the challenges of gathering existing evidence and to synthesise evidence of impacts, making such evidence summaries widely available through existing web-based resources such as the HIA Gateway and HIA Connect.
- Developing greater understanding and presentation of causal pathways between the exposure and health outcomes would be helpful in strengthening HIAs.
- The need for greater clarity in reporting of the assessment stage. This includes how the assessment was carried out (e.g., how evidence was valued and assessed and limitations associated with this) and clearer description of identified impacts.
- The need to make linkages between recommendations and impact assessment more explicit. For example, Ross et al. documented the links between findings, recommendations, and subsequent impacts in the Atlanta Beltline HIA.¹²⁸
- The need for a clear stakeholder involvement and communication strategies before HIA is commenced.

Recommendations for review package for HIAs in Australia and New Zealand.

- Requires a question or criterion that prompts the reviewer to consider 'equity' considerations.
- Requires a section that prompts the reviewer to consider the type of HIA assessed, e.g., desktop, rapid or comprehensive. This could possibly be in addition to the context of the quality of the report and provide information about time and resource allocation.
- Some of the questions are complex and multi-faceted and could be broken down further.
- Additional question to address comprehensiveness of the consultation and whether these were from a wide range of groups and sectors.
- Although most HIAs were of sufficient quality, most also need to be more explicit and transparent in disclosing background information, e.g., include a detailed engagement strategy, provide information on methodologies used, context etc.
- Development of a standardised best practice HIA guide.
- Greater emphasis on causal pathways and triangulation of evidence.
- Vulnerable populations need to be defined in the HIAs and an attempt to include these groups in an HIA should be standard practice.

Conclusion

We have developed an understanding of the characteristics of HIA in New Zealand and Australia. We found:

- HIA has been used across Australia and New Zealand on a wide range of policies, programs and projects, suggesting that HIA methods have been found to be useful within the health sector and with many partner agencies, including community groups.
- some differences in practice between New Zealand and Australia.
- the majority of HIA reports are adequate.
- assessing the quality of HIA reports challenging, with the assessment of quality being very subjective and the level of detail required to make an assessment often not included in the report.
- assessing the quality of HIA reports does not necessarily correspond with the quality or effectiveness of the HIA itself and needs to be supplemented.
- HIA reports are time-specific and generally cannot report what happens following an HIA.

Phase two: Survey and interviews

What we did

- Information from 48 of the 55 HIAs identified in Phase 1 was collected using a survey and follow-up interviews.
 - ◊ We collected information about the context, process and outcomes of the HIAs.
- We assessed the effectiveness of HIAs according to the Wismar Framework.
- The focus of analysis was on effectiveness, characteristics, impacts and factors influencing effectiveness.

Information from 48 of the 55 HIAs identified in Phase 1 was collected using a survey and follow-up interviews.

What we found out

- Most HIAs have an influence on decision-making.
- HIAs are often carried out by inexperienced HIA practitioners and decision-makers.
- HIAs identify a range of health impacts and these impacts tend to be of moderate or greater severity
- We found that it is common for HIAs to be carried out on proposals where there is some controversy or opposition to the proposal.

Most HIAs have an influence on decision-making.

What did we learn?

- We found it difficult to categorise HIAs using a previously developed framework to measure effectiveness ('Wismar' Framework)
- We identified a need for a categorisation system that accounts for HIAs featuring different types of effectiveness (direct, indirect, opportunistic, low).
- We identified features of HIAs that influence effectiveness: community involvement, inter-sectoral work, direct involvement of the 'right people at the right level', time, timing and learning.

We identified a need for a categorisation system that accounts for HIAs featuring different types of effectiveness (direct, indirect, opportunistic, low).

Phase 2: Surveys and interviews

What we did

Collecting the information

A 29 item questionnaire was developed using a mix of open and closed questions (see "Appendix 4: Phase 2 Questionnaire (29 item)"). The purpose of the questionnaire was to obtain information about the impact of the HIAs on decision-making as well as relevant contextual information not typically found in the HIA reports. The questionnaire was divided into four sections: process, context, decision-making, and next steps, and was pilot-tested by members of the research team and two external HIA practitioners. The questions did not provide definitions of terms used, which meant that answers were self-defined by participants. For example, participants were asked whether there was controversy and/or opposition to the proposal being assessed. How they answered that question, and the level which they assigned to it (e.g., low, some, medium or high) will have depended on their interpretation of those terms. Participants were purposively identified using authorship information provided in the reports, as well as information from one of the investigators (BHR) who was involved in or had knowledge of a number of the HIAs.

One participant from each HIA completed the questionnaire. For most HIAs this person was an author of the HIA report and also led or was part of the HIA working group. Follow-up interviews were conducted to clarify answers. Where it was difficult to obtain completed questionnaires respondents were also offered the opportunity to complete the questionnaire by means of a telephone interview.

Of a total of 55 HIAs (see Phase 1, Figure 3) the questionnaire was completed for 48 participants (87%). We carried out 34 follow-up interviews which covered 42 of the HIAs. The interviews were carried out by either FH or HNC. The initial interviews (approximately six) were carried out by both researchers together, but the later interviews were conducted individually. Interviews were recorded, but not transcribed, and in addition notes were taken during the interviews.

A database was created for the results from the closed questions. Descriptive analysis was carried out using SPSS (SPSS Statistics 20). This information was used to classify the HIAs according to effectiveness based on the categories developed in the EU-funded 'The effectiveness of health impact assessment: scope and limitations of supporting decision-making in Europe' project (see Box 2).⁴⁸ HIAs were assigned to a category based on our interpretation of the category they most closely fitted. Where possible the categories were chosen on the basis of the responses we received to

the questionnaires and interviews. Where we were able to interview participants we asked them to categorise the HIAs or comment on our suggested categorisation. HIAs were categorised by the highest level of effectiveness they achieved. HIAs which showed evidence of directly influencing the proposal, even when these changes were relatively minor, were categorised as directly effective. For example, an HIA that had a recommendation accepted and implemented was categorised as directly effective even if most of the recommendations were ignored. It should be noted that HIAs that were classified as directly effective also may have demonstrated general effectiveness, opportunistic effectiveness and, for some elements of the HIA, no effectiveness. HIAs classified as 'opportunistic' using the Wismar framework were particularly difficult to identify. This is partly due to a lack of clarity around what this category includes. The decision to assign an HIA to the 'no effectiveness' category was usually made because a participant reported that the HIA was not effective. During the categorisation process we found that many HIAs would fit into most, if not all, categories.

What we found out

Context

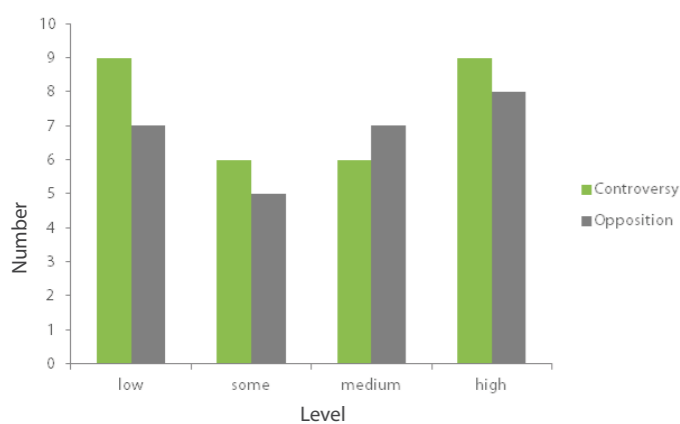
Most HIAs were carried out before or during the decision-making process (before 47% (21/45); during 40% (18/45). However four (9%) were completed afterwards and two (4%) were not intended to be timely.

A minority of HIAs (21%, 9/43) were carried out on a proposal that also had an Environmental Impact Assessment. Approximately half of the HIAs were carried out on a proposal where there was controversy or opposition (see Table 5). For example, in one HIA there was a significant controversy in the community and local political sphere about a proposal for new housing developments in a rural town. In another there was strong community opposition to the closing of local health services. Of those that were described as controversial there was a relatively even split between levels of controversy. Level of opposition to the proposal was similar to controversy, with almost half (12/27, 45%) of those who reported opposition saying their opposition was of some or medium level, compared with seven (26%) reporting low levels and eight (30%) reporting high levels (see Figure 4).

Table 5 Was there any controversy and/or opposition at the time of the HIA to the Policy, Plan or Project?

	Number of Responses n=45	Percent
Yes	26	58%
No	19	42%

Figure 4 Levels of controversy and opposition



Process

Almost half (44%, 21/48) of the HIAs were carried out by someone with no previous HIA experience. Interestingly, most decision-makers also had no prior HIA experience (81%, 38/47). This may be a reflection of the time frame in which we sampled. During this time frame both New Zealand and Australia had extensive HIA capacity-building projects in place and nearly half (48%, 23/48) were carried out in the context of these projects. More than half of the HIAs reported other groups or stakeholders making recommendations similar to those of the HIA (see Table 6), for example, some local community groups. Nearly all (96%, 44/46) of the decision-makers supported the HIA process. Examples of decision-maker support included attendance at meetings, provision of financial or in-kind support, and general 'supportiveness'; others reported mixed levels of supportiveness ("I think Council Managers liked getting the kudos for getting the funding. I think they disliked the results") or exceptions ("there was resistance as some people believed that they knew about and were already implicitly practising HIA"). This may have been because the majority of the HIAs in our sample were decision-support HIAs. Only two respondents reported that the decision-maker did not review the HIA report. In contrast, over half (68%, 30/44) of those who answered reported that decision-makers provided feedback about their decisions in relation to the HIA recommendations.

Table 6 Were there other groups/stakeholders making the same or similar recommendations as the HIA?

	Number of Responses n=42	Percent
Yes	25	60%
No	17	40%

Over 70% of the HIAs (35/47) had some form of community involvement. Of those, the most common form of involvement was in providing primary data for the assessment, followed by developing

recommendations, steering group participation) and contributing to the assessment, see Table 7. One quarter of HIAs involved the community in decision-making and prioritisation of impacts. A small number of respondents reported community involvement in the commissioning of the HIAs.

Table 7 Type of community involvement

	Number of Responses n=47	% of HIAs
Primary data	26	54%
Developing recommendations	23	49%
Steering group	20	42%
Doing assessment	20	42%
Prioritising impacts	14	27%
Decision-making	12	25%
Commissioning	7	15%

In most of the HIAs (36/44, 82%) the results were reported back to the community in some form. The most common format for this was either a report only (24%, 11/44) or a report combined with a presentation (71%, 33/44).

New Zealand and Australian HIAs differed from each other in the number of HIAs reporting community involvement: 84% (16/19) in New Zealand HIAs and 61% (17/28) in Australia. However, this difference was not statistically significant.

An impact evaluation has been carried out in 38% (18/48) of the HIAs and planned for a further three (6%). Process evaluations were reported to have been carried out in 44% (21/48) of the HIAs and were planned for a further 8% (4/48). Monitoring of recommendations was reported to have been carried out for 21% (10/48) of the HIAs but was reported to be ongoing with a further 13/48 (27%) of the HIAs, indicating that monitoring of recommendations occurs in approximately half of all HIAs.

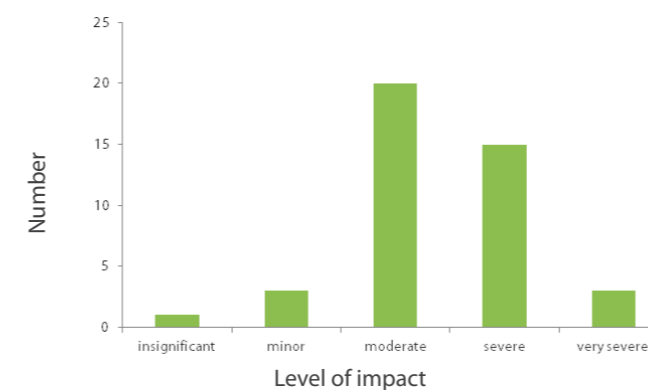
Impacts

In terms of the health impacts identified (see Table 8), just under half reported an even split between positive and negative. Where reported, the health impacts identified were usually a combination of physical, mental, and social health (91%, 41/45). On a scale of 1 to 5, 48% of HIAs described health impacts as moderate (20/42), 18/42 (43%) were described as severe or very severe and 10% (4/42) as having minor health impacts. One HIA was described as identifying insignificant health impacts.

Table 8 Nature of the impacts identified

	Number of Responses N=42	Percent
generally positive	15	36%
generally negative	9	21%
evenly split	18	43%

Figure 5 Rating of health impacts identified in HIA on a scale of 1-5 (N=42)



Most (89%, 40/45) reported that decision-makers showed heightened HIA awareness as a result of the process (i.e. raised awareness of the relationship between health and determinants of health and increased likelihood of consideration of health consequences in deliberation).

Forty-four (94%, 44/47) also believed that the HIA had made a difference. A large number of HIAs (80%, 35/44) were reported to have affected the decision. Twenty-nine respondents (60% of all HIAs and 91% of those who responded) reported HIA-related changes being made to decisions. No one reported a decision being revoked or postponed because of the HIA. Of those who reported that the HIA did affect decision-making 83% (33/40) reported that the HIA recommendations were easily incorporated into the planning process at the time. In 29% of the HIAs (14/36) it was reported that reasons were provided when recommendations were not followed. When asked to think about the changes that were made to decisions, just over 20% (10/43, 21%) reported that they were of the view that the same changes would have been made to the decision in the absence of the HIA.

Almost all HIAs showed some level of effectiveness (88%, 42/48) and a majority of HIAs were described as directly effective.

Table 9 Wismar effectiveness categorisation (N=47)

Direct effectiveness 31 (66%)	General effectiveness 11 (23%)
Opportunistic effectiveness 3 (6%)	No effectiveness 3 (6%)

After the effectiveness classification was made we revisited the data to carry out statistical tests to identify whether there were significant differences between HIAs classified as generally effective and those classified as directly effective in regards to the answers to the survey questions. We hypothesised that there would be differences between HIAs categorised as directly and generally effective and that these differences would be related to factors that influence effectiveness. We carried out tests (Pearson's chi Square; Fisher's Exact) using software STATA (Version 20) to see if there were significant differences between types of effectiveness and the answers given to the questionnaire. As only three HIAs were identified as having primarily no effectiveness and three as having opportunistic effectiveness, and because of the uncertainty and limitations of allocating the HIAs to these groups, we focused on identifying whether there were differences between direct and general effectiveness.

We found significant difference (<0.05) between direct and general effectiveness and:

Table 10 Community involvement in developing recommendations (Pearson's chi 0.012; Fisher's exact 0.028)

	Direct	General	Total
No	3	4	7
Yes	17	2	19
Total	20	6	26

Table 11 Community involvement as decision-makers (Pearson's chi 0.017; Fisher's exact 0.046)

	Direct	General	Total
No	7	6	13
Yes	9	0	9
Total	16	6	22

Table 12 Whether decision-makers provided information about their decision in relation to HIA recommendations (Pearson's chi 0.012; Fisher's exact 0.022)

	Direct	General	Total
No	6	7	13
Yes	22	4	26
Total	28	11	22

Table 13 Did decision-makers support process? (Pearson's chi 0.017; Fisher's exact 0.067 = not significant)

	Direct	General	Total
No	0	2	2
Yes	30	9	39
Total	30	11	41

Table 14 Were recommendations easily incorporated into decision-making process? (Pearson chi 0.005; Fisher's exact 0.016)

	Direct	General	Total
No	2	4	6
Yes	26	5	31
Total	28	9	37

What did we learn?

What did we learn about HIA in New Zealand and Australia?

It is common for HIAs to be carried out on proposals about which there is some controversy or to which there is opposition.

The HIAs tended to identify different types of health impacts (social, mental, physical) and a mix of positive and negative impacts. Almost all HIAs identified impacts that were of moderate severity or above. This suggests that screening and scoping of HIAs has been carried out effectively, with proposals and actions likely to have insignificant impacts being screened out.

A large proportion of HIAs were carried out by people with little or no previous HIA experience and we found that most decision-makers were unfamiliar with the HIA process. This may be because our sample was taken during a time when capacity-building projects were under way in both New Zealand and Australia. These inexperienced practitioners were often supported by the capacity-building projects. Most decision-makers were viewed as supporting the HIA process. This result may have been influenced by the type of HIAs in our sample, as almost all were decision-support HIAs.

What did we learn about how HIAs change decision-making and the implementation of recommendations?

Carrying out a survey and follow-up interviews provided us with valuable information about the context, process and outcomes of HIAs. We learned that HIAs are effective in influencing decision-making processes. They are often directly effective in that they result in changes to the proposals they assess.

They also led to other changes (general effectiveness) such as informing follow-on or related decisions and raising awareness among decision-makers of health impacts, determinants of health and the affect health of their sector.

We also learned that even when HIAs are reported to have no direct effect on a decision they are often still effective in influencing decision-making processes.

What did participants/stakeholders report following involvement in these health impact assessments?

We found that HIAs affect participants in several different ways. Most respondents (83%, 40/48) reported that decision-makers showed heightened HIA awareness after the process. This suggests that HIAs are having an effect on decision-makers as well as on decisions, which could result in longer-term influence and perhaps extend to future decisions. It was also reported that the HIA process enables relationships between stakeholders to be formed or strengthened. Again, this may influence the likelihood of other HIAs being conducted in the future. Learning about HIA, health/social determinants of health and the impact of their own sectors on health were also reported.

What did we learn about factors influencing the effectiveness of HIA?

We proposed that there may be differences between HIAs that were considered to be directly effective and those that exhibited indirect effectiveness. We carried out statistical tests to see whether there were significant differences between general and direct effectiveness in the way questions were answered. Most items were not significant. This may have been influenced by the relatively low numbers, the difficulty of assigning HIAs to their effectiveness categories, and even the validity of those categories. It may also be that there is no difference among these variables. For some questions related to affect decision-making we expected that there would be significant difference, since HIAs were assigned to these categories in part on the basis of answers to these questions. We did find some significant differences between direct and general effectiveness in terms of the answers

to some of the questions which were not related to characteristics of direct and indirect effectiveness. These were support of the HIA process by decision-makers, whether decision-makers provided information about their decisions in relation to the HIA, and whether recommendations were seen to be easily incorporated into the planning process. These findings seem plausible and were probably to be expected. Further examination may be needed in future studies of how decision-makers come to support the process. We also found some significant differences among HIAs reporting certain types of community involvement: the two types of effectiveness differed from each other, in whether there was community involvement in the steering group, in developing recommendations and involvement as decision-makers.

By carrying out a basic thematic analysis of our findings we identified some features of HIAs that appear to influence effectiveness.

- **Inter-sectoral work:** This refers to actions undertaken by more than one sector, possibly, but not necessarily, in collaboration with the health sector in the context of an HIA. Inter-sectoral work can incorporate horizontal (working across same level) and vertical (working across different levels) elements. This was identified in interviews as a strength of the HIA process. In particular, participants observed that through engaging in the HIA process different stakeholders/sectors were able to work together successfully in ways that they had not previously. In addition, some participants talked about benefits of intra-sectoral engagement in the HIA process, for example, when different organisations in the health sector work together.
- **Direct involvement:** The direct involvement of the 'right people at the right level' is often identified as an important factor in the success of HIAs. These are often described as people with responsibility for implementing recommendations and making decisions in response to the HIA. It is noteworthy that they are often not the top level decision-maker and may be middle or programme managers.
- **Timeliness:** Participants often talk about the importance of good timing in terms of enabling HIAs to be initiated and in terms of their ability to influence decisions.
- **Learning:** A common theme reported by participants is the learning that results from being involved in an HIA. This can include learning about the HIA process and technical skills needed to carry out HIA, concepts of health and determinants of health, causal pathways, and how different sectors work and can work together.

Examples of direct effectiveness

- An HIA of a grey water diversion system "influenced the location and the management of the grey water diversion system installed."
- A Community Education Project HIA "directly affected the way the project was implemented, and the recommendations to address equity issues were incorporated in the project plan... The HIA ensured that vulnerable groups were identified and that health messages and activities were adjusted to reach and include these groups where possible."

Examples of general effectiveness

- The HIA was a component in a continuous loop of evidence-based learning practice that we sought to build internally and value externally in order to change traditional practice... Gathering the evidence base was a powerful tool giving communities and councillors and staff a common understanding of the issues that required attention and an avenue to do this.
- Many of participants from non-health sectors were not aware of the potential impact that actions/policies in their sector may have on health in the context of climate change. Many were also not familiar with HIA.
- The Council would have had public health expertise in the Council to inform decisions and this would have been from a scientific, public health perspective. The HIA helped to consider other wider impacts such as the psychological impacts of green space. The HIA also helped to share knowledge in the organisation between the various stakeholders.

Examples of the impacts that participants/stakeholders reported following involvement in these health impact assessments

HIA provided decision-makers with a structured way of thinking about unintended consequences and gave them confidence to make clear recommendations.

Understanding links between environmental wellbeing and all of wellbeing enabled link to be made between wellbeing and council's core business.

It brought together people who would normally never get together – big guys in suits and local people.

"Before the HIA health was in the health sector – there was frustration and it needed relationship-building. HIA leads to health in all policies."

The HIA helped to consider other wider impacts such as the psychological impacts of green space. The HIA also helped to share knowledge in the organisation between various stakeholders.

What did we learn about assessing the effectiveness of HIA?

We found it difficult to assign the HIAs to the Wismar effectiveness categories. We found that our HIAs fitted in multiple categories, with different aspects of HIAs achieving different levels and types of effectiveness. Attempting to assign categories on the basis of ‘yes’ or ‘no’ led to somewhat arbitrary decisions that did not always reflect our overall understanding of the effectiveness of the project. This led us to develop a qualitative scale for these categories that would allow HIAs to be placed in multiple categories (i.e. allowing for an HIA to exhibit elements of direct, indirect, opportunistic and low effectiveness) as well as being rated in these categories. Table 15 presents initial working definitions of high, medium and low ratings for each category. We decided to test these levels and categorisation in the case study phase of the project.

Conclusion

We learned that most HIAs influence decision-making and identified some features of HIAs that may influence effectiveness: community involvement, inter-sectoral work, direct involvement of the ‘right people at the right level’, time, timing and learning.

In phase 3 we carried out 11 retrospective case studies with a purposive sample of HIAs. We did this to develop more in-depth understandings of how HIAs can influence decision-making, of stakeholders involved in HIA processes and of factors associated with enhanced or diminished effectiveness.

Examples of ‘unsuccessful’ HIAs still making a difference

- Example One*

An HIA of a Health Promotion Plan was reported to have had no direct impact: *“I think the HIA was buried. Since that time an ex-staff member on the team of decision-makers has told me that it was rejected because it made people accountable to their decisions!”* However when asked whether they thought the same changes would have been made without the HIA the same person responded negatively, saying that it *“Made people think about equity implications more - which was the purpose of the HIA”*. They also felt the HIA had made a difference; it *“Made it clear that the planning process was flawed and inequitable”*.
- Example Two*

A community-led HIA of plans to close local health services was also reported to have had no affect the actual decision. *“The health service seemed to proceed as a business-as-usual planning process, which infuriated the community to the point at which they reverted to sending letters to the minister condemning the health system. This almost sent everyone back to square one – us vs them. However the community did learn more about health and its determinants.”* Similarly to the previous example, however, when asked whether they thought the same changes would have been made without the HIA, they responded negatively, stating *“Because the HIA provided an opportunity for the community themselves to comment on the plan in their own language.”* It also appears that the HIA may have influenced the implementation of the decision *“Later iterations of the plan included some of the recommendations but the HIA was not acknowledged”*.

All quotes were sourced from someone with direct involvement in carrying out the HIA

Table 15 Working definitions of category ratings

	High	Medium	Low
Direct effectiveness	HIA that have high levels of direct effectiveness resulted in substantive changes to the decision or the decision being dropped OR postponed because of the HIA.	HIA that have medium levels of direct effectiveness resulted in some changes to the proposal. These changes may have applied to the implementation of the decision rather than to the decision itself.	These HIAs have resulted in minor or insignificant changes to the decision
General effectiveness	HIA with high levels of general effectiveness resulted in significantly increased levels of HIA awareness. They may have resulted in sectors working together in ways they had not previously and new relationships being built. These HIAs may not have directly affected the decision but may affect future decisions. They are likely to show a range of learning outcomes.	These HIAs have resulted in similar changes to high general effectiveness HIAs but at a lower level. Alternatively the HIA may have identified only insignificant impacts or impacts that don't require changes to the decision.	Low general effectiveness HIA shows some limited awareness of raising of either HIA or health impacts
Opportunistic effectiveness	The HIA had been carried out on a decision that was going to be made anyway and was already favourable to health, or had already been made but with the intention of providing support for that decision.	The HIA was carried out on a decision that was going to be made anyway or had already been made but was intended to influence other decisions or was carried out with another purpose, such as capacity-building or availability of funding.	The HIA was carried out on a decision that was going to be made anyway or had already been made but may have influenced the implementation of the decision.
Low effectiveness			HIA had either no or very limited affect.

3

Phase three: Case studies

What we did

- We developed and applied criteria to select the case studies.
- We selected a purposive sample of 11 HIAs.
- We carried out site visits and interviewed stakeholders for the case studies.
- Interviews were transcribed and coded against the conceptual framework, the four effectiveness factors identified in Phase 2, Wismar effectiveness categories, HIA stages and emerging themes.
- The focus of analysis was on effectiveness, conceptual framework, impacts and factors.

We selected a purposive sample of 11 HIAs and conducted 33 semi-structured interviews.

What we found out

- HIAs influence decision-making in a range of ways.
- We found it challenging to categorise HIAs into one of four effectiveness categories (direct, general, opportunistic, no effectiveness).
- We found HIAs usually fit into multiple categories.
- We found HIAs can even move between categories over time and depending on perspective.

HIAs change decision-making and implementation in a range of ways.

What did we learn?

- HIAs change decision-making and implementation of policies, program or projects.
- These changes can cover a broad range of activities (proximal and distal).
- Effectiveness is not a static concept. The types and strength of impacts can change over time and there are multiple perspectives which can also change.
- Stakeholders can hold varying views on the effectiveness of an HIA.
- Stakeholders can identify factors associated with increased and reduced effectiveness and a range of impacts following involvement in the HIA.

Effectiveness is not a static concept.

Phase 3: Case studies

What we did

In Phase 3 we carried out 11 multiple retrospective case studies with a purposive sample of HIAs identified in phases 1 and 2. We then coded interview transcripts against the conceptual framework, the four effectiveness factors identified in phase 3, Wismar effectiveness categories and HIA stages.

The purposes of the case studies were to:

- identify changes to decision-making (or lack of changes) associated with HIAs as well as the factors associated with enhanced or diminished effectiveness;
- to understand how equity was reflected in the reports and the process; and
- to collect data to test the conceptual framework in Phase 4.

Sampling

The case studies were carried out on a purposive sample of 11 HIAs that were selected using the following criteria:

- feasibility (ability and willingness to participate);
- representing a range of features based on the four identified factors (direct involvement, inter-sectoral, learning, timing);
- range of effectiveness as measured in phase 2; and
- mix of New Zealand and Australian case studies.

All HIAs from phase 2 were categorised by HNC and FH according to the criteria and the project team then selected the case studies. Originally 13 case studies were selected. We were unable to gather sufficient confirmation of participation to carry out two of the case studies. Two case studies (Goodooga and Christchurch) of the sample of 11 remain incomplete due to difficulties in carrying out the site visits. Fortunately the Christchurch case study has been extensively reported on and evaluated, resulting in a large amount of information about both the impacts and contextual factors being available.¹²⁹

We used a snowball sampling approach to selecting interviewees. The participants from phase two who completed the questionnaire and follow-up interview were contacted and asked to identify other potential interviewees. Where possible, interviews were carried out with a minimum of three stakeholders from each HIA. We attempted to have a mix of stakeholders from decision-making organisations, those carrying out the HIA and other key stakeholders. For some case studies FH then approached these potential participants

directly, or the initial contact contacted them on FHs behalf.

Data collection

We conducted thirty-three semi-structured interviews. Interviews were semi-structured to ensure coverage of identified areas of interest and to allow for new or emerging themes. A set of nine questions was used as the basis of the interview (see "Appendix 5: Phase 3 Interview questions"). If questions were answered without prompting they were generally not repeated. The length of interviews varied from 25-90 minutes. Participants were asked to 'tell the story of the HIA' and were then prompted to talk in more detail (where necessary) about the impacts of the HIA, the success of the HIA and factors affecting this, stakeholders working together, implementation, timing and learning. Data saturation (no new or relevant information or themes observed in the data) was discussed at project meetings and data continued to be collected and analysed even after an initial level of saturation was reached. For the case studies a site visit was made by FH, except for the Christchurch and Goodooga sites. Most interviews (n=30) were carried out face-to-face. Locations of interviews varied. Participants were asked to choose the locations for the interviews. In most cases this was either the office of the participant or a nearby café. The interviews were transcribed, except for two recordings of interviews that were of poor quality due to background noise. Four interviewees talked about more than one case study during the interview.

Analysis

Interviews were transcribed and analysed using NVivo qualitative data analysis software (QSR International Pty Ltd. Version 9, 2010). Content analysis of interview transcripts was carried out using both predetermined categories and allowance was made for ground-up identification of emerging themes. Interviews were coded against the conceptual framework, including the four factors identified in phase 2, effectiveness categories, HIA stages, and emerging themes. In addition, some coding of HIA documentation was carried out (HIA reports, evaluations, papers and documents supplied by interviewees). HIA reports were analysed for their equity content. This involved reading the HIA reports that focused on identifying references to equity and equity-related issues (e.g., differing impacts, vulnerable population groups and disaggregated data). For each summary of a case study a table was developed identifying how equity was considered in the process and substance for each step of the HIA. Analysis was also informed by the previous stages of the study (reviews of the HIAs and questionnaire responses). Data from the different methods were triangulated to develop an understanding of context, process and impact of the

HIA.

A one page summary of each HIA has been developed using the domains from the conceptual framework along with equity. The conceptual framework emphasises context, process and impacts as key domains in understanding and evaluating the effectiveness of an HIA. Each HIA has been categorised

according to level of effectiveness, the four factors and the consideration of equity in the assessment described. FH carried out the case study summaries, which were then reviewed by EH. The case studies summaries were then sent to a stakeholder from each HIA for comment and correction.

This primary analysis was then used in Phase 4 to test the conceptual framework.

Table 16 Case study characteristics

Year	Country	Name of HIA	Proposal	Type	Capacity Building Project	Policy, Plan, Program, Project (PPPP)	Depth	Sector
2006	Australia (NSW)	Bungendore Health Impact Assessment: A Rapid Health Impact Assessment of Two Development Scenarios in Bungendore, New South Wales ¹⁵	Local area development plan	Decision support	Yes	Plan: options	Rapid	Land-use
2006	Australia (NSW)	HIA of Greater Granville Regeneration Strategy ¹¹¹	City area development plan	Decision support	Yes	Plan: options	Rapid	Land-use
2006	New Zealand (Canterbury)	HIA Greater Christchurch Urban Development Strategy Options ¹²³	City area development plan	Decision support	No	Plan: options	Intermediate	Land-use
2007	Australia (NSW)	Bonnyrigg Living Communities Project Social Impact Assessment ⁶⁹	Local area development plan	Mandated	No	Project	Comprehensive	Housing
2008	Australia (NSW)	Health Impact Assessment Report of Lithgow City Council Strategic Plan 2007 ⁹⁷	Local government strategic plan	Decision support	No	Plan: options	Intermediate	Land-use
2008	Australia (VIC)	Leopold Strategic Footpath Network HIA ⁸⁸	Local area strategic footpath network	Decision support	No	Project	Intermediate	Land-use
2009	Australia (QLD)	An equity focused health impact assessment of alternative patterns of development of the Whitsunday Hinterland and Mackay Regional Plan, Australia ⁷³	Regional land use plan	Decision support	No	Plan: options	Rapid	Land-use
2009	Australia (NSW)	Equity Focussed Health Impact Assessment of the Review of Goodooga Health Service ⁷⁴	Health service review implementation plan	Community led	No	Plan: options	Intermediate	Health service
2009	New Zealand (Hawke's Bay)	HIA on Flaxmere Town Centre Urban Design Framework Proposal ⁷⁹	Local area development plan	Decision support	Yes	Plan: options	Desktop	Land-use
2009	New Zealand (Hawke's Bay)	HIA on implementation of Oral Health Strategy: Location of a community clinic in Flaxmere ⁸⁰	Local area implementation of oral health strategy	Decision support	Yes	Project	Intermediate	Health service
2009	New Zealand (Auckland)	Regional Land and Transport Strategy 2010 HIA ⁸²	Regional land transport strategy	Decision support	No	Policy	Comprehensive	Transportation

Case study summaries

Title	Bungendore Health Impact Assessment: A Rapid Health Impact Assessment of Two Development Scenarios in Bungendore, New South Wales ¹¹⁵																						
Profile	Year: 2006; Proposal: Local area development plan; Country: Australia (NSW); Sector: Land-use; Capacity Building: Yes; PPPP: Plan: options; Type: Decision Support; Depth: Rapid																						
Context	Bungendore is a rural village in Southern NSW. It is in commuting distance of Canberra and has a growing population. How this growth should be managed is a controversial issue in the community. The Greater Southern Area Health Service (GSAHS) and Council were actively looking for an opportunity to carry out an HIA in the context of the NSW Health Impact Assessment Project. CHETRE supported the HIA, which aimed to anticipate health impacts of the development scenarios and differing impacts amongst population groups in Bungendore and to take opportunities to maximise and minimise impacts. A main aim of the HIA was to develop and strengthen the relationship between the local area health services and the Council and to test the HIA methodology, particularly as a structured approach for assessing the links between health and urban development.																						
Process	The HIA was jointly managed by Palerang Council and Greater Southern Area Health Service, with support from CHETRE as part of a capacity-building project. A project team was created to undertake the HIA, comprising representatives from Palerang Council and GSAHS and observers from the NSW Department of Health and GSAHS. In addition, a project steering group supported the process. The decision-makers formally committed to the process. The HIA examined two development scenarios for Bungendore. There were three areas identified during scoping: physical activity, water supply and neighbourliness. The strategy that the HIA was intended to inform was still in development during and after the HIA process.																						
Impacts	An impact evaluation identified an alignment between HIA recommendations and local planning documents. One participant reported that this may have been opportunistic due to an association with existing knowledge and intentions. An explicit aim of the HIA was to foster the relationship between the local Council and health services. Interviews with key stakeholders suggested that, although the HIA process may have contributed to relationship building while it was being carried out, this had not resulted in significant long-term changes in the nature of the relationship beyond an understanding of the roles and key staff of the respective organisations. Some general effectiveness had been achieved though a steering group member who went on to become an HIA champion and has drawn attention to the issues raised by the HIA in council meetings.																						
Effectiveness																							
Direct	Recommendations from HIA are reflected in a discussion paper and Draft Community Development Plan, but it is unclear whether this was a result of the HIA.																						
General	Recommendations from HIA have been included in other local planning documents. Awareness-raising of HIA and health impacts. Directly affected some other projects (fluoridation, walking bus and bridge).																						
Opportunistic	HIA in line with best practice planning so may just have acted as support for decisions that would have been made anyway.																						
Low	Decision-maker unsure whether HIA had any effect on decisions.																						
Factors																							
Inter-sectoral	Inter-sectoral steering group. One of the main objectives of the HIA was for Council and health services to work directly together and build a relationship.																						
Decision-makers	Involvement of local councillor who could advocate for HIA recommendations. Involvement of planning and health sector stakeholders who could act on incorporating recommendations into decision-making processes but did not have overall power to make those decisions.																						
Timeliness	HIA was carried out in decision-making time frames but actual decision (strategy) was delayed. Time taken was longer than initially planned but this still fitted into decision-making cycle.																						
Learning	Technical learning about HIA and health impacts but reports of this were not new knowledge for some participants. Social learning between stakeholders but level has not been sustained.																						
Equity																							
Equity	The HIA aims at identifying "any differings amongst different groups in Bungendore". In the report there was only one mention of equity in the identification section and no mention of inequalities or identification of impacts on vulnerable groups.																						
<table border="1"> <thead> <tr> <th>HIA stage</th> <th>Assessment</th> <th>Process</th> </tr> </thead> <tbody> <tr> <td>1. Screening</td> <td></td> <td></td> </tr> <tr> <td>2. Scoping</td> <td>Aim of HIA to identify any differings amongst different groups in Bungendore.</td> <td></td> </tr> <tr> <td>3. Identification</td> <td>Equity mentioned in relation to social capital.</td> <td></td> </tr> <tr> <td>4. Assessment</td> <td></td> <td></td> </tr> <tr> <td>5. Decision-making & recommendations</td> <td></td> <td></td> </tr> <tr> <td>6. Evaluation & follow-up</td> <td></td> <td></td> </tr> </tbody> </table>			HIA stage	Assessment	Process	1. Screening			2. Scoping	Aim of HIA to identify any differings amongst different groups in Bungendore.		3. Identification	Equity mentioned in relation to social capital.		4. Assessment			5. Decision-making & recommendations			6. Evaluation & follow-up		
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Title	HIA Greater Christchurch Urban Development Strategy Options¹²³	
Profile	Year: 2006; Proposal: City area development plan; Country: New Zealand (Canterbury); Sector: Land-use; Capacity Building: No; Policy, Plan, Program, Project: Plan: options; Type: Decision Support; Depth: Intermediate	
Context	A strategic plan to manage urban development and population growth. The draft strategy contained three options for managing growth: concentration; consolidation and dispersal; and 'business as usual'. Population Health staff had undergone HIA training as part of a capacity-building programme. This coincided with the development of the Urban Development Strategy (UDS). They identified the UDS as a proposal suitable for an HIA. The HIA considered four options for growth and development. The HIA aimed to build capacity and partnerships, involve Maori, identify health impacts and develop recommendations.	
Process	The HIA involved screening and scoping, eight rapid appraisal workshops, including a Maori-focused one, literature reviews and summaries, and a summary meeting. The HIA working group contained two public health physicians from Canterbury District Health Board and two policy analysts from Christchurch City Council. The working group reported to a pre-existing committee which consisted of key stakeholders represented health, council and environment sectors. A concurrent process evaluation was carried out and followed up by an impact evaluation conducted by a public health physician contracted to the Canterbury District Health Board. ¹³¹ The results have been published in two peer-reviewed journals.	
Impacts	The HIA fulfilled its objectives. It showed direct effectiveness through inclusion of HIA recommendations and health considerations in the strategy. For example, a new section covering health and well-being was included in the strategy. General effectiveness was illustrated by improved cross-sectoral relationships, learning, joint funding for an HIA post, and further joint work between stakeholders. The Christchurch earthquakes have necessitated new strategies to deal with urban development.	
Effectiveness		
Direct	A total of 24 of the 32 recommendations of HIA were included in the final UDS. Seventeen were translated into action points in the final strategy, with attached responsibilities and timelines. However the extent to which HIA contributed to this is unclear. The majority of the HIA recommendations have been adopted by the Greater Christchurch Urban Development Forum. Health content of UDS improved after HIA. Inclusion of a new section in the final Strategy titled "Health and Well-being" authored by the HIA project leader. This section includes an explanation of Health's inclusion in the strategy. However health indicators, were not mentioned in Priority Action 13 where other similar indicators were located.	
General	Learning. Cross-sector relationships. Improved engagement and relationships with Maori. City council published a 4-page summary of HIA. Improved relationships have led to further joint work. Joint HIA position funded by Health and local government. Results widely disseminated and published.	
Opportunistic	Possibility that only recommendations supportive of current direction taken up.	
Low	Some recommendations not taken up. Absence of health in 20 Priority Actions of UDS.	
Factors		
Inter-sectoral	Joint collaborative work between Community and Public Health, District Health Board and Council.	
Decision-makers	Steering group may have involved people with responsibility and power to change but HIA working group did not. Evaluation indicated that leaders in HIA partner organisation needed greater 'conviction and enthusiasm' if HIA was to be more widely adopted.	
Timeliness	Good timing in that policy and HIA training coincided. HIA was able to fit into policy development process. However outbreak of Legionnaire's disease affected resources and timing.	
Learning	Impact and process evaluation indicates strong technical, conceptual and social learning.	
Equity		
Equity	The HIA was identified as having an explicit value system in which addressing health inequalities is seen as fundamental. The HIA made an explicit link between urban design and health inequalities.	
HIA stage		
1. Screening		
2. Scoping	Goal of HIA to provide information on reducing health inequalities. Goal: engagement with Maori (identified as experiencing poorest health status in New Zealand) essential component.	
3. Identification	Evidence identifying those most at risk for each issue from literature, workshops, local information.	Consultation with Maori: engagement with Maori as focus. Three Social Connectedness Workshops with involvement of 'high needs' groups.
4. Assessment	Identifies potential for urban regeneration to increase inequalities and presents challenge to achieve improvements for all society while enhancing position of poorest.	
5. Decision-making & recommendations	General recommendations for ensuring affordability and accessibility of options. Some specific recommendations for vulnerable groups.	
6. Evaluation & follow-up	However some limitations identified in process evaluation.	Identified good involvement from range of people.

Title	HIA of Greater Granville Regeneration Strategy¹¹¹	
Profile	Year: 2006; Proposal: City area development plan; Country: Australia (NSW) Sector: Land-use; Capacity Building: Yes; Policy, Plan, Program, Project: Plan: options; Type: Decision Support; Depth: Rapid	
Context	Granville is a suburb in Western Sydney with a high level of social housing stock in need of upgrading. In this context Housing NSW in partnership with the local council began developing plans for Granville's regeneration. Council and the local area health service, Sydney West Area Health Service (SWAHS), were also in the process of developing a partnership agreement. The local area health service was involved in an HIA capacity-building project. A staff member of the local area health service became aware of the partnership agreement between NSW Housing and the local council and their plans for regeneration, and identified an opportunity to carry out an HIA. Housing NSW, local governments and Area Health Services agreed to work together on an HIA, in collaboration with the local community. This was to be carried out as part of the NSW Health Impact Assessment Project.	
Process	A steering group involving the key stakeholders (Health, Council and Housing) as well as local community representatives, encompassing Aboriginal and multicultural communities, was established to oversee the HIA. A representative from SWAHS, Parramatta City Council and the Department of Housing each nominated an appropriate representative to attend the HIA training and conduct the HIA, and the HIA process was supported by CHETRE. The HIA was informed by seven consultation reports conducted by external consultants, a community profile and a literature review. During scoping for the HIA, Granville Council had a major policy change driven by political concerns, and subsequent media coverage, relating to proposed increases in housing densities. The HIA team shifted their original HIA focus of feeding into the regeneration strategy to targeting the major policy drivers of the major stakeholders, including the Parramatta City Council Residential Development Strategy (which fed into Council's Local Environment Plan) and the Department of Housing location-based Regeneration Methodologies (which applies to all of NSW).	
Impacts	During the HIA process the regeneration plans for Granville were halted after Stage 1 of the original nine-stage regeneration plan (partly due to local politics). This resulted in a refocusing of the HIA to inform future stages of regeneration planning. However, the HIA did result in changes to a local bus timetable (direct effectiveness) and informed future planning and policy processes of the key stakeholders (general) and was included as a reference document for tenders for the Granville Town Centre regeneration. The HIA also increased awareness amongst the non-health agency stakeholders about HIA, which was then a new tool in Australia. Participation in the Steering Committee led to Aboriginal community representation on the NSW Housing Tenants Committee. The HIA also provided experience and associated learning about HIA. Although the HIA did not have high levels of direct effectiveness it did affect future HIA work, providing the basis for a partnership between Housing and Population Health that is continuing. Both Housing NSW and Area Health Services have gone on to be involved in further HIAs and other collaborative work. This was probably the most significant impact of the HIA	
Effectiveness		
Direct	Nine-stage regeneration planning intended to be influenced by HIA did not go ahead. However recommendations developed for stakeholders with some take-up.	
General	Some social and technical learning. In particular raising HIA awareness. Has informed other planning decisions in the area. Used as a reference document. Since the HIA was conducted Parramatta Council has spent over \$13m on the regeneration of Granville Town Centre and Duck River Park, a place a enormous significance for the local Aboriginal community in the Granville /South Granville area	
Opportunistic	This was one of the first HIAs conducted in NSW. It segued the original direction of the HIA recommendations into the broader policy environment of the two major non-health stakeholders. The changed direction for the HIA recommendations made them more sustainable, achieving outcomes that could not have been achieved otherwise.	
Low	The original focus of the recommendations had to be changed.	
Factors		
Inter-sectoral	Inter-sectoral working group. Mixed perspectives on level of collaborative working. The Inter-sectoral group also had a project subcommittee made up of representatives of the major stakeholders. The project subcommittee reported both directly and via line management to the HIA steering committee.	
Decision-makers	Involvement in steering committee of people with power to influence decisions. Mixed level of involvement of members of steering group. Some actively involved others at a more passive/consultative level. Every member of the steering committee was contacted after each meeting by the project coordinator. Influences and concerns were often raised in these one-on-one conversations rather than in the larger steering committee meeting.	
Timeliness	Some recommendations were able to be acted on. Timing good in context of new partnership agreement between Housing and Council. Also carried out in context of capacity-building project.	
Learning	Technical learning and promotion about HIA as a valid tool – this was a main aim of the HIA. Learning about health and health impacts. Social learning between Health and Housing - this formed the basis for Housing to go on and form relationships with other health organisations.	
Equity		
Equity	The HIA process identified a significant Aboriginal population in the area, of whom the main stakeholders (Health, Housing and Council) did not previously have a high level of awareness. Representatives from this community became involved in the HIA steering group and have since gone on to be involved in other groups.	
HIA stage		
1. Screening	Identified relationship between proposal and 'equity population' in the area. Identified population groups potentially affected and gaps in data about other population groups at risk of inequity. Decided to use equity-focused HIA framework.	
2. Scoping	Relationship between health equity and regeneration driver for HIA.	Community and aboriginal representation on steering group.
3. Identification	Some evidence identified in literature.	
4. Assessment	Equal weight given to community consultation and intervention evidence. Health impacts on vulnerable population groups identified.	
5. Decision-making & recommendations		
6. Evaluation & follow-up		

Title	Bonnyrigg Living Communities Project Social Impact Assessment¹⁰⁹	
Profile	Year: 2007; Proposal: Local area development plan; Country: Australia (NSW) Sector: Housing; Capacity Building: No; PPPP: Project; Type: Mandated; Depth: Comprehensive	
Context	Bonnyrigg is a housing estate covering 81 hectares and is home to about 3,300 residents in 833 social housing properties and approximately 100 privately owned properties in Southwestern Sydney. Bonnyrigg Partnerships (a consortium between the Becton Property Group, Spotless Services Australia, St George Community Housing and Westpac Bank) were engaged by Housing NSW to redevelop the Bonnyrigg Public Housing Estate. It is a public-private partnership (PPP). The \$733 million redevelopment involves a mix of 2,332 private and social housing dwellings being rebuilt over 12 years and is expected to be completed by 2021. The redevelopment of the estate involves significantly increasing the housing density, transforming it from predominately social to a 70/30 split between social and private. The project is unique in that the developers are tied into it for 30 years, with ongoing service provision. This is seen to be a flagship project for the developers and other stakeholders. The local population expressed a high level of concern about the proposed development. The purpose of the social impact assessment (SIA) was to fulfil the requirements of relevant Heads of Considerations of the NSW Department of Planning's Environmental Assessment Requirements (EARs); specifically, those related to 'the likely social (including cultural) and economic impacts' and 'the public interest'. The SIA was intended to inform the conditions of consent. It was a mandated SIA (with strong health sector involvement).	
Process	The SIA was carried out by an experienced external consultant on behalf of Bonnyrigg Partnerships. An Economic Impact Assessment and an Environmental Impact Assessment of the proposal were also carried out. There was a strong emphasis on consulting local populations and identifying impacts on vulnerable groups. Information was fed into the planning process during the assessment. The SIA consultant reported to the PPP group, which in turn reported to a broader Council-based group and Housing NSW. As part of the condition of consent Bonnyrigg Partnerships must submit a yearly report on the implementation plan to Fairfield Council and Housing NSW. The SIA had a strong focus on health impacts and the council decided that a separate HIA was not required.	
Impacts	Bonnyrigg SIA showed a mix of general and direct effectiveness. The SIA fed into planning processes while they were happening. The project proponents reported that the SIA forms a framework against which they plan and report to. Recommendations from the SIA were incorporated into conditions of consent, but these were difficult to enforce and often, in themselves, relatively weak. Difficulties were reported in proposing and implementing actions to address health impacts that went beyond those contained in the planning application. In addition, yearly monitoring requirements appeared inadequate for ensuring implementation of recommendations. A recommendation to monitor the impact of the development on the population was been implemented. A substantial impact of the SIA was its role in providing an evidence base, framework and set of values which inform the project proponent's planning group.	
Effectiveness		
Direct	Recommendations integrated into conditions of consent for the planning proposal.	
General	SIA formed framework for future and related decisions. Acted as point of reference. Contributed to increased awareness of health impacts in key stakeholders.	
Opportunistic	Development expected to go ahead regardless of assessment. Recommendations generalised enough to fit existing intentions.	
Low	Risk that the conditions of consent won't be realised due to difficulties in enforcement. Monitoring and enforcement weak. Example of size of community facility being smaller than agreed. Identified gap in SIA around affect Aboriginal residents. Call for follow-up work ignored and families have been moved out. Reported compromises on take-up of recommendations.	
Factors		
Inter-sectoral	The assessment process had low levels of inter-sectoral work. Health stakeholders not directly involved. A broader range of stakeholders (Housing, Planning, proponents etc.) involved in reviewing and negotiating recommendations but not working directly together.	
Decision-makers	Limited involvement in process. Some commented on lack of direct involvement and difficulty in influencing recommendations and monitoring. Formal process of reporting and consulting with stakeholders in regulatory framework.	
Timeliness	Timely in terms of fitting into decision-making process. Also to be a unique and significant development (long-term tie in of proponents beyond construction) so seen as an opportunity to 'do things right'.	
Learning	Technical learning about potential health impacts, relationship between urban design, health and SIA process. Social learning informed by HIA forming basis for shared values and framework for working together. Learning about other stakeholders and how their organisations function.	
Equity		
Equity	Key stakeholders held contrasting views on issues of equity. The assessment focused closely on impacts on vulnerable groups and developed specific recommendations to address these in the report. The assessment also described the importance of equity in implementing the SIA, including the efforts made to engage with potentially vulnerable groups in order to identify potential impacts and recommendations. It identified a gap in equity analysis of impacts on aboriginal population. Overall, there was conflicting opinion on the extent to which health equity issues were being addressed.	
HIA stage	Assessment	Process
1. Screening		
2. Scoping		
3. Identification	Identified vulnerable groups in the area. Identified evidence relating to differing impacts.	Consultation with members of potentially vulnerable population groups (e.g., refugees, disability, older people, single parents).
4. Assessment	Identified potential impacts on vulnerable groups as major issue. Identified impacts on range of population groups e.g., differing impacts on affordability and disruption of community networks. Used case studies to illustrate potential impacts on vulnerable groups.	
5. Decision-making & recommendations	Adverse affects likely to be concentrated in areas with already highly disadvantaged groups. Highly vulnerable groups are bearing the burden for the 'greater good'. Specific recommendations to address impacts on health equity. Identified recommendations to address differing impacts, including recommendations for specific vulnerable groups. Also identified some impacts (residual) that are not easily mitigated.	
6. Evaluation & follow-up		Reported difficulty in enforcing equity related recommendations.

Title	Leopold Strategic Footpath Network HIA⁸⁸	
Profile	Year: 2008; Proposal: Local area strategic footpath network; Country: Australia (NSW) Sector: Land-use; Capacity Building: No; PPPP: Project; Type: Decision support; Depth: Intermediate	
Context	The Leopold Strategic Footpath Network (LSFN) was a design for a high-amenity footpath route taking people to community amenities, shops, services, and public transport stops, or key destinations. Leopold is a township approximately 10 kilometres east of Geelong of approximately 9000 residents. There was an identified need for a paradigm shift away from prioritising building of footpaths based on current pedestrian usage, to encouraging more walking as part of everyday life. An opportunity arose to bid for support to carry out an HIA in the context of an HIA capacity-building project (Victoria). The HIA was scoped to focus on the footpath and aimed to ensure the process was a learning one for all participants, and replicable in other environments and other decision-making processes.	
Process	A cross-disciplinary steering committee was formed from Health, Engineering, Road Safety and Social Planning, and included representatives from the City of Greater Geelong as well as other local councils and members of a Disability Advisory Group. A decision was made to work directly with those responsible for implementing recommendations (Department of Engineering). The process was led by a social planner and had the support of a senior engineer. The group had some initial training and ongoing support from an HIA capacity-building project. Evidence collection and collation processes were undertaken by the social planner, using a methodology incorporating peer review. Community members were included in public consultation processes through a community survey.	
Impacts	The HIA resulted in design changes to the strategy (direct effectiveness). In addition, the council was able to use the HIA as evidence/support in lobbying for additional funding. Before the HIA, the Department of Engineering had a low level of awareness of the relationship between footpaths and health. The HIA resulted in learning: in particular, there was a paradigm shift for some stakeholders (general effectiveness). In addition there has been a commitment to continue carrying out HIAs. It was seen to provide a legitimising mechanism for inter-sectoral work. There were clear rewards for being involved in the HIA process beyond implementation of its recommendations (e.g., presenting at conferences, publishing papers, positive publicity).	
Effectiveness		
Direct	Recommendations of HIA implemented.	
General	Raised HIA awareness of those involved and of the wider professional community through conference presentations and publications. Resulted in development of working relationship between engineering and social planning. Has informed future decisions and further HIA work. Used to lobby for funding.	
Opportunistic	The HIA focuses on implementing and supporting the footpath strategy.	
Low		
Factors		
Inter-sectoral	Broad group of professionals in steering group. Engineering and Social Planning worked collaboratively.	
Decision-makers	Worked directly with person responsible for making decisions about the proposal, including budget allocation.	
Timeliness	Timing good for influencing decision. Timing good in terms of capacity-building project being available to support HIA.	
Learning	Limited technical learning. Higher levels of conceptual and social learning. Redefining problem definition and strategies (e.g., what footpaths are for).	
Equity		
Equity	This was an equity-focused HIA. Footpaths were understood as a form of transport that can have significant impacts on vulnerable population groups, for example, by improving participation in physical activity and perception of safety in young people, physical activity and longevity of older people and, for those on low incomes, access to a free amenity promoting physical activity. Vulnerable groups that could benefit from a strategic footpath were identified. Specific recommendations to target those groups were not developed; however future footpath development should prioritise access to services so that footpaths provide free and accessible access to services.	
HIA stage	Assessment	Process
1. Screening	Screening led to decision to carry out equity-focused HIA. Identified potential impacts on different population groups.	
2. Scoping	Equity focus included in purpose of HIA. Identification of target groups. Context mentions that footpaths have particular affect those who are "less able, who have limited other transport choice, or feel less comfortable or safe when walking on unmade footpaths or on the road carriageway."	
3. Identification	Some evidence around differences in walking between population groups. Community survey carried out but data not disaggregated.	
4. Assessment	Identified equity impacts - potential benefits to particular disadvantaged groups - on the basis of greater need. Older people identified as growing group and likely to be disproportionately affected. Also, focus on 'transport poor'. Identified that 'at risk' groups would also benefit from positive health outcomes.	
5. Decision-making & recommendations	Recommendations are not equity focused: there is only mention of reviewing 'pedshed analysis' to ensure equity of access and a utilitarian approach to progressively developing footpaths prioritising developing footpaths that bring most benefit to most people. Prioritisation of those footpaths that provide access to services (e.g., from homes to shops and schools, from nursing homes to shops) is also recommended.	
6. Evaluation & follow-up	Monitoring and evaluation - no explicit equity focus.	

Title	Health Impact Assessment Report of Lithgow City Council Strategic Plan 2007⁸⁷	
Profile	Year: 2008; Proposal: Local government strategic plan; Country: Australia (NSW) Sector: Land-use; Capacity Building: No; PPPP: Plan: options; Type: Decision support; Depth: Intermediate	
Context	The Lithgow City Council Strategic Plan was the first long-term plan to be developed by Lithgow City Council in collaboration and consultation with the community and government. Before the strategic plan was developed the Sydney West Area Health Service (SWAHS) had been engaged in identifying and publicising population health data, which caused some interest in the local community. Lithgow Council has a history of limited engagement with public health issues. SWAHS identified the strategic plan as an opportunity to engage with the council to address some of these issues. A new General Manager was receptive to the proposal to carry out an HIA. The plan had already been finalised. The HIA aimed to develop recommendations to highlight practical ways to build on the potential positive health impacts of the strategies and to address gaps in the strategies that may increase health inequalities of the identified vulnerable groups.	
Process	A Steering Group was set up, consisting of a SWAHS project team, Lithgow City Council, Policy and Planning Managers and community representatives. The HIA was coordinated by an epidemiologist with no HIA experience and CHETRE; however, they did have the support of a senior manager with some HIA experience. The HIA involved a range of representatives from in health services who normally do not work closely together: officers from population health, epidemiology, health promotion, health service planning and environmental health. It was intended that the project group would work closely with a council representative but this did not happen. The process involved consulting with key informants and collecting literature-based evidence. There was no community engagement beyond steering group membership. Recommendations were developed for Lithgow Council and SWAHS.	
Impacts	According to Lithgow Council the HIA did not affect decision-making (no effectiveness). However the health service also made recommendations for itself, which were implemented where possible (limited direct effectiveness). The HIA identified some potentially significant health impacts. One impact related to a gap in the strategic plan which meant that one age group (young children) were not included. A second impact related to a potentially toxic land area. This was controversial and led to negotiations between SWAHS and Lithgow Council about placing this information in the report. It was included in the technical report but not in the executive summary. Although the report was approved by Lithgow Council and there was agreement to set up a Health Committee which would monitor recommendations this did not eventuate. A new general manager was appointed who did not engage with the HIA recommendations. Political sensitivities, lack of close relationships between stakeholders and changes in staff were identified as key factors impacting effectiveness.	
Effectiveness		
Direct	Health-related recommendations agreed to by health service.	
General	For council no clear impact. Health services report learning and relationship building.	
Opportunistic	HIA used as a reason for health to get involved in area and carry out certain activities.	
Low	No direct affect council plans. Have not acted on agreed recommendations.	
Factors		
Inter-sectoral	Strong intra-sectoral work in health. Different sectors involved in the steering group but in consultative rather than collaborative style.	
Decision-makers	Health sector had senior manager involvement that could influence implementation of health sector recommendations. Council resisted involvement in process. Perceived lack of commitment from upper/senior management.	
Timeliness	Retrospective; however was also intended to influence upcoming management and operational plans.	
Learning	Mainly technical learning and some social learning in health.	
Equity		
Equity	HIA aimed to identify and develop recommendations to address health inequalities. One of the major findings of the HIA was that a whole population group (children under five) was missing from the strategy.	
HIA stage	Assessment	Process
1. Screening		Community representative on steering group.
2. Scoping	Identified equity focus and target groups (only mention of equity): pregnant women; infants; children; youth; older residents; parents/carers of young children; socio-economically disadvantaged people; aboriginal and Torres Strait Islander people; people with disabilities; locationally-disadvantaged residents; people with difficulties communicating in English.	
3. Identification		
4. Assessment	Identified elements of strategy that affect equity. Identified groups that were not targeted/might have missed out on elements of strategic plan. Identified risk that health inequalities may be increased - in particular in investment in maternal health and in children in their early years: "It is considered that omissions in addressing the particular needs of the vulnerable groups may increase health inequalities. That is, the proposed strategies may increase the health of residents in general but the health of residents in the vulnerable groups may not be enhanced at the same level. In turn, this will increase inequalities in health of these vulnerable groups and the general population."	
5. Decision-making & recommendations	Recommendations to minimise/maximise effect on health inequalities. Priority recommendation – omission of 0-5 year olds from strategy	
6. Evaluation & follow-up		

Title	Equity Focused Health Impact Assessment of the Review of Goodooga Health Service⁷⁴	
Profile	Year: 2009; Proposal: Health service review implementation plan; Country: Australia (NSW) Sector: Health service; Capacity Building: No; PPPP: Plan: options; Type: Community led; Depth: Intermediate	
Context	The Aboriginal Lands Council on behalf of the Goodooga community approached the Centre for Health Equity Training Research and Evaluation (CHETRE) for advice about the health effects of Greater Western Area Health Service's (GWAHS) proposed changes to the Goodooga Health Service (GHS). Following a visit to Goodooga and a discussion at a community working party meeting, it was agreed that a community-led equity-focused health impact assessment would be carried out with support from CHETRE, to provide a structured process on which to base the community's response to proposed changes to GHS. There was a history of distrust between the health system and the community and there was a high level of concern in the community about the proposed changes. The HIA was intended to focus on equity and to specifically consider those 'at risk of falling through the gaps'.	
Process	The equity-focused HIA drew on data routinely collected by the health service, data the community collected themselves, and the national and international literature on service provision to rural and remote indigenous communities. Some of the community attended training in primary health care. Priority was given to evidence from the community. The community developed recommendations for the health service and for itself. There was no direct involvement of the health system in the assessment.	
Impacts	The review of GHS was presented to the Goodooga community and at this meeting GWAHS agreed that the recommendations from the impact assessment would be considered by the review team in order to inform the GHS implementation plan being developed. There was no evidence that the HIA affected the decision of the health service. The community set up its own health committee with the intention of implementing recommendations that they had developed for themselves, and to work more closely with the health service.	
Effectiveness		
Direct	GWAHS agreed that the recommendations from the impact assessment would be considered by the review team in order to inform the GHS implementation plan being developed; however no evidence of HIA influencing plan. Community set up Community Health Committee.	
General	Learning for members of the community involved in assessment. GWAHS report HIA informing understanding of local context and issues.	
Opportunistic	No evidence	
Low	The level of health services in Goodooga has been reduced.	
Factors		
Inter-sectoral	Carried out by the community without involvement of health services.	
Decision-makers	Decision-makers (health services) not directly involved. However community made recommendations for themselves as well which could be acted on independently of Health Services.	
Timeliness	HIA was carried out at a time when it could have informed the decision-making process. However decision-maker was not receptive.	
Learning	For the community members involved and for CHETRE, conceptual, technical and social learning.	
Equity		
Equity	The whole HIA focused on the health care needs of aboriginal people. Equity in the process was community-led. Emphasis on community input and evidence. Decision to prioritise community voice in the assessment.	
HIA stage	Assessment	Process
1. Screening		Community-led.
2. Scoping	Decided on equity-focused HIA. Decision to prioritise community evidence in the assessment.	Community-led.
3. Identification	For each issue groups who "fall through the gaps" were identified. This was often the whole community. Evidence around health services' affect aboriginal and remote communities. Profile evidence identified vulnerabilities in community and relative position of the community.	Community-led.
4. Assessment	Used equity lens to assess impacts. Prioritisation of community evidence.	Community-led.
5. Decision-making & recommendations	Equity focus. Specific population groups identified and recommendations developed.	Community-led. Community identification and assessment workshops were carried out and discussions were written up and door-dropped to each household in Goodooga asking for their response. These responses have been collated and incorporated into this final report.
6. Evaluation & follow-up	Community decided to set up a Community Health Council as a representative of the broader community to oversee this ongoing work and to work with area health service.	Community-led.

Title	An Equity Focused Health Impact Assessment of Alternative Patterns of Development of the Whitsunday Hinterland and Mackay Regional Plan (WHAM), Australia⁷³		
Profile	Year: 2009; Proposal: Regional land use plan; Country: Australia (NSW) Sector: Health service; Capacity Building: No; PPPP: Plan: options; Type: Decision support; Depth: Rapid		
Context	The WHAM Regional Plan is a strategic document to guide the development of the region over a 20-year period. The WHAM was a non-statutory plan that required development and implementation through a collaborative approach from the community, business, industry and all levels of government. The (then) Population Health Services of Queensland Health were looking for an opportunity to do an HIA in the context of a capacity-building project. The project group (Public Health, Department of Infrastructure and Planning (DIP) and Department of Communities) attended HIA workshop training provided by CHETRE and brought the plan along as their case study. During the workshop this group 'screened' the WHAM Plan's alternative patterns of development and decided an HIA should be carried out. The HIA was commissioned by the decision-maker (DIP) and was carried out as an in-house project. The HIA considered five growth scenarios and aimed to assess differing impacts between different groups or populations in the region, whether benefits/costs may be experienced to a greater extent by one group and not others, and what actions might be taken to maximise positive and mitigate negative health impacts.		
Process	The project group agreed an equity-focused HIA, focusing on local information and knowledge, was the preferred model. The identification stage involved developing a community/population profile and collecting relevant regional data. This stage was conducted in consultation with the existing Social Sector Reference Group (a committee that informs and influences the implementation and monitoring of the WHAM Regional Plan strategies relating to Social Infrastructure). The HIA focused on three areas: safe communities (road safety and crime), physical activity (commuting time and methods, access to recreational facilities), and social cohesion (access to community facilities, connectedness/networks in communities). A matrix which the members of the HIA project group completed together was used as a tool in the assessment phase and impacts were rated using a traffic light system. The HIA was carried out during 2008 and 2009 and the Regional Plan (now statutory, and called Mackay, Isaac and Whitsunday Regional Plan) was published in February 2012. The planning and consultation process for the Plan drew directly on the HIA. Carrying out the HIA has led to a stronger relationship between the main stakeholders and they have continued working together. This was one of the first HIAs completed for Queensland Health, which went on to invest in HIA capacity-building. This HIA is a good example of inter-sectoral work directly involving the 'right people/right level' which affected decision-making, contributed to relationship-building between stakeholders, and achieved significant technical, conceptual and social learnings.		
Impacts			
Effectiveness			
Direct	HIA utilised in discussion paper for Regional Plan and has also influenced content of Plan.		
General	Increased HIA awareness. Consolidated relationships between stakeholders. Used as information source for other processes. Learning.		
Opportunistic			
Low			
Factors			
Inter-sectoral	Stakeholders worked collaboratively.		
Decision-makers	Direct involvement of senior managers who could influence take-up of recommendations (although not decision-makers themselves).		
Timeliness	Was able to influence decision-making process. Carried out in context of capacity-building project. Took longer than planned but was still able to influence process.		
Learning	High levels of learning. HIA process was able to accommodate high levels of complexity.		
Equity			
Equity	Eight population groups were identified against which impacts were systematically assessed. Equity-focused recommendations were developed.		
	HIA stage	Assessment	Process
	1. Screening	Decision to carry out EFHIA.	Commitment to equity among stakeholders.
	2. Scoping	Equity identified as value underpinning the HIA. Aim of assessing differing impacts, benefits/costs to different groups. Locally relevant vulnerable groups identified.	Decision to value both research evidence and lived experiences.
	3. Identification	Profile identified potential groups affected by proposal.	
	4. Assessment	Equity decisions were made against each determinant and community by asking whether any of the eight population groups would experience differing impacts that were avoidable, unfair or could be mitigated. Assessment of fairness.	Workshops involving social sector workers and social planners across the region.
	5. Decision-making & recommendations	Equity-focused recommendations.	
	6. Evaluation & follow-up		

Title	HIA on Implementation of Oral Health Strategy: Location of a Community Clinic in Flaxmere⁸⁰		
Profile	Year: 2009; Proposal: Local area implementation of oral health strategy; Country: New Zealand (Hawke's Bay) Sector: Health service; Capacity Building: Yes; PPPP: Project; Type: Decision support; Depth: Intermediate		
Context	Flaxmere is a suburb of Hastings in the North island of New Zealand (population: 9,800; high deprivation index; significant health issues). This HIA was one of several being carried out in the Hawkes Bay Area with the aim of building capacity as well as performing HIA. As part of this program an internal (health services) HIA was being sought. The Oral Health Strategy was chosen after another HIA proved unviable. The strategy was part of a nationwide upgrade of community-based oral health facilities to support the delivery of child and adolescent oral health services. The scoping stage identified that there was limited capacity to influence decisions on the planning of health services, as the proposed service model had already been endorsed by the Ministry of Health's Oral Health Services Technical Group and funding had been provided to develop and implement it. However the decision was taken to proceed with the HIA because the opportunity existed to influence its implementation in particular the location of the Community Clinic. It was reported that there had been limited community consultation on the Oral Health Strategy up until that point in time. The HIA aimed to identify positive and negative health impacts of implementing the strategy in Flaxmere. The HIA's objectives also included engaging with stakeholders and community, finding evidence in the literature and assisting implementation of the strategy so as to reduce health inequalities and maintain or improve access and quality of services.		
Process	This HIA had a strong focus on including the perspectives of the community and other stakeholders potentially affected by the decision on the location of the clinic. The HIA was carried out concurrently with a number of HIAs. Some stakeholder workshops were split to consider this HIA and another. The HIA process took longer than originally planned. One stakeholder reported being a reluctant participant, feeling that they had no choice about whether the HIA would be carried out and being concerned that the HIA would recommend changes that were beyond their personal scope of influence. However, by the end of the process they had come to support the concept of HIA, were satisfied with the result and could see its benefit. Another stakeholder expressed reservations about the quality of some of the evidence but acknowledged that this did not negatively influence the quality of the HIA recommendations.		
Impacts	This HIA showed direct effectiveness through the acceptance of recommendations by the Oral Health Steering Group. It influenced the change in location of the clinic, from a school to the community. The scope of the HIA's impact was limited by its timing (happening after key decisions had been made). For example, it was unable to influence the contents of the strategy.		
Effectiveness			
Direct	All recommendations were accepted by the Oral Health Steering Group. Influenced choice of location for clinic.		
General	Heightened HIA awareness. Learning about HIA process and views of affected populations. HIA provided evidence-base for informing decisions.		
Opportunistic	Decision had already been made to have the service so could only influence limited aspects. HIA endorsed the model of care already selected.		
Low	Limited scope to change decision. Some stakeholders viewed HIA as superfluous.		
Factors			
Inter-sectoral	Carried out in the health sector but with broad consultation.		
Decision-makers	Direct (albeit reluctant) involvement of project manager.		
Timeliness	Carried out after decision as to model of care already made, so limited scope.		
Learning	Technical learning about HIA and some conceptual learning.		
Equity			
Equity	Equity was embedded in both the process and the assessment stage. In the HIA process the HIA team worked closely with local representatives and engaged with the local community and key stakeholders. Impacts on equity were assessed and recommendations addressing these impacts developed.		
	HIA stage	Assessment	Process
	1. Screening		Engaged with local community. Culturally appropriate
	2. Scoping	Objective - to assist oral health strategy for reducing oral health inequalities. Identified population groups of interest : Whanau and children.	
	3. Identification	Community profile. Evidence from literature.	Interviews and workshops with community. Culturally appropriate process.
	4. Assessment	Identified inequitable distribution of health outcomes between Maori and non-Maori. Identified that improved access may not be enough in itself to reduce inequalities. Identified different locations' potential impacts on equity for target groups.Cultural appropriateness	Mixed stakeholder appraisal workshop.
	5. Decision-making & recommendations	Recommendations not specifically referring to equity, but related to evidence on equity/dental health. E.g., need for more than access alone.	
	6. Evaluation & follow-up	Evaluation found that equity had been adequately considered.	

Title	HIA on Flaxmere Town Centre Urban Design Framework Proposal⁷⁹		
Profile	Year: 2009; Proposal: Local area development plan; Country: New Zealand (Hawke's Bay) Sector: Land-use; Capacity Building: Yes; PPPP: Plan:options; Type: Decision support; Depth: Desktop		
Context	Flaxmere town centre was developed in the 1970s as a privately owned area of several small commercial premises including a supermarket, post shop and health service providers. Flaxmere has a high deprivation index and its residents experience significant health issues. An urban design framework for the Flaxmere town centre was commissioned by Hastings District Council. Around the same time a presentation about HIA was given to staff at the Hastings District Council by the Hawke's Bay District Health Board (DHB) in the context of a capacity-building project. This resulted in an agreement with the DHB to undertake an HIA of the Flaxmere Urban Design Framework. The HIA was funded by the capacity-building project. During this time the Flaxmere Town Centre had a change of ownership when it was sold to a Hong Kong business corporation, resulting in delays to the urban design framework. The HIA focused on the overall concept for development rather than on detailed options that were being developed. As well as identifying health impacts of the proposed changes to urban design and recommendations, the HIA aimed to build capacity, raise awareness and enhance working in partnership between the DHB and the council. The participants did not have a history of working together.		
Process	The Hawke's Bay District Health Board undertook the HIA in partnership with the Hastings District Council. It was carried out concurrently with other HIAs in the Hawke's Bay area. A literature review and a number of targeted consultation workshops involving community representatives, relevant organisations, other target groups and the Hastings District Council were carried out. Participatory processes were emphasised. The HIA team worked closely with a key community leader who facilitated the engagement process.		
Impacts	The HIA broadly supported the health impacts of the proposal and showed some opportunistic effectiveness through endorsing the project. Some recommendations were challenging to operationalise due to planning restrictions (e.g., banning fast food outlets, restrictions on the sale of alcohol). HDC endorsed the recommendations. Stakeholders directly involved in the HIA took ownership of it. Additionally, the HIA is now used as a reference tool and potentially influences other decisions. Participants commented on learning and awareness-raising brought about by both HIA and health impacts.		
Effectiveness			
Direct	Recommendations endorsed by council. Some recommendations needed to be adapted to fit regulatory planning context.		
General	Raised HIA awareness and awareness of social determinants of health and equity. Used as a reference document for further decision-making: "if in doubt pull the HIA out". Enhanced partnership between HDC and DHB.		
Opportunistic	HIA endorsed the planning/urban design framework.		
Low			
Factors			
Inter-sectoral	Health, community and council. Working in partnership - shared ownership. Reported feeling of ownership by stakeholders.		
Decision-makers	Direct involvement of planner who could present results to council.		
Timeliness	Had to be adapted to fit into decision-making process hence HIA took significantly longer than originally planned.		
Learning	Technical, social and conceptual: "it's a bit like the treaty of Waitangi, HIA, the more you learn the angrier you get".		
Equity			
Equity	Equity was embedded in the process as well as in the assessment stage. In the HIA process the HIA team worked closely with local representatives and engaged with the local community and key stakeholders. Impacts on equity were systematically assessed against identified population groups.		
	HIA stage	Assessment	Process
	1. Screening	Focus on identifying impacts on Maori and Whanau and potential of plan to affect health inequalities.	Engaging from beginning with local community. Cultural appropriateness.
	2. Scoping	Objective of contributing to increased awareness about public health, equity and inequalities. Identified population groups of interest: Pacific families, Maori youth, Elderly.	Scoping involved community stakeholders.
	3. Identification	For each area (e.g., transport) identified differing impacts/evidence related to specific population groups. Health equity impacts identified.	Consultation and engagement with local community and affected populations. Culturally appropriate process.
	4. Assessment	Particular focus on Maori - e.g., landscape design, Maori and crime. Identified issue of differing impacts of economic development - winners and losers.	
	5. Decision-making & recommendations	Recommendations are not equity- targeted.	
	6. Evaluation & follow-up	Evaluation found that HIA was helpful in raising awareness of the links between public health and equity issues, and between urban design and health and wellbeing.	

Title	Regional Land and Transport Strategy 2010 HIA⁸²		
Profile	Year: 2009; Proposal: Regional land transport strategy; Country: New Zealand (Auckland) Sector: Transportation; Capacity Building: No; PPPP: Policy; Project; Type: Decision support; Depth: Comprehensive		
Context	The Auckland Regional Land Transport Strategy (ARLTS) outlines the region's land transport system requirements to ensure an integrated, safe, responsive and sustainable transport system for the next 30 years. The ARLTS provides the framework in which the funding for the region's transport is invested. The HIA was carried out by a consultant selected through a competitive tendering process. The HIA was carried out during the development pre-consultation phase of the Strategy. The HIA was jointly commissioned by Auckland Regional Council and the Auckland Regional Public Health Service. It aimed to identify the potential impacts of the 2009 Auckland Regional Land Transport Strategy (ARLTS), and the potential approaches that could create a transport system that promotes and protects the health of all Aucklanders more effectively than it already did.		
Process	The HIA was consultant-led and consisted of a team including expertise in public health, Maori health, and epidemiology. The HIA included stakeholder consultation with a wide range of organisations and groups, as well as including a Whanau Ora consultation, reviews of literature and quantitative impact modelling. It focused on safety, access and mobility, active modes of transport, and emissions and noise and considered four overarching strategic directions. The HIA was incorporated into the final strategy as a technical report.		
Impacts	The HIA had some limited effect on decision-making; however it tended to be opportunistic, as decision-makers appeared to take on board recommendations that supported their current direction and ignored those that challenged it. The HIA demonstrated general effectiveness in raising awareness of HIA and health impacts and contributing to the development of inter-sectoral relationships. Within two years of this HIA's completion Auckland's seven local authorities were amalgamated into a single Auckland Council. This significant change may constrain some of the longer term impacts of the HIA.		
Effectiveness			
Direct	Unclear whether any direct changes to strategy. Some changes to strategy to better reflect health impacts.		
General	Informed decision-making and informed follow-on strategy. Engaged decision-makers. Awareness raising and inter-sectoral dialogue. Formally endorsed by Regional Transport Committee.		
Opportunistic	HIA recommendations supporting the strategy taken up.		
Low	Recommendations challenging the strategy not taken up.		
Factors			
Inter-sectoral	Multi-disciplinary team involving different health sectors (environmental, Maori, epidemiology). Consultant-led HIA.		
Decision-makers	HIA carried out by consultant. Direct involvement of proponents (Transport) however not high - unable to make decisions.		
Timeliness	Fitted in with decision-making process. However restructuring after the process and a change in national political direction is likely to have negatively affected sustainability of impact.		
Learning	Technical learning about health impacts - relationship between transport and health. Some social learning between health and transport. Some conceptual learning about system levels.		
Equity			
Equity	HIA focused on health equity throughout the process. The process included a Whanau Ora HIA. Interestingly, the Whanau Ora workshop identified as an impact Maori representation in transport strategy decision-making, which was seen as a key determinant of ensuring Maori health and wellbeing aspirations and impacts were addressed. For each theme impacts on vulnerable groups were identified and strategies for addressing impacts developed.		
	HIA stage	Assessment	Process
	1. Screening	No formal screening process. However in deciding to carry out impact assessment on RLTS, HIA was identified as a way of providing understanding of impacts of RLTS on health inequalities.	
	2. Scoping	Identified relationship between transport and health equity. Identified consideration of vulnerable users as part of scope. Identified Maori as key population group. Other population groups also identified.	
	3. Identification	Evidence on relationship between transport and equity. Workshops included questions on identifying vulnerable groups and for each theme identified issues and strategies for vulnerable populations. Profile identified vulnerable groups.	Whanau Ora workshops identified equity impacts. Workshops included stakeholders from vulnerable groups.
	4. Assessment	Workshops included assessment of equity impacts.	Workshops involving affected population groups.
	5. Decision-making & recommendations	A key recommendation was to make the transport system work effectively for most vulnerable populations; system will then work for all. Ensuring public transport equitably distributed across region.	
	6. Evaluation & follow-up		

What we found out

This initial analysis indicates that all the case study HIAs influence decision-making in a range of ways. We also learned that effectiveness is not a static concept. Effectiveness can change over time and levels and types of effectiveness can be perceived quite differently by stakeholders. We tried to categorise HIAs into one of four effectiveness categories (direct, general, opportunistic, no effective). This did not work as HIAs usually fit into multiple categories. For example, while the Lithgow case study demonstrated direct effectiveness in changes made by the area health service in response to the HIA, general effectiveness was also shown in the learning that was reported (e.g., identifying gaps in the strategy): opportunistic effectiveness through use of the HIA to support actions already identified by the health services; and low effectiveness through Lithgow Council's resolving only to receive and note the document and require no further action. HIAs can even move between categories over time and depending on perspective. We amended the Wismar framework to incorporate a description of how the HIAs fitted into the four categories of effectiveness.

What did we learn about changes to decision-making and implementation?

All our case studies resulted in impacts on decisions; however, these may not be the decisions that were the original focuses of the HIA. Impacts of HIA and corresponding effectiveness can change over time. For example, an HIA may have limited impact on the proposal it may have been intended to influence but then go on to affect subsequent decisions. Alternatively some HIAs may initially appear to have had a direct impact on a decision but then fail to be implemented adequately. For example, in one HIA the recommendations were incorporated into conditions of consent, but difficulty in ensuring that these conditions were adequately fulfilled was reported. The case studies also highlighted that different stakeholders will hold different views on effectiveness. It was often difficult to identify direct effectiveness because there may have been multiple sources of influence on the decision-making process. Almost all of the case studies reported that other groups or stakeholders were making the same or similar recommendations. It can be difficult even for the decision-makers to identify whether an HIA caused a change or whether other factors were responsible. For example, in some HIAs it was reported that the recommendations reflected good planning practice and the decision-makers were unsure whether they influenced decisions or not.

Examples of changes to decision-making

- **Decisions being changed as a result of HIAs.** For example, an HIA resulted in the location of the proposal being changed from school- to community-based.
- **Changes to decisions or agreement to recommendations during HIA process.** In some HIAs (for example Lithgow, Flaxmere Urban and Leopold) the decision-makers were involved in reviewing or developing recommendations and agreed to implement recommendations during the HIA process.

- **Integrating elements of the HIA into the proposal.** For example, one HIA was used to inform discussion papers for the planning process and stakeholders were also given the opportunity to comment on initial drafts of the HIA during the process. When the proposal was released it included elements of the HIA in it.

...we saw drafts on the way through as well and to be able to comment on too so the HIA helped inform those as well... (Decision maker)

- **HIA being used to enforce agreement.** For example, recommendations became part of the conditions of consent that could be referred to when disagreements arose.

So that's, you know, that's important really that that's there as a tool for council to monitor and enforce the conditions that were placed on that development. (Decision maker)

- **HIA reports being used as a point of reference against which to judge a proposal.** For example, one HIA served as a baseline assessment and framework against which progress was judged. Another HIA was reported to provide a useful reference point for informing planning decisions relating to the area and was described as a "living document".

In terms of its importance to guide and inform what we do, it's been a critical document in that process. In terms of providing us an ability to reflect in you know three, five, seven, 10 years time, yes, it will become a key point of reference that we can go back to measure. (Proponent)

In a report that I've written for Council next week, I have referred to the HIA a number of times. (Decision maker, Steering group member)

- **HIAs being used as part of decision-making process.** In these cases it can be difficult to determine what influence they have had on the decision as they have been one of many documents considered.

- **HIAs being adopted in principle but their recommendations needing amendment in order to be enforceable/implementable.** For example all the recommendations of one HIA were adopted in principle but were then found to be hard to implement. In another the wording of conditions of consent needed to be negotiated and adapted to fit planning rules, resulting in weakening of the recommendations.

- **HIAs providing a framework for decision-making.** For example, an HIA was reported by the project proponents to provide an overall framework that then influenced specific elements of the planning and implementation process. There appeared to be some risk that this might result in weaker actions than those originally intended.

Examples of opportunistic effectiveness

- **HIAs carried out with the intention that they should support a decision.** HIAs were sometimes initiated with the purpose of supporting a proposal. The focus of the HIAs was then on maximising the potential positive health impacts of the decision and to identify any potential negatives. In another example the decision to approve the proposal was seen to be a foregone conclusion so the HIA focused on what could be influenced, which was the design and implementation process.

...the government had made up its mind it was going to... It was determined to do that... whether or not it supported the redevelopment or the renewal is one question but the issue was how could we make it the best we possibly could for residents of that area. (Part of HIA Working Group)

- **Opportunistic effectiveness in take-up of recommendations supportive of the proposal.** For example, in one HIA, recommendations espousing the direction the decision-makers were intending to take were supported and other more challenging recommendations ignored.

And when an actual strategy came out, I looked at it and thought, well, they picked up the ones that kind of validated that at the direction they were already taking, but anything that was sort of not anything, but a lot of the things that were a bit outside the frame that they were working at, and that were a bit more challenging for them to think about how we might operationalise, just dropped. (Part of HIA Working Group)

- **HIA as a way of achieving something a stakeholder has already identified as an aim.** For example, in one HIA it was reported that one of the drivers for initiating the HIA was to achieve changes already planned.

Now can you say was it just the HIA or would have we done some of these things? I'm going to have to be honest here. Some of those things we used the HIA to do something we wanted to. All right, so it helped us. I still think it helped us. (Decision Maker)

Examples of low effectiveness

- **Recommendations not accepted or ignored.** In some cases HIA recommendations or reports were reported to have been accepted but the recommendations were not implemented. In one example the HIA was endorsed by decision-makers but only recommendations that supported the direction the decision-makers were moving in were adopted. In another example a change of General Manager resulted in agreements not being implemented.

I think the enforcement of it is the issue, I think they did a fantastic job, they raised some really good issues, we have done some conditions of consent but yeah, I think that monitoring and enforcement is where it's weak. (Decision Maker)

- **Ineffective Recommendation.** It was very difficult to identify whether HIAs resulted in changes to health outcomes or even to determinants of health. However it was sometimes clear that a recommendation was ineffective. For example, a recommendation that a walking bus be introduced was terminated after it emerged that the walking bus was ineffective.

Some of the other things that have probably been a bit less successful, we had a recommendation to run a walking school bus... That didn't work. We tried it. It lasted for a few months. It took a huge amount of staff time. (Part of HIA Working Group)

- **Effectiveness that diminishes over time.** For example, one of the goals of an HIA was to develop a closer working relationship between the area health services and council. Initially this relationship appeared successful but has since weakened and reverted to a low level.

And I think at the time that we did that sort of initial evaluation we thought, yes. We were actually working together quite well. But that's probably fallen off now because people have moved on. (Part of HIA Working Group)

What did we learn about factors associated with increased or decreased effectiveness?

When it is asked what made an HIA successful the influence of individuals involved in the process is frequently identified. Often such an individual is the person who has taken the lead in the HIA process. These people often have good skills in engaging people in the process, ensuring that the procedure is followed and progressed and are often seen to be likeable/enjoyable to work with. For example, in one HIA the HIA lead carefully selected the steering group members, made sure the meetings were well organised and catered, and rang stakeholders individually after the meetings to ensure the smooth running of the project. In another the HIA lead talked about investing a lot of time in building relationships. An evaluation of another HIA recognised the value of the HIA having good leadership and the same evaluation also identified this as a factor in its success. The opposite also applied in some cases, where individuals exercised the power to hinder HIA effectiveness.

What I did is after each HIA meeting I either met or called every steering committee member and said, 'What did you think of the meeting, did it meet your needs, were there any issues that you didn't raise because, you know, you were concerned about who you were talking to or anything like that, you know, I'm really keen that this steering committee meets your needs in terms of, you know, looking at the broad health impacts of X and council and housing's plans, so please tell me', so sometimes I went to meet them face-to-face. Other times it was just over the phone but I met everyone. I spoke to everybody in some shape or another after each meeting." (Part of HIA Working Group)

We had a local councillor who just decided to attack the entire – not the health side of it particularly – but the entire project. And that involved attacking our consultation, and ended up attacking everything. So – there's just – sometimes you just cut your losses. (Part of HIA Working Group)

The council issue that I spoke about really reared its ugly head and I think that effectively knocked it on the head which I was bitterly disappointed about and that particular ward councillor then actively went about through public meetings to discredit what we were trying to do, not – not the HIA so much but the regeneration work and in effect it died pretty well as a result of that which I thought was a real shame. (Decision Maker)

The right people to involve are often not the official decision-makers (e.g., councils) and in some case studies this recruitment involved tactically bypassing this level of decision-making to a certain degree in order to enhance effectiveness. For example, in one HIA a conscious decision was made to carry out the HIA in the relevant departments in order to be able to make changes. In the case of some HIAs staff of these departments were involved in the steering group rather than the working group. However this approach appears to work best when these staff are closely involved in the actual process of carrying out the HIA; in particular in the assessment and recommendation stages. For example, in one HIA a core group of senior managers from three different departments worked together filling out an assessment matrix and developing recommendations. One of them belonged to the department developing the plan which the HIA was intended to inform. The HIA showed direct effectiveness with "great chunks of the HIA recycled into the plan". In comparison another HIA had a relatively junior person from the decision-makers involved. This HIA was not similarly effective in influencing the strategy and a low level of awareness in the decision-making organisation was reported. The same interviewee also proposed that this dearth of influence may have been the result of the HIA's being carried out by a consultant and not in-house. The benefits of having an HIA 'champion' (someone at a senior level who advocates for HIA) was also identified. For example, one HIA was advocated and supported by a council's Senior Manager, and this was seen to be an important factor in getting buy-in from the council. In two HIAs it was reported that local councillors who had been involved in the HIA process went on to advocate for HIAs or refer to the HIA when engaging in council business (e.g., at meetings).

And I kind of wondered whether that lack of power of the council people in being involved meant that it wasn't really going to be taken up a higher level. (Part of HIA Working Group)

Having an inter-sectoral HIA process was also identified as enhancing effectiveness. This often involved having decision-makers or representatives of decision-makers closely involved in the process. Being involved in developing recommendations meant that decision-makers could identify whether the recommendations were practicable and could be adjusted or reworded so as to be politically appropriate. Participants often spoke of how engaging directly with decision-makers appeared to make it more likely that the decision-makers take ownership of the recommendations and of the HIA. There may have been some risk of this resulting in an HIA that excluded recommendations seen to be too challenging.

What did we learn about impacts that participants report following involvement in HIA?

Examples of general effectiveness

- **Relationships and partnerships being formed.** The development and/or strengthening of relationships were often reported to be a significant outcome of carrying out HIA. There were examples of these outcomes leading to formal partnerships such as memorandums of understanding and funding of joint posts. These relationships were often highly valued.

So it got to the point where that relationship, I mean, I hadn't seen them for a while, the relationship is still there, they've gone but it's still there, it wouldn't take much to reignite that. And I think the relationship went beyond HIA and that was important. So, for me a relationship is paramount, absolutely paramount. You can't – you can't fix something if the relationship is haemorrhaging. If it's not built on honesty and mutual respect, if you haven't got that, we're urinating into a southerly breeze. (Community Stakeholder)

- **Influencing other HIAs.** It was reported that being involved in an HIA can lead to stakeholders becoming involved in or initiating other HIAs.
- **Influencing other decisions.** HIAs often go on to inform and influence decisions other than their particular focus, such as footpath planning, joint work between organisations, fluoridation of water, introducing a walking bus, decisions for a nearby area and changes in local bus timetables.
- **Community engagement and empowerment.** It was often reported that one of the outcomes of HIA was engagement with community stakeholders. In some cases community representatives were part of a steering group which had power to influence the HIA process and outcomes. Some went on to become engaged in other local processes after the HIA. In one example a community stakeholder reported being able to use the relationships developed through being engaged in the HIA process to acquire funding for their community.
- **Learning.**
 - ◊ **Technical:** most interviewees reported technical learning as part of the HIA process. Such as conducting or using literature reviews, analysis of data, the process of undertaking an HIA. They sometimes reported becoming able to recognise when an HIA may be needed.
 - ◊ **Social:** this was a strong feature, particularly of

the more effective HIAs. Stakeholders tended to learn a lot about each other's organisations, such as how they functioned and how they could interact with each other. Relationships were formed: new ways of working with each other were identified and shared language was developed.

"I also learned a lot more about the work of the Department of Housing, which was really good and really interesting and I understood how they work and what they do and, you know, a lot more in-depth knowledge because I'd never worked with them before and with [X] Council it was great too." (Part of HIA Working Group)

- ◊ **Conceptual:** some participants reported new understandings of problems, strategies and the role of stakeholders. For example, in one HIA a participant reported a "paradigm shift in thinking" about the role of their section and the work they were doing. Including learning about relationships between determinants and health outcomes.

"So that's the analogy I use and HIA, that's why I say, HIA is more than just a health impact assessment system, so to speak, and if you can embrace it as a – it can be anything you want it to be, a mother, a father. So that's... this is not an exaggeration, for me HIA is as vital as the air we breathe, you know, that's how I see it. I mean I've just given you some examples where an HIA would – it would be prudent to have a HIA prior to that, you know. I mean my rationale tells me yep, if we ran the roads through the village we'll be reborn, so to speak, you know? It's funny, it's a bit like the treaty of Waitangi HIA, the more you learn the angrier you get." (Community Stakeholder)

- **Providing an evidence base to inform planning and decision-making.** Often the HIA became a resource to be drawn on for future planning and decision-making.

"So, I think, you know, it showed that an HIA need not be a flaky piece of pie-in-the-sky dreaming, but actually it can have coherent pathways forward that people can recognise and buy into. And, yeah, lays a foundation to evidence for future pick-up. You know, it's – it would be nice if change happened overnight, but it won't so, you know, every bit of evidence that you can put down and bring into the public arena helps make the next phase, or the next wave of development, that little bit more possible..." (Part of HIA Working Group)

- **Legitimising decisions.** HIA was sometimes referred to using terminology such as systematic, independent, transparent and evidence-based. The HIA report could be seen to legitimise the decision-making process. There was mention of how the HIA process documents consultation of potentially affected communities and other stakeholders. It can also legitimise stakeholders' role in being able to raise issues or become involved in planning and decision-making.

*"In the end it was very good, 'cause it did give us credentials probably to raise issues and look at things that probably would have gotten lost."
(Decision Maker)*

- **Taking ownership of the HIA.** Some decision-makers (usually those who were directly involved in the process) were described as "taking ownership" of the HIA. This was seen to be a positive impact of the HIA process, one that was expected to result in increased likelihood of take-up and implementation of recommendations and also to buy into HIA's increasing the likelihood that future HIA may occur. There were descriptions of stakeholders taking ownership of the process and proceeding to use the HIA in public forums to advocate for decisions, and to advocate for HIA itself.
- **Identifying local health issues.** During the HIA evidence about local health issues of which stakeholders were either unaware or on which they had not acted were identified. For example, one HIA identified a potential cancer risk relating to waste materials.
- **HIA as advocacy/lobbying tool.** For example, two HIAs reported using the HIA reports to lobby for funding for another project.
- **Personal and professional rewards for being involved.** For example, in two HIAs it was reported that people directly involved in the HIA were able to present at conferences and other events on the basis of their involvement in the HIA.

*"And in this particular case and I imagine [they] would have mentioned that we presented at a couple of conferences and things since – yeah, it's been quite neat, that sort of formed quite a good sort of camaraderie. So I suppose again that also leads to that sense of obligation to make sure it doesn't just sit on a shelf."
(Decision Maker)*

What did we learn about assessing the effectiveness of HIA?

In phase 2 we found it challenging to categorise our HIAs as either direct, general, opportunistic or not effective. We then developed a qualitative (high, medium, low) scale for these categories that would allow HIAs to be placed in multiple categories and to be rated in those categories.

We applied this scale to the case studies. We were able to find examples of the four types of effectiveness in most HIAs and found that being able to rate them on a scale better reflected our interpretation of their effectiveness. For example, it was difficult to say whether an HIA was directly effective or when one aspect of it was indeed directly effective and another aspect completely ineffective.

However we still found assigning HIAs to these categories unsatisfying. When reflecting on this we found a main reason for this assessment was our perception that the effectiveness of HIAs is context-specific.

In phase four we mapped the evidence we had gathered in the first three phases against the conceptual framework developed by BHR and EH in order to explore and test its usefulness in assessing the effectiveness of HIA.

4

Phase four: Integrative evaluation

What we did

- We used the data collected in the first three study phases to test the conceptual framework.
- The focus of analysis was synthesis of findings from phases 1-3, conceptual framework testing, validation of findings and key learning implications for policy, practice and research.

We used the data collected in the first three study phases to test the conceptual framework.

What we found out

- The framework is a useful approach to considering and understanding effectiveness.
- In our sample of HIAs some factors tended to emerge more strongly than others.
- There were some factors that cut across the three domains of context, process and impacts:
 - time;
 - relationships/partnerships;
 - factors operating at organisational and individual levels; and
 - legitimacy.

The framework is a useful approach to considering and understanding effectiveness.

What did we learn?

- The terminology used in the framework was sometimes challenging and we propose that when using the framework those involved should discuss its terminology and develop a shared understanding of concepts.
- We have a deepened understanding of some issues, such as time.
- We have challenged some existing beliefs: the role of decision-makers, timing, and the linear nature of decision-making and planning processes.

We have challenged existing beliefs: the role of decision-makers, timing, and the linear nature of decision-making and planning processes.

Phase 4: Integrative evaluation

What we did

Validation of the project findings was carried out over three days. The project investigators and researchers met over two days to:

1. Review the findings of the study, including the coding and analysis of the case study interviews;
2. Test Wismar categories and the conceptual framework (including identifying the role played by different factors, identifying gaps in the framework and considering how different case studies with different levels of effectiveness relate to the framework);
3. Develop a common understanding of key findings among investigators; and
4. Identify limitations of the study.

Each investigator was allocated a case study for which they were given an evidence pack containing the HIA report, the quality assessment, the survey answers, case study summary and interview transcripts. Investigators were asked to familiarise themselves with their HIAs.

In addition Investigators were given the coding tables for each part of the conceptual framework; detailed coding examples for timing, context (goals), learning and proximal impacts; case study summaries; and published papers on HIA typology, and the conceptual

framework.^{36,42} A laptop containing the NVivo project and all the project documentation (e.g., meeting minutes, progress reports, notes) was also made available.

On the third day a validation workshop was carried out with investigators, HIA stakeholders and jurisdictional representatives from Australia and New Zealand. The purpose of the workshop was to test face validity and discuss potential implications for policy and practice.

What we found out

Context

Decision-making context

HIA reports often describe general governance, political and social context. These broader contextual factors are reported to have some bearing on the values, purpose and goals of HIAs (e.g., emphasis on learning and partnership building as well as influencing decisions).

We found that these contextual factors influenced effectiveness of the HIAs. HIAs that were perceived to be effective were often seen to have had good timing in the sense that the context was right for an HIA to happen. For example, HIAs being carried out on built environment topics fitted with a broader trend of interest in healthy built environment which was perceived to make it easier to initiate HIAs but also to influence the receptiveness of decision-makers to

recommendations. Pre-existing relationships between organisations and individuals were also seen to operate in a similar way. In addition strong relationships were identified as a factor that influenced the ability to manage challenging situations that often arose during the HIA process (e.g., changes in staff, changes in decisions and processes, moving time frames and resource constraints). An important contextual factor in our sample was the existence of HIA capacity-building projects. How the HIA process fits in organisations was also perceived to be related to effectiveness.

Goals, values and purpose

There were often a number of reasons given for carrying out an HIA. The case studies highlighted often differing views and understandings between stakeholders of the goals and purpose of the HIA. In some cases there were differences between the decision-makers' understandings of the purpose of the HIA and the understandings of those doing the HIA. Our case studies showed that HIAs have a mix of explicit and implicit or assumed goals. We also found that goals and purpose can change during the HIA process and that they are often unclear at its beginning. This may be a particular feature of our sample, where most of the stakeholders involved in the HIA process were inexperienced in the field of HIA so may not have been aware at the outset of the potential range of purposes for carrying out HIAs.

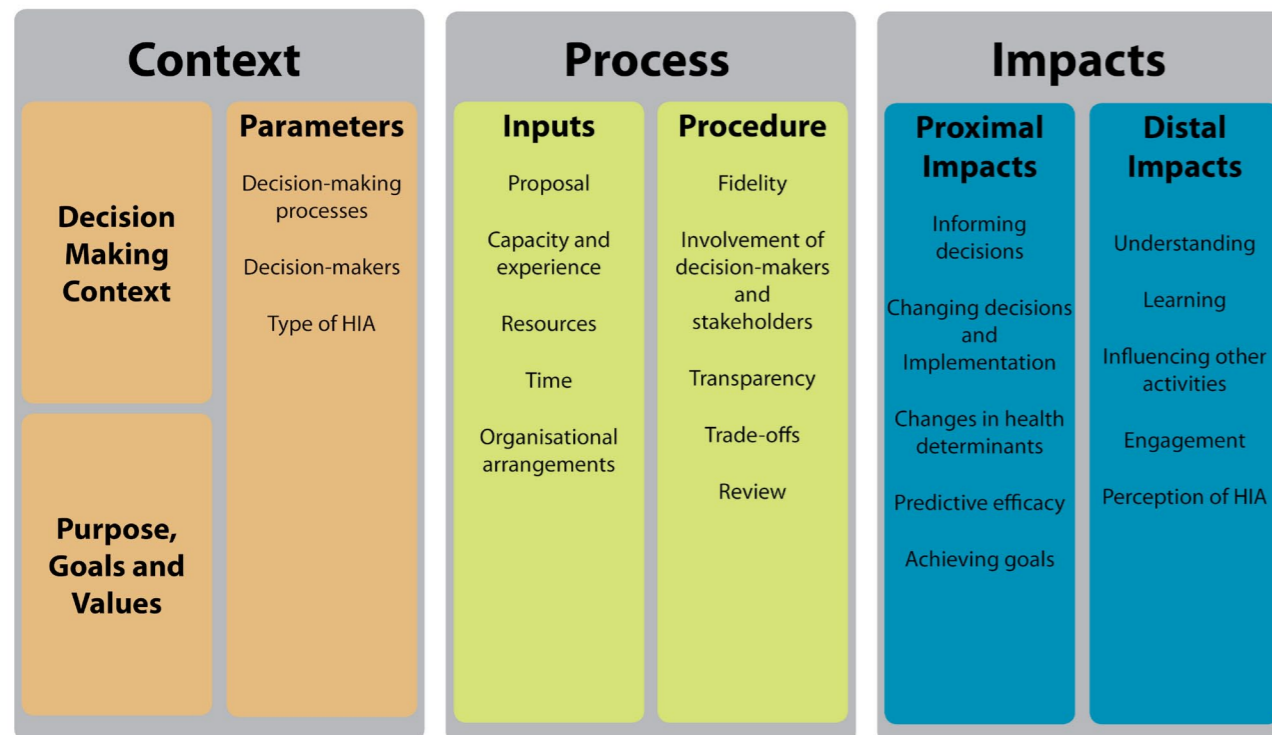
We found that goals and purpose of HIA are relevant to effectiveness in a number of ways. The effectiveness of HIAs is often judged by whether stated goals were met. This can be problematic when goals have not been made explicit. Lack of clarity or agreement between stakeholders can lead to conflicting views on the successfulness or effectiveness of the HIA. However having different purposes need not always be problematic. For example, in one case study of an HIA capacity-building project, a main driver for initiating it for a stakeholder was that it might support learning by doing; whereas another key stakeholder, who was also a decision-maker, viewed this HIA's findings as a way to improve their plan and planning process; yet the difference between these purposes was not identified as problematic.

Having shared values was identified as a positive influence on the perceived success of the HIA. It can facilitate trust between stakeholders and was seen by some to have been a powerful motivation for getting people engaged in the project, particularly where there had been a history of distrust.

That was from the [council] as one half of the commissioning side. They just simply, from my perspective, wanted a broad array of people involved than they'd normally – than they'd previously been able to get, and I think from their perspective, it would've added validity to what they were trying to do. From the public health side, they saw HIA as being kind of a pivotal way of involving public health in the broader things happening and planning and even development in the region. And so they saw this as a really useful foothold for Public Health to have a constructive voice and policy development that wasn't simply about their own organisational representatives sitting around the table of the Committee and offering opinion, but actually was a structured process that would bring a very clear demarcated public health perspective into the policy arena. (Part of HIA Working Group)

But, you know, did we achieve? So I guess what I'm saying in terms of did we achieve our goals, I think we didn't even know in a sense what some of our goals could have been. We didn't know how much we didn't know. So – but I think that in looking what we did say we were going to do I think we certainly did do all of those things. (Part of HIA Working Group)

Figure 1 Conceptual Framework for Evaluating the Impact and Effectiveness of Health Impact Assessment⁴²



Box 5 Examples of reasons given for doing HIA

- Getting health input into decision-making process
- Changing decisions
- Maximising positive health impacts and minimising negatives
- Building an evidence base
- Strengthen decision-making process
- Legitimising decision-making
- Legitimising Public Health involvement in decisions outside their normal scope of influence
- Fulfilling regulatory requirements
- Engaging communities in decision-making
- Learning by doing
- Proof of concept
- Doing something we already wanted to do
- Building relationships

Parameters

When considering the parameters of HIA such as decision-making processes and decision-makers our case studies challenged the 'myth of rational decision-making'. Decision-making processes were often complex and changeable. There were often not one but several decision-makers, both within an organisation and across several that were involved in a particular HIA. HIAs influence decisions being carried out at multiple times during and after the HIA process. The complexity of decision-making processes and of the functions of decision-makers is often not reflected in HIA reports, and relying on HIA reports to understand the process and outcomes of an HIA can create an illusion of rational decision-making that does not match the reality of the HIA process.

It was also often reported that a number of factors coincided to provide an environment conducive to an HIA being initiated. These factors included the existence of support for HIA capacity-building projects, local health data highlighting a need for action, meetings between different sectors and public interest in an issue. Such an apparently fortuitous set of circumstances, particularly support for capacity-building, appeared to have been an important factor in getting the first HIA under way. The decision-making context may sensitise individuals and organisations to opportunity. Good timing in general, and having an ideal amount of time, however, were not reported to be necessary to the effectiveness of an HIA.

Organisational motivations for engaging in HIA were also identified as influencing effectiveness. Personal motivations were also recognised as important. For example, it was reported that gaining personal rewards (e.g., learning a new skill, attending conferences, leading the field) positively influenced individuals' engagements in the HIA process. We also found examples of unwilling participants in HIAs who nevertheless found it challenging to engage in a process they felt forced into. The broader culture of institutions involved also influenced effectiveness; for example, an organisation's familiarity with and mandate for inter-sectoral collaboration.

I'd done a – a training course that the public health advisory committee were offering here and I met a guy at the course from the city council, and the two of us were just talking about how it's good to implement training early otherwise you tend not to do anything with it. So we were thinking about what might be a good project to have a go at doing this HIA stuff on. And the urban development strategy of this had just gone out for public consultation I think that week. So we just very naively, kind of, talked about whether that might be a good thing to do. (Part of HIA Working Group)

The other thing, I suppose, is again a combination of what we were doing but also the, sort of, emerging or at that time - national and international focus upon urban design and liveability and sustainability within cities. Wider external context. That was coming through the media and so that was the context on which the Metropolitan Strategy was developed. (Decision Maker)

Process

Inputs

Capacity and experience

The individuals involved in the process had a significant influence on both the process and outcomes of the HIA. There were two main facets to this: direct involvement of the right people and at the right level. There are often several individuals in the HIA process who are identified as having important roles in influencing the effectiveness of the HIA. The right people often have the power to either make or influence decisions. Interestingly the right level is generally not the highest level of decision-making. People at this level are often not the official decision-makers (e.g., members of councils) and in some case studies this fact necessitated some tactical by-passing of this level of decision-making in order to enhance effectiveness. These people are often at senior management level. They have some, but not ultimate, power, understand the system well, often have pre-existing relationships that they can utilise, and are often in a position to influence the implementation of recommendations (making it happen). In some cases they also go on to become HIA champions.

Time

Time, timing and timeliness were recurring themes in the case studies. In terms of the HIA process, having time to carry out its technical aspects was often mentioned, particularly in the context of it taking more time than planned, or than the participants would have preferred, but also in terms of time needed to do other important tasks, such as building relationships. Although having time was seen to be important this was often discussed in the context of accounts of time, timing and timeliness being not ideal but the process being flexible enough to be workable after some adaptation. There was also no clear right time in the planning/decision-making cycle for carrying out an HIA. For example, some HIAs were carried out late in the decision-making process, even after decisions had been made, but were still able to influence implementation. In general HIAs earlier in the planning cycle were reported to have a wider range of potential inputs/influences. However HIAs could also influence decisions at later times. The relationship between time

Table 18 Important individuals identified in the HIA process

<p>Entrepreneur: Someone who recognises the opportunity to carry out an HIA and the need to engage. They then take a lead in initiating the process.</p>
<p>The doer: Often one person takes a particular lead in the HIA process. These people often have good skills in engaging people in the process, ensuring that the procedure is followed and progressed and are often seen to be likeable and enjoyable to work with. For example, in one HIA the HIA lead carefully selected the steering group members, made sure the meetings were well organised and catered for and subsequently rang stakeholders individually to ensure the smooth running of the project.</p>
<p>Decision-makers: People who are involved in the HIA process and who have the power to either make or influence decisions. In some HIAs decision-makers were involved in the steering group rather than the working group. However it appears most effective when decision-makers are closely involved in the actual process of carrying out the HIA; in particular in the assessment and recommendation stages.</p>
<p>HIA champion: The benefits of having an HIA 'champion' (someone at a senior level who advocates for HIA) were also identified as enhancing effectiveness. For example, a Senior Manager in a council advocated and supported the HIA and this was seen to be an important factor in getting buy-in from the council. In two other HIAs local councillors who had been involved in the HIA process went on to advocate for HIAs or refer to the HIA when engaging in council business (e.g., at meetings).</p>
<p>The problem maker: We also found examples of HIA effectiveness being hindered. This ranged from stakeholders not being engaged in the process (e.g., not coming to meetings, not following up on tasks, not facilitating access to information, influential people or forums) to actively working against the HIA. For example, in one HIA a local councillor used public meetings to discredit the project the HIA was intended to support and by this means stopped the HIA being carried out on the proposal.</p>

and effectiveness is not simple and our data is limited by our sample, which includes only HIAs that were completed. Therefore we were unable to investigate the factors, including time, which prevented HIAs being completed.

I thought the timing was really good. I thought actually having that before it was drafted and while it was still being written was a much more proactive place to start from. (Decision Maker)

In terms of like the, the actual timing and the length it took for the project I think it took longer than was anticipated so we kind of blew out the timeframes there but having got what we got there wasn't any problems with blowing out those timeframes so it just yeah it was allowed to extend and realising that yes it's still got a role to play so we will, we will just keep extending it rather than making it, us fit the time available so we didn't cut it short because we had to get it done within a week's time and we just go okay we'll up stumps for the year and just roll what we've got. We actually did let it go til the end so we, we didn't constrain ourselves with the timeframe that yeah was established yes, yeah which I think did help us as well. (Part of HIA Working Group)

Organisational arrangements

Having inter-sectoral involvement in HIAs was often identified as a strength. This could involve different stakeholders working together (e.g., public health and housing) or different sectors in an organisation (e.g., epidemiologists and health promotion). In our sample we had a number of HIAs that involved stakeholders working together for the first time as well as some where organisations had collaborated previously. The HIA process was often identified as facilitating collaboration among these groups.

Well it probably was the first project that we had formally worked together as a team. Before it was you go, you're in a meeting on a particular project, maybe it's strategic planning or development applications the people in there but you're not working together, you're just providing your input and going oh yeah whatever, you know you listen to them you go yeah, yeah, yeah then this way it was actually a combined effort. (Part of HIA Working Group, Decision Maker)

... when you're talking about large councils, you know, transport's never just the transport people. You've got the parks people, you've got the urban design people, you've got the road safety people - making sure that those perspectives are aboard. In New Zealand I think involving Maori organisations is valuable, along with involved Pacific organisations and other NGOs...driving directions forward from the HIA, not just identifying impacts, and having a home internally so that the HIA has ownership and becomes a benchmark in terms of for the organisation. (Part of HIA Working Group)

I think it was a good working team so you had a broad group of professions working together so you had health professionals, community, engineering and I think we all learnt from each other so you had some that would have you know big pie in the sky ideas and others you know come on, follow the facts step by step what are you going to do, how are you going to do it and so I think that sort of brought it together to make that happen which was good. (Part of HIA Working Group, Decision Maker)

Procedure

Fidelity

Having a clear systematic process that was also flexible was identified as being a particular strength of HIA. This was sometimes identified as a factor making HIA more effective than other processes participants had been involved in. The structured 'scientific' process was also seen as creating or enhancing legitimacy. HIAs were reported to provide independent evidence-based information. Some interviewees spoke of being able to refer back to the HIA or using it as evidence in decision-making processes. HIA was also seen by some to be conducive to engaging stakeholders (including communities) in decision-making. Its flexibility allowed the process to be adapted to local contexts and made it culturally appropriate.

Engagement with communities and cultural appropriateness was a particular feature of the New Zealand HIAs. Some HIAs utilised an HIA framework (Whanau Ora) designed specifically to be used on proposals that were likely to affect Maori health. The flexibility of HIA also allowed participants to adapt the process to changing circumstances. In some cases HIAs would be re-scoped part of the way through the process. For example, a decision that the HIA was meant to inform may have been made earlier than expected, and the HIA would then be re-scoped to focus on another facet of the proposal that could be influenced (e.g., implementation). Transparency was also seen to be important and related to fidelity in that it was held to enhance the legitimacy and therefore the weight of

the HIA.

...that's right, that's like science isn't it. You put it up there for public scrutiny and they can knock it down if they want to or, or they can support it. When it's I think it's just your thoughts. It's not there for public scrutiny in the same sense as what a document like that." (Part of HIA Working Group)

It's very, very similar to a lot of processes that are done in social impact assessment. It uses the social definition of health. It has to in order to be effective and that's what it's built around, so the difference between as I said between social impact assessment and health impact assessment is that particularly in the model that's, that's marketed by Patrick and the UNSW is that it's a clear cut stepped process you go through. SIA is not nearly as clear cut as that. It is much more abstract that is and that's the key difference I see between the two. (Part of HIA Working Group)

There was a huge, media beat up, whatever, whatever and as a result council and housing withdrew from any future stages of the regeneration strategy, but they both said to me, and this happened in the middle of the HIA ... but they both said, look don't worry, what we're going to do is take the recommendations from the HIA, they will go into council's mainstream policies so they will inform – Housing said to us that we will take their recommendations and that can go into our regeneration methodologies for the whole state, so we will use the recommendations and take them across and see how they fit into our regeneration in other parts of the state and we will use them in that, in that way. So I thought that sounded a pretty good alternative under the circumstances so yeah, we sort of, you know, went ahead and you know continued with the HIA. (Part of HIA Working Group)

...for me, personally, they came to our Marae, and then not only came to the Marae, but they honoured that Marae and they were culturally sensitive, culturally appropriate, and it's not the be all and end all but it's – it's important and so they did all the right things. (Community Stakeholder)

Involvement of decision-makers

Involvement of decision-makers in the process was reported to have a strong influence on effectiveness. Where decision-makers were not involved in the process this was often identified as a barrier to effectiveness. In some cases HIA recommendations were formally recommended but there was limited or

no implementation. Interviewees related this to lack of involvement and/or buy-in by decision-makers. Direct involvement appeared to be most powerful when the decision-making organisation was involved in the HIA working group (as opposed to steering group) and involvement in the assessment and recommendation stages was reported to be particularly important. As mentioned previously there were usually several decision-makers and levels of decision-making in HIA processes. Direct involvement appeared to work best when the person involved was senior enough to be able to influence decisions.

Three main mechanisms for the ways in which involvement of decision-makers could influence effectiveness were identified.

- Involvement of decision-makers was seen to enhance the quality of the assessment by providing detailed information about the proposal and decision-making process.
- Involvement in the process could facilitate buy-in from the decision-makers. They could become convinced of the value of the approach and develop a feeling of ownership of the results, and a corresponding responsibility to facilitate implementation of recommendations.
- Having decision-makers involved in developing recommendations and report writing was seen to enhance the appropriateness of the report and recommendations for decision-makers. Language and style could be tailored to fit the organisational culture and recommendations were feasible and acceptable.

...one of the really critical things around keeping partnerships together is that you've got to have someone that's got the delegation to keep it running 'cause if you send – if I was to send some junior person to our meetings and they couldn't make decisions then that would be silly, you know, because they – they don't add value to the partnership whereas, you know, X and I and Y can make decisions that oh I suppose enhances sustainability of it into the future" (Part of HIA Working Group, Decision Maker)

I guess the observation for me with HIAs over the last few years is that where an organisation has taken a proactive lead and have someone inside the organisation who's actually running it and doing it and writing it and we're being brought in to be a support for the HIA, actually there's more buy-in and traction. And it has quite a long-term impact inside the organisation. (Part of HIA Working Group)

...if you don't involve the stakeholders that you're engaging with and the directions going forward, then you'll get a process, and I've seen it happen, where people come out the other end saying, "Where did these recommendations come from? I've never seen any of this. This wasn't – we didn't talk about this. Who wrote this stuff up?" So again, I think if you're engaging people in the impacts, you also need to engage them in the forward directions and make them part of it, and test the viability of the recommendations that you come out with through that." (Part of HIA Working Group)

"we wanted to obviously you know have an influence – so she wore a couple of hats because she was actually the decision maker and in a way she was commissioning this piece of work." (Part of HIA Working Group)

Impacts

All of our case studies revealed impacts on decisions. However, these were not always the decisions that had been the original focuses of HIAs. We identified a range of different impacts which are described in "Phase 3: Case studies". We found that impacts and corresponding effectiveness of HIA can change over time. For example, an HIA may have a limited effect on the proposal it was intended to influence but then proceed to affect decisions that follow on. Alternatively some HIAs may initially appear to have had a direct effect on a decision but then fail to be adequately implemented. The case studies also demonstrated that different stakeholders can have differing views on impacts. It is often difficult to identify direct effectiveness because there may be several sources of influence on the decision-making process.

Distal or indirect impacts such as learning and relationship/partnership-building were often highly valued by stakeholders. Learning was seen to occur through involvement in the HIA process but also through being a recipient of HIA findings, whereas relationship- and partnership-building were seen to occur through involvement in the HIA process. The case studies showed that HIA can be a good process for building relationships and partnerships between sectors. One reason given for this was that HIA provides a structured process to focus on. Having sectors working together through the HIA process was seen to lead to shared understanding and learning. It was often observed that engaging in the HIA process made it easier for participants to step outside their professional/sectoral boundaries. HIAs were often the starting point for partnership in work. Generally our case studies indicated that the more effective HIAs result in relatively higher levels of relationship-building and learning than

less effective HIAs.

It's what we set about to do - influence the statutory regional plan and that's been done. (Part of HIA Working Group)

I have sighted the, the actual – I want to say the guts of the report – content of the report being recycled...I was gleeful when I saw that. (Part of HIA Working Group)

Gathering the evidence base was a powerful tool giving communities and councillors and staff a common understanding of the issues that required attention and an avenue to do this. (Decision Maker)

The HIA helped to share knowledge in the organisation between various stakeholders. (Decision Maker)

It succeeded in putting health on the agenda of a non-health organisation during the HIA process. (Part of HIA Working Group)

What did we learn?

In this phase of the study we tested the conceptual framework. We mapped our data against the items contained in the framework to see whether it captured factors identified as associated with HIA effectiveness in our sample. We considered whether the framework provides a useful approach to understanding effectiveness in HIA.

We discovered the framework was a useful approach to considering and understanding effectiveness. We applied the framework to the case studies and found that using a framework as opposed to a categorisation/outcome-focused approach (Wismar) allowed us to capture and understand the context-specific factors that influenced effectiveness. It also enabled assessing effectiveness to be context-specific and to some extent self-defined. The framework allowed for the flexibility that is a core component of HIA and captured the procedural fidelity required by HIA.

We found that when we coded our interview transcripts against the framework some factors tended to emerge more strongly than others. For example, under the heading of 'context', purpose, goals and values were often identified as important factors influencing effectiveness, but type of HIA was less so. This may have been a feature of our sample, which was predominantly made up of decision-support HIAs. Under the heading process, the involvement of decision-makers and the experience and capacity of people involved were

strongly discernible, but trade-offs and review were less so. Predictive efficacy and changes in health determinants were rarely mentioned under impacts, whereas influencing and informing decisions, learning and relationships were seen as important outcomes.

We sometimes found the terminology used in the framework challenging. We found some terms (e.g., trade-offs) to have a range of different interpretations. We were also able to unpack factors (such as time) to develop more nuanced understandings. However, we then recognised the need for overarching terms to prevent the framework becoming unwieldy. Impacts are described as being proximal or distal. In our project group there were mixed perspectives on the use of this terminology. For some it was not intuitively understandable. However it was argued that the alternatives, direct and indirect, imply a link between the two terms that doesn't always exist (e.g., direct impacts do not lead to indirect). We propose that those involved in using the framework should discuss the terminology to be used and develop a shared understanding of concepts.

As well as coding against the framework we also allowed for ground-up identification of factors in order to explore whether there are gaps in it. As noted previously we identified numerous sub-categories. We found it useful to categorise learning as technical, social and conceptual. The role of individuals and, in particular, individual agency was not captured explicitly in the framework. Individuals often had strong emotional responses to being involved in the HIA process. Many factors operated at both individual and organisational level (e.g., capacity and experience, decision-makers, involvement of decision-makers, and learning) and there was interplay between these levels. In some situations structural/organisational level relationships became operationalised at the individual level. Inter- and intra-sectoral relationships were also identified as important factors under the headings of context, process and impacts. The framework allows for flexibility, but flexibility is not explicit in it. Flexibility could potentially sit under the heading of process. The concept of legitimacy was also raised in several different contexts. Legitimacy can be a contextual factor in cases where HIA is already seen to have a legitimate role in an organisation or in an area. Here legitimacy can facilitate the initiation of an HIA. HIA can also enhance the perceived legitimacy of decisions through its recognition as an evidence-based and independent process. We also found that the HIA process was reported to legitimise the involvement of an organisation in decision-making process outside of their sector.

The framework is presented as three boxes covering context, process and impacts. There is an implied linearity in this format which we found did not match

the reality of HIA practice. We found, for example, that contextual factors often changed during the HIA process and could influence it at a number of points. We also found there were some factors that cut across the three domains of context, process and impacts. These were:

- Time
- Relationships/partnerships
- Factors operating at organisational and individual levels
- Legitimacy

At the end of the second day the investigators identified some implications of the research for policy, practice and research. Our research has a number of implications for how we carry out HIA. These range from recommendations to improve report writing to changes in how HIA effectiveness is conceptualised. Practitioners can incorporate explicit factors that influence effectiveness into their planning. In general our findings suggest that HIA practitioners should invest more time in clarifying their purpose, goals and values at the beginning of the HIA process. Evaluation frameworks could be linked to these factors and weighted according to priorities. Enhancing our understanding of the different types and levels of factors influencing effectiveness also means that practitioners and other stakeholders can develop context-specific evaluation criteria, potentially disentangling what HIA can influence from outside factors.

Table 17 Example of time as a cross-cutting theme

Time	Timeliness	Timing
Time to do the HIA	Wider drivers (e.g., interest in social determinants of health, built environment)	Timing the HIA in the planning cycle
Time to train to do the HIA	Fitting into existing work	Timing to influence decisions
Time to build and maintain relationships	People available	
Time to deal with changing circumstances	Things coming together	
Ring-fencing time/organisational support to spend time on HIA		

Discussion

This project aims to describe and explain changes to decision-making and implementation associated with the use of health impact assessments (HIAs) completed in Australia and New Zealand between 2005 and 2009. We have three research questions:

1. Is there evidence that HIAs completed in Australia and New Zealand between 2005 and 2009 have changed decision-making and the implementation of policies, program or projects to strengthen positive and mitigate negative health impacts?
2. What factors are associated with increased or reduced effectiveness of the HIAs in changing these decisions and the implementation of policies, programs or projects?
3. What impacts do participants/stakeholders report following involvement in these health impact assessments?

A major challenge in the project has been to determine what is meant by effectiveness and how it can be measured. We chose to explore this issue in the case studies by prompting respondents to talk about what, from their own perspectives, they considered to have been effective in encouraging the emergence of concepts that had not previously been described. We used two analytical frameworks developed specifically for HIA effectiveness^{42, 48} to guide our thinking and analysis.

Judging effectiveness in the achievement of intended outcomes is potentially problematic in HIA. Our sample showed that these outcomes are often not made explicit at the outset of the process but often emerge during it (as a result of learning), that goals can change over time (flexibility/adaptive nature of HIA process) and that what respondents deem a desired outcome at the end of the process may not reflect their original intent. This speaks of the need for longitudinal studies of the effectiveness of HIA so that any changes to their original purposes, and the factors underlying them, can be tracked and analysed.

Our study found that effectiveness is not a static concept. Goals can change during the process and be refined to reflect what it is possible to influence over time. Different stakeholders can hold contradictory views on the effectiveness of an HIA. An HIA may be effective in terms of achieving one stakeholder's goals but not another's.

Because of the context-specific nature of HIA it is unlikely that there will ever be highly standardised outcomes, although it is likely that broad categories will emerge in specific areas such as land use planning and extractive industries. This may assist in determining the depth, type, purpose and methods to be used in

specific contexts in the future.

We found it difficult to categorise HIAs using the 'Wismar' Framework⁴⁸ and there is a need for a categorisation system that accounts for HIAs that feature different types of effectiveness. The category 'either/or' doesn't work. The second framework, that of Harris & Harris,⁴² provided a greater opportunity to tease out the outcomes of the HIA while also being able to consider the context and process that had influenced them.

We found that, as well as directly changing decisions based on their recommendations, HIAs influenced decisions and how they were framed, and broadened the range of areas where decisions were made. As well as these proximal impacts the HIAs also had distal impacts – they changed future decisions and broadened stakeholders' understanding of potential health impacts.

We learned that:

- HIAs change decision-making and implementation of policies, program or projects.
- these changes can cover a broad range of activities (proximal and distal).
- stakeholders can identify factors associated with increased and reduced effectiveness and a range of impacts following involvement in the HIA.

This is the first study to review the quality of HIA reporting systematically. We found that a majority of HIA reports are adequate as far as our assessment methods enabled us to judge. We found assessing the quality of HIA reports challenging, as it is very subjective and the level of detail required to make an assessment was often not included in the report. We also found that assessing the quality of HIA reports does not necessarily correspond to assessing the quality or effectiveness of the HIA itself and needs to be supplemented with deeper case study data.

When evaluating effectiveness of an HIA there should be more emphasis on longitudinal studies on the process and impacts of HIAs and supplemented by interviews with stakeholders and other documentary sources concerning the effectiveness of HIAs following the formal report period.

It is also not clear to what extent an international assessment package that allowed cross-country comparisons is feasible or acceptable. There has been a profusion of HIA Guides developed and there seems to be little international interest in a single guide. There is now general agreement on the steps of HIA¹³² and the fact that it is a prospective assessment, so the development of standards may be an evolving process. Despite several limitations to the use of the review package, especially its ranking system, we are able to

draw useful findings that have been presented under each of the four domains. We were also able to identify ways in which HIA reporting could be improved.

When assessing the effectiveness of an HIA we should recognise factors impacting HIA effectiveness that are outside of the scope of the HIA's influence (e.g., a new government policy). This has implications when assessing effectiveness of HIA. If we judge HIA against factors that are outside the realm of influence then we may be setting ourselves up to fail.

This study confirmed the usefulness of the conceptual framework as it allowed us to capture the multiple factors at various time points and highlighted the non-linearity and complexity of many HIA processes. The framework is a useful approach to understanding effectiveness as it allows a nuanced understanding of what happened rather than an yes/no categorisation, and highlights variations between HIAs in factors which were more or less influential. While it provides a basis for a better understanding of pathways to effectiveness it cannot portray the inter-connectedness of factors.

The terminology used in the framework can be challenging and we propose that users of it should discuss this terminology and develop a shared understanding of its concepts; for example, how 'proximal' and 'distal' are to be defined.

Research question 1: Is there evidence that HIAs have changed decision-making and implementation?

Yes. All the HIAs in the study demonstrated some evidence of effectiveness: directly in changing, influencing and broadening areas under consideration and in some cases having an immediate effect on outcomes. But participants saw effectiveness as a much broader matter than direct impacts on decisions. Many saw changes in relationships, better understanding of the determinants of health and positive working relationships as major and sustainable impacts of their involvement. These direct and indirect impacts are outlined in Table 19.

This finding raises an important issue in relation to seeing HIA as a technical tool that makes predictions of potential impacts of a policy, program or project or as a mechanism for developing relationships with other sectors. Focusing on indirect impacts such as relationship building at the expense of neglecting the systematic analysis and prediction of impacts to influence decision making runs the risk of ignoring some of the essential elements of HIA; assessing health and equity impacts, structured stepwise process, making recommendations.¹³³ If the primary purpose in carrying out an HIA is to build relationships then HIA may not always be the best tool.

Research question 2: What factors are associated with increased or reduced effectiveness of the HIAs in changing these decisions and the implementation of policies, programs or projects?

HIAs are carried out in open nonlinear systems. We have identified factors that are perceived to be associated with effectiveness and we found that in effective HIAs there is often a conjunction of factors that contribute to effectiveness. We have also found that HIAs influence a number of different outcomes. We were unable to identify any factors which are themselves necessary for an HIA to be effective (e.g., HIAs can be effective with and without the direct involvement of decision-makers). We also found that the quality of the HIA process or report does not necessarily relate to the strength of an HIA's influence (e.g., best technical process and/or report doesn't necessarily influence decision making).

HIA processes can influence and are influenced by the systems in which they occur. Some of the factors that we have identified as being associated with effectiveness can be influenced by the HIA process (e.g., development of recommendations that are acceptable to decision-makers) whereas other factors (e.g., direct involvement of decision-makers) may be outside of the influence of an HIA.

There appears to be a confluence of combined factors that influence the effectiveness of HIAs (the time was right, time was available, the opportunity was recognised, the right person was available, the HIA fitted into existing work, funding was available). This can give the impression that HIAs are serendipitous in both their initiation and effectiveness. We have identified a meta-concept, 'proactive positioning', which is linked to organisational and personal capacity. In order to recognise opportunity or proactively create opportunity for HIA, organisations and individuals need to be proactively positioned. We found that HIAs required proactive engagement in the decision-making cycle to either influence the cycle to fit the HIA or the flexibility to allow the HIA process to accommodate to the changing cycle. Being in a proactive position is facilitated by factors such as organisational support, existing processes and having had time to build relationships.

Table 19 Reported outcomes of HIA

Direct/Proximal	Indirect/Distal
Inform Decision making Future decisions Implementation Adapted	Technical learning Literature reviews Use of data Assessment of evidence Capacity building
Modify Decisions Related decisions Follow on decisions Implementation	Conceptual learning Social determinants of health Relationship between their area and health Perceptions of usefulness of HIA Use of evidence Awareness (Decision makers, Wider community)
Expand decision making Inclusion of health/determinants of health	Social learning Partnerships/relationships Decision making processes Negotiation Legitimacy

Table 20 Factors influencing effectiveness of HIA

Process	Context	Outputs
<ul style="list-style-type: none"> Stepwise process Flexibility (adaptability to context; changing circumstances; Policy, Plan Program, Project) HIA team – right person at the right level Stakeholder involvement (decision makers, community, intersectoral) Shared values 	<ul style="list-style-type: none"> Fit with planning and decision making context Broader ‘global context’ Receptivity to recommendation 	<ul style="list-style-type: none"> Recommendations <ul style="list-style-type: none"> Negotiating Clarity Transparency, link to data and literature
Cross cutting themes		
Time and timeliness Relationships/Partnerships organisational and individual level Legitimacy Proactive positioning		

Table 21 Indirect impacts of HIA participant/stakeholder involvement

Learning		
Technical learning	Conceptual learning	Social learning
<ul style="list-style-type: none"> Literature reviews Use of data Assessment of evidence Capacity-building 	<ul style="list-style-type: none"> Social determinants of health Relationship between their area and health Perceptions of usefulness of HIA Use of evidence Awareness (decision-makers, wider community) 	<ul style="list-style-type: none"> Partnerships/relationships Decision making processes Negotiation Legitimacy

Research question 3: What impacts do participants/stakeholders report following involvement in these health impact assessments?

The impacts identified by participants and stakeholders following involvement in an HIA were indirect: participants reported development of technical skills and knowledge (use of data/literature reviews, HIA process), conceptual learning (better understanding of the way their sector/work affected health) and social learning (developing new relationship, skills in negotiation). In turn these learnings influenced their values, purpose and goals. A strong finding of the study is that these learnings are central to the importance participants place on their involvement, but are rarely articulated as valued impacts of HIA.

How do our findings fit with existing literature?

HIA has been identified as one of a limited number of interventions available to address the social and environmental determinants of health before implementation in order to maximise future health benefits and minimise risks to health.^{9, 17, 18} This has been confirmed in this study.

The use of HIA has been promoted in all Australian states and territories and New Zealand, though the level and intensity of investment has varied markedly.^{33, 41} This study shows that HIA has been applied across Australia and New Zealand to a wide range of policies, programs and projects, suggesting that HIA methods have been found to be useful in the health sector and with many partner agencies, including community groups. We found some differences in practice between New Zealand and Australia. All HIAs aim to influence or change decision-making; however, in contrast to mandatory, advocacy and community-led HIAs, decision support HIAs are commissioned by decision-makers to inform their own decision-making process. All the New Zealand HIAs were categorised as decision support HIAs with a strong emphasis on policy or strategic assessment. In Australia there has been a stronger focus on project HIAs and some limited examples of mandated HIAs (in Social Impact Assessment frameworks), advocacy and community-led HIAs. There were different patterns between the types and levels of Australian and New Zealand HIAs. It is not clear at this stage if this reflects the ongoing development of an emerging field of public health practice which involves testing different approaches and levels, or contextual differences between the countries.

In terms of wider international relevance our findings

are comparable to those of a similar study on the use of HIA undertaken in the US between 1999-2007, which identified 27 completed HIAs.¹³⁴ Those 27 HIAs were similar to our 55 in terms of the types of policies and programs to which they were applied, and their range of partner organisations. The lack of a robust, predictive evidence base for HIA has been reported as a major constraint on their use compared to risk assessment processes by public health practitioners,¹³⁵ although this is contested.¹³⁶ Similarly to the US study our HIAs were also based predominantly on expert judgment and extrapolation from empirical research rather than predictive modelling. We identified good examples of the use of local knowledge in our sample.

What is new?

This study has added some important contributions to our understanding of what influences effective HIA. It has been argued that HIAs that are institutionalised in government or are formally mandated are the most successful. This study found that often those that were most successful were entrepreneurial: the right people, at the right time, in the right place.

The study has also challenged the prevailing wisdom in the HIA community that involvement of decision-makers at the point of decision is necessary for effectiveness (one decision-maker, one process, one point in time). This is not consistent with our findings, or in fact with the experience of policy-makers, who recognise that decisions are often not made in a rational or linear way and that all decisions have a political dimension, in the sense of either public administration or informal negotiating processes. There is often not one decision-maker or one point at which a decision is made.

We have also identified that the flexibility of HIA to respond to changing external or internal environments is valued, as is its structure as a step-wise process producing a tangible outcome in the form of a set of evidence-informed recommendations. However its very flexibility raises problematical questions: when does an HIA stop being an HIA and become a process of policy development or evaluation, and what is the best way to balance HIA as both a technical tool and a social, collaborative process?

The important role of community involvement has been demonstrated.

What are the limitations of this study?

This research project has a number of limitations. Our sample is geographically specific. There may be important differences between the New Zealand and Australian context and other countries. For example, in the United States it appears that elected officials have

a stronger role in HIA decision-making. Although we carried out an extensive search for HIA reports we will not have identified all HIAs. We are aware of HIAs being carried out in a commercial context where reports are not made available. We relied on participants' perceptions, memories and understandings of HIA effectiveness. We did not predefine effectiveness or success, or other terms such as controversy, opposition or equity.

The generalisability of our findings may also be limited by other characteristics of our sample. Our HIAs were often carried out by inexperienced practitioners and tended to be decision support HIAs. A large proportion focused on land use.

Our sample was limited to 48 in phase one and was then narrowed down to 11 case studies. Two of the case studies were incomplete (Goodooga and Christchurch). Although we interviewed an average of only three people from each case study we collected a significant amount of data and reached a point of data saturation in our analysis.

There is likely to be a tendency for less successful HIAs not to be reported, or even completed. So although our sample showed a range of effectiveness it was biased towards 'the winners'.

Conclusion

This study explored the effectiveness of HIA in Australia and New Zealand and was undertaken in four stages. Through an iterative process we were able to identify 55 HIAs conducted in Australia and New Zealand between 2005-2009 and describe their characteristics and assess the quality of HIA reporting. We undertook a review of the quality of the reports using a recognised review package and found most of them to be of adequate quality, none of the reports were unsatisfactory. We then surveyed people involved in 48 of these HIAs to collect information about perceptions of effectiveness, impacts of HIA, characteristics and contextual factors. Eleven case studies were chosen to reflect and we interviewed at least three people from different organisations. We obtained in depth data about changes to decision-making (or lack of changes) associated with HIAs as well as identifying the factors that are associated with enhanced or diminished effectiveness. In addition we investigated how equity was reflected in the reports and process. Finally a validation workshop of investigators and a public forum were held to test the findings of the study and identify key learning for policy, practice and research.

We found that all the HIAs were reported to be effective in some way. We were able to expand our understanding of the dimensions of direct effectiveness to include influencing as well as changing decisions, broadening the range of impacts that were considered

and directly affecting the social determinants of health. The use of the conceptual framework to analyse the case studies allowed us to better identify the range of indirect impacts of the HIA, which could broadly be seen as technical, conceptual and social learning. These were also the factors identified by participants as the impacts of their involvement in their HIAs.

We were unable to identify a simple set of factors that predicted the effectiveness of an HIA but we were able to unpack some of the factors sometimes mentioned, such as timing and involvement of decision-makers, and challenge their importance.

This study has clearly demonstrated the direct and indirect effectiveness of HIA in Australia and New Zealand as an assessment tool. It suggests that public health leaders and policy makers should invest in building capacity to undertake high quality HIAs.

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Copies of HIA reports included in this study can be found on the HIA Connect website at <http://hiacconnect.edu.au/reports/>

UNSW



Centre for Health Equity
Training, Research & Evaluation

THE UNIVERSITY OF NEW SOUTH WALES

PARTICIPANT INFORMATION STATEMENT

The effectiveness of Health Impact Assessments Conducted in Australia and New Zealand.

You are invited to participate in a study of completed health impact assessments in Australia and New Zealand between 2005-2009. The study's aim is to describe and explain changes to decision-making and implementation associated with the use of Health Impact Assessment in Australia and New Zealand between 2005 and 2009

You have been identified as someone involved in one of the HIAs undertaken in this period and we would like to ask you some questions about your experiences of being involved in the HIA and your views on what factors had impacted in the implementation of the findings of the HIA's recommendations. We have already read the HIA report so have an understanding of the process and outcomes of the HIA.

If you decide to participate you will be sent a questionnaire to fill in and return. We will then interview you in-person or by telephone. The purpose of the follow up interview is to clarify any questions arising from the questionnaire and check we have understood your answers. The interview will take approximately 15-30 minutes. With your permission the interview will be audio-taped. We are not intending to transcribe the interviews.

You can ask for the audio recording of an interview to be stopped at any time. You can also ask for portions of an interview to be edited out.

The researchers will then analyse the interviews to examine what factors impacts on the adoption of the findings of the HIA. In addition, 12 Health impact Assessments will be selected for a more in depth case study.

Confidentiality and Disclosure of Information

Any information that is obtained in connection with this study and 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 publish and present the results in an international public health and/or impact assessment journal. In any publication, information will be provided in such a way that you or the HIA cannot be identified.

Complaints

Complaints may be directed to the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone +61 2 9385 4234, fax +61 2 9385 6648, email ethics.sec@unsw.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Your Consent

Your decision whether or not to participate will not prejudice your future relations with The University of New South Wales. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice. You also have the right to withdraw your data from the study if you decide to withdraw from the study.

If you have any questions, please feel free to ask us. If you have any additional questions later, Fiona Haigh (phone +61 2 9612 0779, fax +61 2 9612 0762, email f.haigh@unsw.edu.au) will be happy to answer them.

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

Part of the UNSW Research Centre for Primary Health Care & Equity
Address: CHETRE, Locked Bag 7103, Liverpool BC NSW 1871
Phone: +61 2 9612 0779 | Fax: +61 2 9612 0762
URL: chetre.med.unsw.edu.au

THE UNIVERSITY OF NEW SOUTH WALES

PARTICIPANT CONSENT FORM

Study on the effectiveness of Health Impact Assessments Conducted in Australia and New Zealand

You are making a decision whether or not to participate. Your signature indicates that, having read the Participant Information Statement, you have decided to take part in the study.

.....
Signature of Research Participant

.....
Signature of Witness

.....
(Please PRINT name)

.....
(Please PRINT name)

.....
Date

.....
Nature of Witness

.....
Signature(s) of Investigator(s)

.....
Please PRINT Name

Please cut below this line and retain

REVOCATION OF CONSENT

Study on the use of effectiveness of Health Impact Assessments Conducted in Australia and New Zealand

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 or Sydney South West Area Health Service.

.....
Signature

.....
Date

.....
Please PRINT name

This section for revocation of consent should be forwarded to Fiona Haigh (C/- CHETRE, LMB 7103, Liverpool BC 1871, Australia, fax 02 9612 0762). You can also revoke consent in person, on the phone (02 9612 0775) or via email (f.haigh@unsw.edu.au).

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You are invited to participate in a study of completed health impact assessments in Australia and New Zealand between 2005-2009. The study's aim is to describe and explain changes to decision-making and implementation associated with the use of Health Impact Assessment in Australia and New Zealand between 2005 and 2009

12 Health impact Assessments have been selected for a more in depth case study. You have been identified as someone involved in one of these HIAs and we would like to ask you some questions about your experiences of being involved in the HIA and your views on what factors had impacted in the implementation of the findings of the HIA's recommendations.

We will interview you in-person or by telephone. The interview will take approximately 30-60 minutes. With your permission the interview will be audio-taped.

You can ask for the audio recording of an interview to be stopped at any time. You can also ask for portions of an interview to be edited out.

The researchers will then analyse the interviews to examine what factors influence the effectiveness of HIA.

Confidentiality and Disclosure of Information

Any information that is obtained in connection with this study and 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 publish and present the results in an international public health and/or impact assessment journal. In any publication, information will be provided in such a way that you or the HIA cannot be identified.

Complaints

Complaints may be directed to the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone +61 2 9385 4234, fax +61 2 9385 6648, email ethics.sec@unsw.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

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The Effectiveness of Health Impact Assessments Conducted in Australia and New Zealand

Thank you for agreeing to participate in our study. We are interested in your experiences in being involved in the HIA and your views on what factors have impacted on the take up and implementation of the HIA's recommendations.

Please think about the HIA that you have been asked to talk about. Make a note of any questions that are not clear or you find difficult to answer and we can discuss them at the follow up phone call. Before starting please read the information sheet and complete the consent form.

You can either fill it in online by typing in your answers and putting an 'x' next to appropriate boxes and emailing to f.haigh@unsw.edu.au or, alternatively, print out and hand write your answers and either fax (+61 2 9612 0762) or scan and email.

If you have any questions please contact Fiona Haigh (phone +61 2 9612 0779, fax +61 2 9612 0762, email f.haigh@unsw.edu.au).

HIA Process

Q1 Can you please briefly describe why the HIA was undertaken?

Q2 Can you please briefly describe your role in the HIA?

Q3 Before this HIA, did you have any previous HIA experience?

- Yes No

If yes - please briefly describe

Q4 Has the decision the HIA was intended to influence been made yet?

- Yes No

Q5 At what point in the decision making process for the Policy, Plan or Project was the HIA completed?

- Completed prior to decision making process Completed during decision making
 Completed after decision making Not intended to be timely

Q6 Was there community involvement in the HIA?

- Yes No

If YES please tick applicable answers

- Community involvement steering group Community involved in doing assessment
 Community involvement commissioning Community involvement in providing primary data (interviews, focus group etc)
 Community involvement in prioritising impacts Community involvement developing recommendation
 Community involvement as decision makers

Q7 How were findings presented to community?

- not reported written report only
 written report plus presentation presentation only
 summary report summary report and presentation
 other

Q8 How were findings presented to decision makers?

- not reported written report only
 written report plus presentation presentation only
 summary report summary report and presentation
 other

Q9 Did the decision maker review the report?

- Yes No Still being reviewed

Q10 Did the decision makers provide information about their decisions in relation to HIA recommendations?

- Yes No

If YES in what format?

- Report Letter/email
 Verbal other

Q11 Has process and/or impact evaluation of the HIA been planned or carried out?

- | impact evaluation | process evaluation |
|------------------------------------|------------------------------------|
| <input type="checkbox"/> planned | <input type="checkbox"/> planned |
| <input type="checkbox"/> completed | <input type="checkbox"/> completed |

If yes - please briefly describe main evaluation findings

Is there a copy of the evaluation report available?

- Yes No

Q12 Has monitoring of the HIA recommendations been carried out?

- Yes No Ongoing

HIA Context

Q13 Was there any controversy and/or opposition at the time of the HIA to the Policy, Plan or Project?

Yes No

If YES would you say the level of controversy/opposition was?

	Low	Some	Medium	High
controversy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
opposition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q14 Did the decision makers support the HIA process?

yes no

If yes - please briefly describe how

Q15 Did the decision makers have prior HIA experience?

Yes No

Q16 Were there other groups/ stakeholders making the same or similar recommendations as the HIA?

Yes No

If yes - please identify groups/stakeholders

Q17 Were the health impacts identified?

Generally positive	Generally negative	Evenly split
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q18 What were the types of health impacts identified?

Physical health	Generally negative	Evenly split
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q19 On a scale of 1 to 5 how would you rate the health impacts identified?

1 Insignificant	2 Minor	3 Moderate	4 Severe	5 Very severe
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q20 Was an Environmental Impact Assessment carried out?

Yes No

HIA decision making

Q21 Did the HIA impact on the actual decision?

Yes No

If YES – in what way?

- HIA related changes in decision (e.g., recommendations taken on board) Due to HIA the project was stopped
- Decision postponed due to HIA Decision supported by HIA
- Other – please elaborate

Comments

Q22 If YES - were the recommendations easily incorporated into the planning process at the time?

Yes No

Q22 If NO - Why do you think the HIA did not have an impact on the decision?

Q24 Were reasons given for HIA recommendations that were not followed?

Yes

No

If YES – What were the reasons given?

Q25 Thinking now about changes to the decision. In your view, without the HIA, would the same changes to the decision have been made?

Yes

No

Why?

Q26 Was there evidence of heightened HIA awareness in decision makers? (i.e. Raised awareness in decision maker of relationship between health and determinants of health, increasing likelihood of consideration of health consequences in deliberations)

Yes

No

Please describe

Q27 In your view, did the HIA make a difference?

Yes

No

Why - in what way?

HIA next steps

Q28 For the next phase of the project we are going to carry out up to 12 case studies of HIAs in order to gain a more indepth understanding of the factors that influence the effectiveness of HIA. Would you be willing to be involved in a case study?

Yes

No

Could you provide us with contact details of other stakeholders (e.g., steering group members)?

Q29 Do you have any other comments about the effectiveness of the HIA?

Interview questions: Understanding the impact and effectiveness of Health Impact Assessment

Background

The Centre for Health Equity Training, Research and Evaluation (CHETRE) at the University of New South Wales has been funded by the Australian Research Council to study the effectiveness of Health Impact Assessments (HIA) conducted in Australia and New Zealand. The study's aim is to describe and explain changes to decision-making and implementation associated with the use of HIA in Australia and New Zealand between 2005 and 2009. In phase one of the study we reviewed all the identified HIAs and carried out a survey and interviews to identify factors influencing the effectiveness of HIA. In this phase twelve Health impact Assessments have been selected for a more in depth case study. We are exploring different stakeholders' perspectives on HIA effectiveness and testing theories about HIA effectiveness that we have developed.

Format

The interview will be semi-structured using questions as a starting point for a conversation where we can learn from each other (and I can test ideas with you). I am more than happy to discuss issues as they arise, including any contradictory issues you may have. What effectiveness in HIA means and what factors influence this can be difficult to pin down conceptually, so examples would be welcome where possible.

The interview is designed to last no more than an hour, although we can speak for more than this if you feel this is necessary and you have the time.

Questions

1. How was HIA undertaken? What happened?
2. What changed as a result of doing the HIA?
3. What was the purpose and expected outcomes of the HIA?
4. Was the HIA a success? Why?
5. In general, can you please describe what would make a HIA successful?
6. Can you please tell me more about how the different stakeholders worked together
 - What changed as a result of this?
7. Can you please tell me more about who was responsible for implementing the HIA recommendations and how they were involved in the HIA
8. Can you please tell me more about the timing of the HIA?
 - What was the (broader) context within which the HIA took place and how did this influence the decision to carry out the HIA and the HIA process itself?
9. What did you learn from doing the HIA?

VALIDATION WORKSHOP PROGRAM

Wednesday and Thursday 13th & 14th June, 2012

Chancellery Building, UNSW (via Gate 9)

The purpose of the validation meeting is:

1. To review the findings of the study.
2. To develop a common understanding among investigators of key findings.
3. To identify limitations of the study.
4. To discuss further action in completing the report and identify potential publications.

Program Day 1

9.00 am	Coffee
9.30	Welcome and Introductions: EH
10.00	Overview of program Study aims and phases: FH
10.30	Morning tea: sharing case studies/feedback
11.00	What is effectiveness? BHR and FH
12.00	Empirical development of the conceptual framework: BHR
12.30	What did we find PH 1&2? FH Phase 1: Identification and quality assessment Phase 2: Questionnaire Identification of case studies
1.00	Lunch
1.30	Facilitated discussion: LK Testing the conceptual framework (including review of coding tables) What was new and interesting to the project team: goals, time and timelines, proximal and distal impacts, learning, decision making/makers
3.30	Afternoon tea
4.00 pm	Feedback/Close 4.30-5.00pm

Program Day 2

9.00 am	Coffee/recap
9.30	Thinking about cultural differences and theoretical approaches and how these impact on assessments of effectiveness. Limitations of the study: EH
10.30	What did we learn?: individual reflection (using case study where relevant) and feedback. Agreement (all)
11.30	What does it mean? (Working in small groups) Policy practice research
1.00	Lunch
1.45	What does it mean? (contd)
2.15	Next steps/publications
3.00	The relationship between HIA and Healthy public policy: Patrick Harris
3.45	Review of process
4.00	Preparation for meeting on Friday
5.00 pm	Close (Dinner 7pm)

The Effectiveness of Health Impact Assessment in Australia and New Zealand

The findings of a two year Australian Research Council study into the effectiveness of HIA will be discussed at a one day validation meeting at UNSW on 15th June from 9am-4.30pm

9.00 am	Welcome. Professor Mark Harris
9.15	Opening: Professor Fran Baum – what did WHO CSDOH say about HIA as a tool for addressing health inequity?
9.30	HIA in the USA: What can we learn from each other? Dr Andy Dannenberg
10.30	Break
11.00	HIA in New Zealand: Prof Louise Signal & Prof Richard Morgan
11.30	HIA in Australia: Prof Jeff Spickett & Patrick Harris
12.00	Research Findings
1.00	Lunch
1.45	Q & A on research findings
2.15	Case Studies: (15 minutes plus 10 minutes questions) <ul style="list-style-type: none"> • South West Sydney: Sharon Peters • Hawkes Bay, New Zealand: Ana Apatu & Maree Rohleder • Housing and Health: David Lilley
3.30	Break
3.45	Panel: Implications for policy and practice
4.30 pm	Close

