HEALTH IMPACT ASSESSMENT:
A PRACTICAL GUIDE

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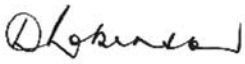
Foreword:

In NSW for the past five years, NSW Health and the Centre for Health Equity Training Research and Evaluation (part of the UNSW Research Centre for Primary Health Care and Equity) have been working together to build capacity to undertake Health Impact Assessment. This program of 'learning by doing' Health Impact Assessment is unique in its approach, and has resulted in a strong understanding of Health Impact Assessment grounded in practical experience. This guide is a direct result of that investment and experience.

There are two key findings of the New South Wales Health Impact Assessment project to date that underpin the importance of this guide. Health Impact Assessment helps ensure that planning projects, plans, programs and policies contribute to the health of the community and do not have unanticipated negative impacts on health. Health Impact Assessment also provides a structured mechanism for people from many disciplines and backgrounds, be they in health or in other sectors, to work together to incorporate a deeper awareness of health, wellbeing and equity into their work.

We encourage you to use this guide to undertake Health Impact Assessments, to 'learn by doing', and thereby work toward ensuring the health and wellbeing for all people in New South Wales.



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The New South Wales HIA project

The NSW HIA project is run by the Centre for Health Equity Training, Research and Evaluation at the University of New South Wales and is funded by NSW Health. The project's objectives are to integrate HIA into the New South Wales health system as a tool to:

a) improve internal planning and decision-making and
b) as a way to engage external partners on initiatives which influence health outcomes.

The project is principally achieving its objectives through using a "learning by doing" approach to build capacity to undertake HIA in New South Wales. This approach has led the project to support a range of HIAs carried out by health and non-health agencies on proposals ranging from health care service programs to major urban development strategies and plans.

This guide is a synthesis of the experience of the NSW HIA project and the HIAs that have been supported to date.

More details of the project and its activities are available at the 'HIA Connect' website http://www.hiaconnect.edu.au The site is an actively updated and maintained statewide, national and international resource on HIA.

INTRODUCTION

Purpose:

This guide provides a practical approach to undertaking Health Impact Assessment (HIA). Based on the findings of the New South Wales HIA project, the aim is to encourage greater consideration of health and wellbeing through the use of HIA within project, program and policy development in New South Wales.

Audience:

The print version of the guide is written as an introduction to HIA. It will be useful for:

- people working in both health and non-health sectors;
- communities and their representatives; and
- people developing health public policy.

This guide will enable you to come away with a practical understanding of HIA, its steps and underpinning concepts and theories. It is a resource to enable people to embark on doing HIAs, but also may be of use to those commissioning an HIA.

Approach:

Those undertaking an HIA are likely to pick and choose from a range of strategies and approaches.

As will be shown, HIA is a tool that is flexible and responsive to both the proposal it is assessing, and the people involved in the assessment. This guide provides detail that may or may not be required depends on the HIA being planned. The aim is to provide a range of 'best practice' information to enable you to pick and choose from among concepts and strategies that best suit the HIA at hand.

A web-based version of the guide provides more detail which will be useful as familiarity with HIA steps and concepts increases.

Structure:

This guide focuses on established steps or stages of HIA: screening, scoping, identification, assessment, decision-making and recommendations, and evaluation and follow-up (see Figure 1).

Guidance for undertaking each step is broken down into four key components:

- Purpose of the step
- Who is involved in the step
- Processes involved within the step
- Expected endpoints of the step

The key considerations when undertaking each component of each step are presented throughout the guide, supported by practical advice based on the findings of the NSW HIA project to date. These include:

- practitioner reflections based on the experiences of those who have completed HIAs in NSW as part of the NSW HIA project;
- introductions to the theories and concepts behind the steps; and
- case studies referring to both actual HIAs undertaken as part of the NSW HIA project and HIAs that have occurred elsewhere. The findings have been adapted to fit the topic the case is illustrating.

The appendices provide additional resources to support your HIA.

HEALTH IMPACT ASSESSMENT:
A PRACTICAL GUIDE

FIGURE 1: OVERVIEW OF THE STEPS OF HIA, THEIR PURPOSE AND THE MAIN TASKS INVOLVED

STEP	PURPOSE	TASK
SCREENING	Determine whether HIA is appropriate and required	• Pre-screening tasks • Conduct a screening meeting • Make screening recommendations
SCOPING	Set out the parameters of the HIA	• Set up a steering committee • Choose the appropriate level of depth of HIA that needs to be undertaken • Set the scope of gathering the evidence • Design a project plan
IDENTIFICATION	Develop a community / population profile and collect information to identify potential health impacts	• Develop a community/population profile • Collect primary and secondary, qualitative and quantitative information
ASSESSMENT	Synthesise and critically assess the information in order to prioritise health impacts.	• Assess the information on the impacts collected from the different sources. • Deliberate on the impacts to assess their significance and prioritise them
DECISION MAKING & RECOMMENDATIONS	Make decisions to reach a set of final recommendations for acting on the HIA's findings	• Develop a draft set of concise and action-oriented recommendations • Write a final recommendations report for implementation and action
EVALUATION & & FOLLOW-UP	Evaluate the processes involved in the HIA and its impact, and follow up the HIA through monitoring and a health impact management plan	• Conduct process and impact evaluation • Set up monitoring the impacts • Develop a health impact management plan

PART ONE: OVERVIEW OF KEY HIA CONCEPTS

What is HIA?

Health Impact Assessment:

- **Assesses plans, project, program or policies before they are implemented.**
- **Predicts the health impacts of these proposals, including:**
  - › assessing the severity and likelihood of the identified positive and negative impacts;
  - › determining whether these are direct or indirect impacts, and
  - › assessing the distribution of impacts.
- **Recommends mitigation measures:**
  - › to maximise positive health impacts and minimise negative health impacts; and
  - › engage decision makers so that they consider health impacts and the determinants of health in their deliberations[1].

Why undertake HIA?

HIA is a structured, solution-focused and action-oriented approach to maximising the positive and minimising the negative health impacts of new initiatives (see Theory Box 1).

There are five reasons that are generally given for why HIA helps to improve planning and policy development:

1. To identify hazards to health from the proposal being developed.
2. To reduce or eliminate the potential risks to health arising from these hazards and to undertake risk communication on the remaining risks as part of this process.
3. To identify, and where feasible strengthen, the ways in which the proposed development can promote and enhance health.
4. To identify and address underlying social, environmental and economic impacts of the development that will have both direct and indirect impacts on health.
5. To reduce or eliminate health inequities occurring as a result of the proposal (see Theory Box 2 on page 7)

THEORY BOX 1: HEALTH PROTECTION AND HEALTH PROMOTION

HIA is both a health protection and health promotion tool. In HIA, health should be broadly defined to include assessments of both health hazards and health benefits of a proposal and the potential ways in which health and wellbeing can be both protected and promoted.

What do we mean by 'health'?

Health means more than health service provision or clinical care. Traditionally in the health sector there have been two approaches to considering what health is (as shown in Table 1):

- **The 'tight' approach is situated within the traditional biomedical model of health, which focuses on disease categories and the importance of having quantitative evidence on health impacts.**
- **The 'broad' view is situated in the social or wellness model of health, which focuses on 'health and well-being' and the importance of qualitative evidence on health impacts.**

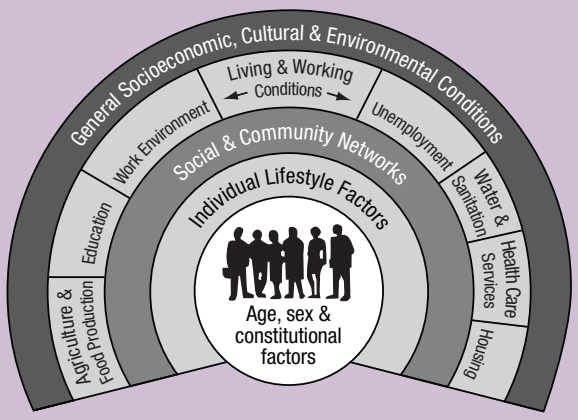
HIAs are able to accommodate both ends of this spectrum, depending on the proposal being assessed, the impacts being addressed and the availability of quantitative and qualitative health impact evidence.

TABLE 1[2]

	BROAD FOCUS	TIGHT FOCUS
VIEW OF HEALTH	Holistic	Emphasis on defined & observable aspects
DISCIPLINARY ROOTS	Sociological	Epidemiology, toxicology
ETHOS	Democratic	Technocratic
QUANTIFICATION	Vague	Precise
TYPES OF EVIDENCE	Key Informants, popular concern	Measurement
PRECISION	Low	High

FIGURE 2

Healthy Public Policy - The Wider Determinants of Health 'Rainbow'. Adapted from Dahlgren and Whitehead (1991)



Where is health created?

Health and health inequalities are influenced by the interactions between a wide range of determinants. These are outlined in Figure 2 and include: income and poverty, housing, employment, the environment, transport, education and access to services[3] (see also Barton & Grant[4] for an urban planner's perspective on this). HIA can support and enable better consideration of these wider determinants of health in the development and implementation of plans, projects, programs or policies.

In addition, these determinants emphasise the health impact of 'non-health' sectors (including treasury, housing, employment, transport, local government, planning, environment and conservation, education, and community services). By using these determinants, HIA can support and enable these sectors to develop 'healthy public policy'.

What are Health Impacts?

Health impacts are the overall effects, direct or indirect, of a policy, plan, program or project on the health of a population. These may include both:

- **direct effects on the health of the population, for example exposure to pollutants (including noise) that a proposal may release in the air, water and soil;**
- **indirect effects through a proposal's influence on the determinants of the health, for example the affects a proposal might have on the local job market, access to local shops and amenities and the availability of public spaces.**

Such impacts may be felt immediately, in the short term or after a longer period of time[5].

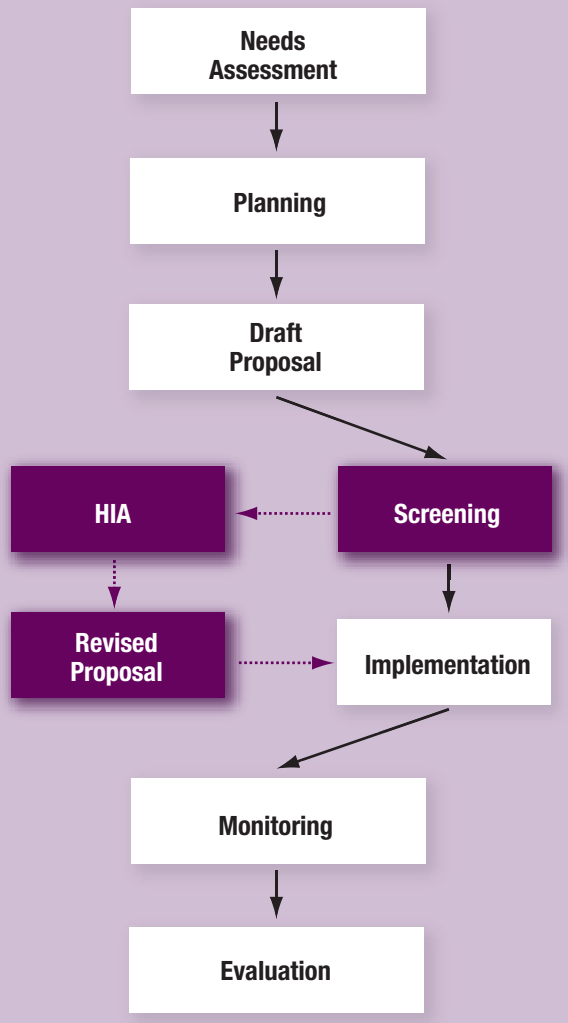
HIA should identify and assess both the potential positive and negative health impacts of a proposal. The aim of the assessment is to enhance the proposal's potentially positive health benefits and mitigate its potentially negative health risks and costs.

HIA is prospective

HIA has most value as a prospective tool, as represented in Figure 3. HIA should be undertaken prior to the implementation of the policy, program and project that is being assessed. This means HIA is best placed within the policy and planning cycle after a draft proposal has been developed but before that proposal is implemented. In this way HIA differs from needs assessment, monitoring and evaluation.

FIGURE 3

HIA within the Planning cycle. When do you do it?



THEORY BOX 2: EQUITY IN RELATION TO HIA

In HIA, equity is concerned with making clear if a proposal will differentially impact on different groups. Differential impacts refer to whether the benefits of the proposal may be experienced to a greater extent by one group and not others, and whether the negative impacts of a proposal may be experienced to a greater extent by one group and not others. For example, a freeway may make it easier for people to travel to and from work but may also have negative impacts on the air quality and noise for people who live near the freeway but make little use of it.

In an HIA, this involves an assessment of whether this difference is significant in health terms, whether it is likely to be considered unfair by affected people and whether the proposal can be modified to eliminate or reduce the potential impact. This is especially true if one group is seen to carry a higher burden of disadvantage or risk of being disadvantaged. For example, when major roads go through poor neighbourhoods and avoid more wealthy ones.

Broad participation

HIA engages a broad range of stakeholders. HIA '…draws on the insight, experience and expertise of a wide range of those involved in, or affected by, the proposal. These may include: professionals with knowledge relevant to the issues being addressed; key decision-makers; relevant voluntary organisations; and the local population affected by the proposal.' [6] (p.7).

Equity

Equity is a core concern of HIA. HIA therefore focuses on the potential for a proposal to lead to unequal health impacts on particular groups within a population, for example lone parents, children, people on low incomes and people with disabilities. It aims to provide recommendations to reduce the potential of a proposal to lead to new health inequalities or to widen existing ones[7].

PART TWO: THE STEPS IN HIA

1. Screening

1.1. Purpose

Screening determines whether an HIA is appropriate or required. Screening ensures that time, effort and resources are targeted appropriately.

Not all proposals will benefit from an HIA[8]. Screening has two key features:

- **It scrutinises the proposal for certain HIA triggers in order to quickly and systematically establish whether an HIA is appropriate or required.**
- **Identifying opportunities for improving the proposal even if a full HIA is judged not to be appropriate.**

1.2. Who is involved in screening?

Screening should be done by a group rather than one person with the aim of conducting one screening meeting. This group should include:

- decision-makers with the ability to change the proposal;
- the proposal proponents;
- communities and community representatives likely to be affected by the proposal; and
- key informants with knowledge of the potential health impacts and / or the population the proposal is likely to impact on.

1.3. The process of screening

There are three main tasks in screening:

- **Pre-screening activities**
- **Conducting a screening meeting**
- **Making recommendations**

Records should be kept on what decisions and recommendations were made, why they were made and the methods and tools used to reach these. They will also assist in ensuring the transparency of the HIA process and in making decisions later in the HIA.

1.3.1. Pre-screening activities

Prior to a screening meeting, pre-screening activities will outline the key elements and objectives of the proposal. Pre-screening involves:

- collating background information; and
- selecting and agreeing on an appropriate screening tool.

1.3.1.1. Background information

Prior to the screening meeting, the initial task for the group is to write and circulate among themselves:

- ***a summary description of the proposal. For example covering aims, objectives, potential impacts, key decision-making points, timelines and the potential for changes to be made; and***
- ***a basic population profile of the population potentially affected. For example covering demographics, the environment, living conditions and access to services.***

PRACTITIONER REFLECTION 1: A STRUCTURED APPROACH TO SCREENING

"Screening benefits from having a transparent governance structure. For example a clear 'screening group' with terms of reference provided our multi-sectoral screening group with in-principle understanding between stakeholders plus an explicit, agreed upon, structured process of how the deliberations of the screening will feed into the development or modification of the proposal.

Also, having a clear structure can go a long way to establishing trust, mutual understanding and ownership if a full HIA is screened to go ahead. Our HIA Screening Group and its terms of reference formed the foundation of the broader steering committee of the full HIA".

CASE STUDY 1: PRE-SCREENING

An Area Health Service is approached by a local community advisory group to comment on a draft proposal of a wind-farm. A manager is assigned the task and thinks an HIA may be a useful process to help understand the potential positives and negatives of the proposal in relation to health. Initially, the manager develops an in-house team to undertake pre-screening on the proposal, prior to a more formal screening meeting.

First the team puts together a summary description of the proposal:

Proposal aims and objectives	To develop a large scale wind-farm (5 km from an established community) to provide increased electricity to the local town, some 40 km away from the site.
Potential impacts based on a scan of the literature	**Negative** Noise, community perceptions of light flicker impacting on those with epilepsy, decreased tourism, negative impacts on local amenity and social capital. **Positive** Short term employment, reduced greenhouse gas emissions, increased electricity for consumption, sustainable source of energy, increased tourism.
Key decision making points	• The proposal notes significant negative press coverage on the issue of wind-farms impacting on local communities but with limited consideration of their needs. • However, the proposal also notes that wind-farms are a key component in the Government's strategy in reducing greenhouse gas emissions. • The proponents of the proposal are a public and private sector partnership between State Government and an international power corporation with a growing track record in 'green' energy. • The proposal notes an extensive construction phase with a large number of employees accessing the site daily.
Timelines	The draft proposal is released for public comment in two months time and the window for public comments will be three months.
Potential for changes to be made to the proposal	The draft proposal, while mentioning the importance of community, has limited strategies to address their needs and does not mention health (although economic and social issues are raised). From this it becomes clear that there is an opportunity for an HIA to add value to the development and design of the proposal.

The team then conduct a rapid population profile which shows that the local community has:

- high employment levels with the major employers being the surrounding farms, local business and a university in a nearby town;
- 2,000 inhabitants, largely made up of older people with some young families;
- a life-expectancy of 79.2 years for women and 78 years for men; and
- limited reliance on tourism for jobs and income.

Based on the summary description and profile, the manager decides that a formal screening meeting is required, and the team completes a more in-depth screening tool at the meeting that includes the local community group and local council representatives.

At meeting the local council representatives comment that an in depth Environmental Impact Assessment is being conducted as part of NSW regulations covering the development application for the wind-farm, which has been declared by the Minister of Planning to be of state significance. Due to this, the group at the meeting decides against proceeding. However the group make a recommendation that the Department of Planning consult with the local community about health and wellbeing issues as part of the Environmental Assessment.

1.3.1.2. Choosing a screening tool

Pre-screening work prior to the screening meeting also involves selecting an appropriate screening tool for use in screening. Many different tools exist that may be more or less appropriate to the proposal at hand. Examples of specific screening tools include:

- NSW Health's "Greater-Western Area Health Service screening tool"[9]. This is provided in Appendix One.
- The National Public Health Service for Wales' "Health Inequalities Impact Assessment Checklist: Guidance notes"[10].
- The Devon Health Forum's "Health and Wellbeing Checklist: A Guide to Using Health Impact Assessment in Your Organisation"[11].
- Westminster City Council and Westminster Primary Care Trust's "Screening Tool for Assessing the Impacts of Committee Reports on Health and Well-Being"[12].

1.3.2. Conducting the screening meeting

During the meeting the team will either:

- work through an appropriate screening tool; or
- conduct a brainstorming session to arrive at a shared agreement on the following screening considerations.

1.3.2.1. Is there a clear proposal to be assessed?

For an HIA to proceed, proposals must contain enough information that potential impacts can be assessed and recommendations made.

1.3.2.2. An initial assessment of the health impacts

Screening the proposal for impacts is more than a simple 'yes' or 'no' exercise. Screening should also consider:

- the size and significance of the potential impacts. For example, whether a housing regeneration proposal will have large, small or negligible impacts on residents and how significant these will be for the community affected; and
- the potential for cumulative impacts when a number of small or non-significant impacts may interact with each other to become larger or more significant impacts over time. For example, a series of housing developments in an area may be too small individually to warrant HIAs but collectively may result in large and significant impacts on the surrounding communities and environment.

Assessing the proposal against the wider determinants of health as shown in Figure 2 (See page 6) is a useful way of screening for less direct, explicit or obvious impacts.

1.3.2.3. Is it possible to influence decision-making?

Limited opportunity to influence the decisions surrounding the development and implementation of a proposal will reduce the need for an HIA. However an HIA may still become a useful advocacy tool in its own right.

Decision-making and the opportunity to influence those decisions frequently occurs within short timeframes. As a result the length of time that a proposal is in draft form and can be changed can often be tight. A good example in NSW is the development application process in local councils. Understanding these timeframes and conducting the HIA within them ensures the HIA can meaningfully inform the decisions being made.

1.3.2.4. The timing of the proposal being assessed

Screening should indicate where the HIA fits as part of the broader proposal development and implementation process.

1.3.2.5. An initial assessment of the potential links between the proposal and health

Some proposals have only a peripheral relationship to health and in these cases an HIA should not proceed. For example, changes to the accounting software used by an organisation are likely to have no significant impact on human health.

1.3.2.6. An initial equity assessment of the proposal

Screening may also draw attention to the equity of the potential health impacts of the proposal:

- whether the proposal will lead to impacts being differentially distributed in the population. For example, negative health impacts falling disproportionately on low socioeconomic groups, groups from culturally and linguistically diverse backgrounds, Aboriginal people, men or women, different age groups, or those living in rural areas.
- whether this distribution is significant, considered unfair by key stakeholders and is modifiable. For example, a policy to change health insurance may widen existing health inequalities, be seen as unfair and can be modified; and
- whether changes to the proposal will lead to improved equity.

Where equity considerations are screened as being central to the proposal and its implementation, an Equity Focussed HIA should undertaken[7].

1.3.2.7. Whether the nature of potential impacts is well documented

Well-documented evidence of the potential impacts of similar proposals within similar contexts (for example, similar locations) may mean a full HIA is not required. In this case the screening exercise will be able to make recommendations concerning changes to the proposal, based on this well-documented evidence. For example, NSW Health's Environmental Health Branch has a database of previous development assessments made as part of planning applications.

1.3.2.8. Whether other assessment tools are more appropriate

There are a number of alternative tools to an HIA that can be used to assess impacts and assist with proposal development. These tools include risk assessment, evaluation, needs assessment, and monitoring during implementation. Other types of impact assessment may also be used, for example Environmental Impact Assessment or Social Impact Assessment
(See Theory box 3).

1.3.2.9. Availability of resources and capacity

An HIA requires financial and human resources. A brief review of whether these are available will determine whether a full HIA is able to proceed.

1.3.3. Recommendations

From the pre-screening and the screening meeting it will be possible to make one of a number of recommendations. These are:

- an HIA not proceeding, but screening itself resulting in recommendations about the potential impacts of the proposal (including whether another assessment tool should be used); or
- an HIA not proceeding, but screening resulting in a follow-up plan to monitor and follow-up potential impacts were they to occur (see Evaluation and Follow up stage); or
- the proposal not proceeding, pending further assessment, due to the potential severity of impacts; or
- an HIA proceeding.

1.4. The Endpoints of screening

Screening should result in a written transparent review of the proposal that includes:

- **a brief overview of the proposal;**
- **an introduction to the potential health impacts of the proposal;**
- **potential resource requirements of the HIA;**
- **a description of the opportunities to influence decision-making; and**
- **screening recommendations.**

Where the decision to proceed with an HIA is taken, appropriate resources will need to be identified. Commitment from all participating organisations to adequately resource and support the HIA is required.

THEORY BOX 3: OTHER TYPES OF IMPACT ASSESSMENT – EIA, SIA, AND IIA

HIA is not the only type of impact assessment. Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) are the most well-established, and in NSW EIAs are statutory requirements. More recently there has been a push to integrate different types of impact assessment into 'Integrated Impact Assessment' (IIA).

The relationship of HIA to these other impact assessments is not conflicting and HIA should form an important part of these other assessments. For example, HIA can add a strong health protection component, or a rigorous understanding of the health equity impacts of a proposal. The challenge for advocates of HIA is to ensure that health is not sidelined when included in other types of impact assessment, but instead is assessed as rigorously as possible.

2. Scoping

2.1. Purpose

Scoping involves planning and designing the HIA, setting out its parameters. Thorough scoping saves time, work and resources in the remaining steps. Scoping is 'the key step, if not the most important step, in the HIA process'[13].

2.2. Who is involved in scoping

Two groups can be formed in the scoping step: an HIA project team and an HIA steering committee. Both groups will continue in these roles throughout the life of the HIA.

- The HIA project team will conduct the scoping and the other steps of the HIA, reporting to the steering committee for sign-off. The team may be the same group that conducted the screening and should be made up of individuals that have the authority, skills and capacity to carry out an HIA.
- The HIA steering committee is created to oversee and provide direction to the HIA. All major decisions will be considered and signed off by the steering committee.

2.3. The process of scoping

There are four main tasks in scoping:

- **setting up a steering committee;**
- **choosing the appropriate level for the HIA that needs to be undertaken;**
- **choosing which impacts will be assessed**
- **designing a workplan; and**
- **setting the scope of the evidence to be gathered.**

To ensure transparency and assist decision-making, records (for example minutes of meetings) should be kept on what decisions were made, why they were made, and the methods and tools used to reach them.

2.3.1. Setting up a steering committee

Establishing a steering committee, underpinned by a clear and transparent statement of values, is the core organising task of scoping.

- ***Representation***

Forming a steering committee involves balancing the need to make it small enough (a maximum of eight) to be manageable and making it large enough to include a diverse range of perspectives and expertise.

Useful areas of expertise for the committee are: the proposal topic, the potential population(s) affected, community involvement, public health evidence and research, negotiation skills, policy analysis, equity issues and the social determinants of health[14].

PRACTITIONER REFLECTION 2: INCLUDING DECISION-MAKERS ON THE COMMITTEE

"I'd recommend having representation on the committee from decision-makers and those who are in control of the proposal. The HIA we undertook was on a proposal being developed by the NSW Department of Planning. Having representatives from the Department on the committee allowed recommendations to be better tailored to the language and approach of the department."

- ***Chair***

The Chair of the steering committee should be carefully selected. The Chair does not need to be a health professional but must be familiar with chairing high level and diverse steering committees, be respected, have the skills to deal with potential conflict between group members and be committed to the successful completion of the HIA.

- ***Values***

Establishing the group's values and perspective on health early on in the proceedings of the steering committee helps to ensure that there is consensus on the scope of the impacts that will be assessed in the HIA.
Key questions that need to be asked are:

- How will health be defined? (see pages 5-6)
- How will health equity be defined? (see page 7)
- What specific groups, communities or populations will be considered in terms of differential impacts?
- How will evidence be valued and evaluated?
- How will competing or conflicting evidence be reconciled? For example where community perceptions of an impact differ from discussions on the impact in literature.
- How will recommendations be made?
- What range of stakeholders will be consulted and how?

PRACTITIONER REFLECTION 3: VALUES

"Making the values that will drive the HIA explicit during scoping is vital for the conduct of the HIA across every subsequent stage. Our comprehensive HIA involved many different organisations and many different stakeholders. Unfortunately, it missed its window of influence largely because the committee argued at every meeting about what health meant, and what type of evidence should be included."

• ***Terms of reference***

Terms of reference should be comprehensive and act as the guiding document for both the HIA and the steering committee. While the terms of reference are specific to each HIA, it is recommended that they include[8]:

- the goals, aims, purpose and functions of the HIA (including the values and perspective on health);
- the membership of the steering committee together with a explicit description of the roles and responsibilities of members;
- agreement on definitions. For example 'health' and 'equity';
- the provision of secretarial support;
- the nature and frequency of the project team's feedback to the HIA Steering Committee;
- the number of group meetings to be held (for example seven meetings, one for each stage of the HIA, plus two ad hoc meetings);
- a detailed description of the methods to be used in the assessment;
- a protocol for information and data sharing between agencies if required;
- an outline of the form and content of deliverables;
- any conditions associated with production and publication of findings and outputs (for example journal articles and media releases) including intellectual property, confidentiality agreements, copyright and publication;
- an outline of the scope of the work - what is to be included and excluded - and the boundaries of the HIA in terms of time and place;
- an outline of the project plan including deadlines;
- the budget and source(s) of funding;
- how to deal with conflict and the inability to achieve consensus; and
- how changes to the terms of reference will be handled should they need to be made.

2.3.2. Choosing the appropriate level of depth for the HIA

HIAs can vary in scope and size. Generally one of four levels of depth can be chosen: desk-based, rapid, intermediate and comprehensive (see Figure 4). The level of HIA should correspond to the level of resources and capacity available, the scale of the proposal and the size of the potential impacts (see Table 2).

An important rule of thumb is that the greater the level of depth of the HIA, the greater the range of impacts that will be included in the assessment.

PRACTITIONER REFLECTION 4: DATA SHARING

"HIA can be driven by a number of agencies - health and others - and involve sharing information and data owned by these separate agencies. While this cross-agency ownership and direction can be very useful, it is important to make clear how data will be shared early on in scoping. For example, one HIA we were involved in was driven by ten state government agencies and:

- **data sharing agreements were made with each organisation represented on the steering committee;**
- **some agencies allowed their data to be put into the public domain whereas other agencies required strict confidentiality agreements before releasing their data;**
- **one recommendation made from the HIA was that '…systems should be implemented to ensure ongoing monitoring of vulnerability levels in the region as identified in the report.' This is now being implemented and will require further agreements about data sharing."**

TABLE 2

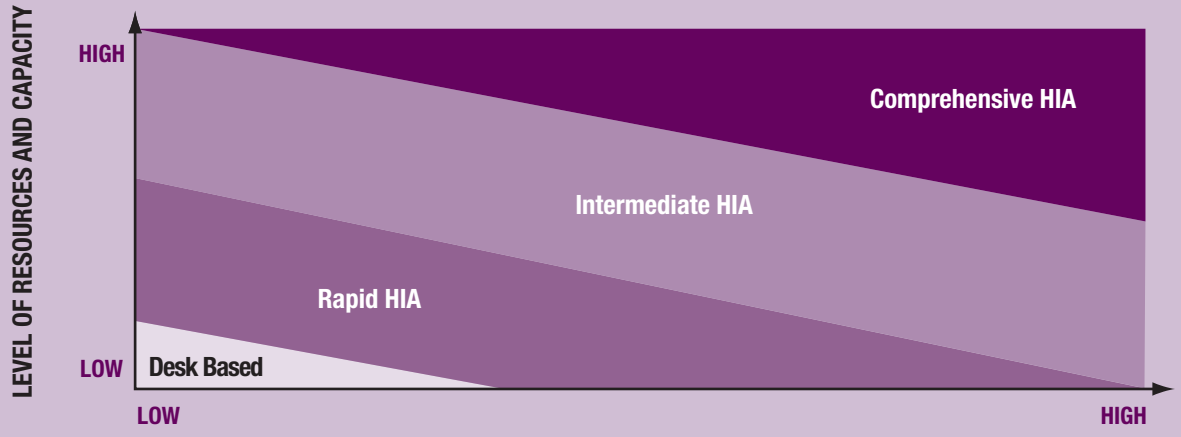
The four levels and their resource and practice implications (adapted from[15]): Resources and practice guide to each level of depth in HIA

DESK BASED	RAPID	INTERMEDIATE	COMPREHENSIVE
2-6 weeks for one person full time[1].	6 to 12 weeks for one person full time.	12 weeks to 6 months for one person full time.	6 to 12 months for one person full time.
Provides a broad overview of potential health impacts.	Provides a more detailed overview of potential health impacts.	Provides a more thorough assessment of potential health impacts, and more detail on specific predicted impacts.	Provides a comprehensive assessment of potential health impacts.
Could be used where time and resources are limited.	Could be used where time and resources are limited.	Requires significant time and resources.	Requires significant time and resources.
Is an 'off the shelf' exercise based on collecting and analysing existing accessible data.	Involves collecting and analysing existing data with limited input from experts and key stakeholders	Involves collecting and analysing existing data as well as gathering new qualitative data from stakeholders and key informants.	Involves collecting and analysing data from multiple sources (qualitative and quantitative)
Activities include accessing off the shelf resources and synthesising and appraising information.	Activities include accessing resources, hosting and supporting meetings, and synthesising and appraising information. If capacity does not exist in-house, consideration should be given to commissioning external assessors.	Activities include accessing resources, hosting and supporting meetings, identifying stakeholders and key informants, gathering and analysing qualitative and quantitative data, and synthesising and appraising information. If capacity does not exist in-house, consideration should be given to commissioning external assessors.	Activities include accessing resources, hosting and supporting meetings, identifying stakeholders and key informants, gathering and analysing qualitative and quantitative data, and synthesising and appraising information. If capacity does not exist in-house, consideration should be given to commissioning external assessors.
LESS IMPACTS →			MORE IMPACTS

*The time involved will vary depending on the number of people actively involved in undertaking HIA tasks. For example a comprehensive assessment may take a team of four people three months to complete.

FIGURE 4

Indicative level of depth of HIA



2.3.2.1. Contextual issues

The context surrounding the proposal and the conduct of the HIA itself will drive both the level of HIA, and what impacts will be included in the assessment.

Key contextual issues are (see also checklist provided in Appendix 2):

- ***the scale of the proposal***

The greater the size and importance of the proposal in terms of the potential for health risks and health benefits the more comprehensive the HIA should be. If this is not known at the first scoping meeting, discussions among the steering committee, or with proposal proponents and others who have a stake in the outcome of the proposal, such as community members, should be used to form a preliminary assessment of this.

- ***the significance of the impacts***

The greater the magnitude for potential positive and negative impacts, and the higher degree of uncertainty surrounding these impacts, the more comprehensive the HIA should be.

- ***external interest***

The greater the political, professional and/or public interest in the proposal the more comprehensive the HIA should be. The more complex these interests are, the more comprehensive the HIA should be.

- ***timing***

The more urgent the HIA is and/or the more critical the link between the proposal and the timing of other projects, proposals and policies with short timeframes, the less comprehensive the HIA should be.

- ***window of opportunity***

The more closed the 'window of opportunity' (based on timing, political and public currency considerations), the less comprehensive the HIA should be.

- ***organisational capacity***

The more staff available to work on the HIA, and/or the higher the level of in-house expertise the more comprehensive the HIA can be. The greater the availability and accessibility of external expertise, the more comprehensive the HIA can be.

- ***resources***

The more funds available to do the HIA, and/or the more data on health impacts that is available and accessible, the more comprehensive the HIA can be.

CASE STUDY 2 AND 3: CONTEXT AND HIAS

Two HIAs are being conducted, one by an Area Health Service on a plan for a local playground, and one overseen by a multi-sectoral steering committee on a proposed large freeway development. Each has different contextual issues surrounding it, resulting in each being scoped at a different level.

	CASE 1	CASE 2
Issue	**Local Playground Proposal**	**Freeway development Proposal**
Level scoped	**Desk-based – small number of impacts to be assessed**	**Comprehensive – large number of impacts to be assessed**
Scale of proposal	Minimal size and potential to do harm or be of benefit, and small investment as it is one small playground in one park in one area.	Very large potential for harm and benefit, and large investment.
The significance of the impacts	Large scope for impacts but on a small area, and there is considerable certainty about the types of likely impacts, as identified by existing HIA evidence.	Considerable scope for both negative impacts (e.g. pollution and traffic related injuries) and positive impacts (e.g. access to services, improved infrastructure), but the likely local levels and distribution of these are uncertain.
External interest	Small amount of local political and public interest.	Large amount of political and public interest.
Timing	One month to provide recommendations to fit with the Council's current plans.	One year to provide recommendations.
Window of opportunity	One month turnaround. However there is an election in six weeks, after which construction of the playground may not have the priority in the Council that it currently has.	Likely to stay on the political agenda until approval and construction, which is more than one year away.
Organisational capacity	Limited staff availability in Area Health Service but there is ready access to the HIA literature and expert advice.	Capacity for a consultancy firm be commissioned to do the HIA, and a large number of experts to be engaged for specific portions of the assessment.
Resources	Limited resources but good access to the literature and expertise.	Large resources available to support the HIA and a large amount of data and expertise is available and accessible.

2.3.3. Choosing which impacts to assess

There are two drivers for the choice of impacts to assess in an HIA: the proposal itself, and context.

2.3.3.1. The proposal

When choosing impacts, the focus should be on the proposal itself, including:

- activity that is outlined in a proposal; and/or
- any gaps or activities not included in the proposal that have potential effects on health.

For example, the proposed activity of building a new freeway is very likely to have an impact on air quality and commuting times. An additional activity in the proposal is to increase the number of transit lanes, which is likely to have an impact on traffic flow and use of public transport. However, the proposal does not include the activity of installing sound barriers, which is likely to impact on noise levels in adjacent communities.

2.3.3.2. Context

Scoping what impacts to include will also depend on the contextual issues outlined in point 2.3.2 above. Desk-based and rapid HIAs should focus on a smaller number of impacts and comprehensive HIAs should focus on a detailed assessment of a larger number of impacts (see Table 3).

TABLE 3

Level of HIA and number and depth of impacts to assess:

DESK BASED	RAPID	INTERMEDIATE	COMPREHENSIVE
No more than three impacts, assessed in less detail	No more than three impacts, assessed in more detail	Three to ten impacts, assessed in detail	All potential impacts, assessed in detail
Provides a broad overview of potential health impacts	Provides a more detailed overview of potential health impacts	Provides a more thorough assessment of potential health impacts, and more detail on specific predicted impacts	Provides a comprehensive assessment of potential health impacts

2.3.4. Scoping the evidence to be gathered

During scoping it is useful to identify the range and type of evidence used in the HIA. Doing this will be based on:

- the values those involved in the HIA have about what constitutes evidence of potential impacts (see point 2.3.4.1 below);
- the time you have;
- the resources you have available to assist you in locating evidence;
- access to experts in the field;
- the type of HIA proposal; and
- the evidence that is available.

2.3.4.1. Evidence to fit questions: typologies of evidence[16]

During scoping it is important to think about the types of evidence to access in order to address specific questions that arise during scoping. For HIA it is useful to think in terms of typologies of evidence rather than rigid hierarchies of evidence. For HIA (which is different to research) this requires asking two questions:

- "What is the best evidence we have for each of potential health impacts that could arise from this proposal?"; and
- "What weights do proponents, stakeholders and decision-makers place on various types of evidence?"

For example:

- To know what a community's concerns will be about building an incinerator in their area the HIA should gather information about community concerns and include community consultation.
- To know what the known health impacts from existing incinerators are, systematic reviews of the literature may be the best source of evidence.
- To know what the likely geographical impacts of emissions in a 2km radius from the incinerator are, computer modelling of emissions and airsheds may useful.

A typology of evidence tool can assist in mapping the ways in which evidence will need to be gathered.

Table 4 is an example of a typology of evidence as used by a steering committee overseeing an HIA of an incinerator. The committee have scoped that they are conducting an intermediate HIA which will include some stakeholder consultation to assess community concerns and a literature review that will include 'grey' (non-peer reviewed) literature.

2.3.5. Project plan

Having worked through all the previous components of scoping, the written project plan, endorsed by the HIA Steering Committee, provides useful direction for the project team and the steering committee. The plan should include:

- Background to the HIA including proposed level of depth and impacts to be assessed, informed by screening and based on scoping.
- Preliminary plan for identification and assessment of impacts.
- Preliminary plan for making decisions and recommendations.
- Preliminary plan for evaluation and follow-up.
- Timelines.
- Budget.

2.4. Endpoints of scoping

Scoping should result in:

- terms of reference for the steering committee;
- a written clear and transparent project plan for the depth of the HIA chosen and impacts to be assessed, endorsed by the HIA Steering Committee; and
- a concrete commitment to the proposed plan for carrying out the HIA, including cross-institutional commitment where relevant.

TABLE 4

Typology of evidence tool for an HIA on an incinerator

KEY QUESTIONS	SOURCE OF EVIDENCE				QUESTION RELEVANT?
	COMMUNITY CONSULTATION	LITERATURE REVIEW	POLICY REVIEW	SPECIAL COLLECTION*	
USE Who's going to use the area following the implementation of the proposal?	+++	+	+	++ (focus groups, stakeholder interview)	Yes
EFFECT Will the proposal change any determinants of health?	++	+++	+	++ risk assessment of air pollution	Yes
DIFFERENTIAL IMPACTS Will the proposed have differential impacts?	+	+++	++	+++ (demographic analysis)	Yes
SALIENCE Is the proposed change important to the community/ stakeholders?	+++	N/A	N/A	+++ (focus groups, stakeholder interview)	Yes
SATISFACTION Are local residents, providers, and other stakeholders satisfied with the proposed changes?	+++	N/A	N/A	+++ (focus groups, stakeholder interview)	Yes
OTHER QUESTION 1					
OTHER QUESTION 2					
OTHER QUESTION 3					

Note the typology can be used to scope and guide the HIA overall, not each issue or impact.

* Focus groups, key stakeholder interviews, modelling, etc.

Note: the number of pluses (+, ++, +++) indicates the extent to which that particular source of evidence will be drawn on to answer that question. Adapted from: Petticrew and Roberts[16]

3. Identification

3.1. Purpose

The identification stage develops a profile of the community or population likely to be affected by the proposal and collects information to identify the potential health impacts of a proposal.

3.2. Who is involved in identification?

This stage will be conducted by the HIA Project Team that is established or commissioned during the scoping stage and it is overseen by the HIA Steering Committee.

Identification may also involve stakeholders such as professionals with relevant experience and/or the local community themselves[17].

3.3. The process of identification

There are two main tasks in identification:

- **Developing a community/population profile**
- **Collecting information**

To ensure transparency and assist decision-making, records should be kept on what HIA decisions and recommendations were made, why they were made and the methods and tools used to reach them.

3.3.1. Developing a community/population profile

Profiles of affected communities and populations generate a clearer picture concerning the community or population likely to be affected[15]. Profiling provides an overview of the community or population potentially affected by the proposal and identifies potentially vulnerable groups and groups likely to be more affected by potential health impacts than others[7]. Profiling may build on the initial profile developed during screening.

PRACTITIONER REFLECTION 5: PROFILING

"Profiling the community can provide a good baseline for the monitoring and evaluation of a proposal's health impacts. As a result if the data is routinely collected then this may assist with longer term monitoring and evaluation of impacts."

THEORY BOX 4: ACCESSING DATA

Profiling is done through reviewing existing data. There are a number of useful Australian and NSW web links for accessing this data:

- Australian Bureau of Statistics http://www.abs.gov.au (Census data and other useful packages such as the SEIFA index of disadvantage)
- Report of the NSW Chief Health Officer http://www.health.nsw.gov.au/public-health/chorep/
- Local Government http://www.dlg.nsw.gov.au/dlg/dlghome/dlg_home.asp
- Australian Institute of Health and Welfare http://www.aihw.gov.au/
- State Library of NSW http://www.sl.nsw.gov.au/links/stats.cfm
- Bureau of Crime Statistics and Research (BOCSAR) http://www.lawlink.nsw.gov.au/bocsar
- Profile ID http://www.id.com.au/home/default.asp?pg=7

Examples of information a profile may generate are[13, 14, 15]:

- General population characteristics including size, density, distribution, age and sex, birth rate, ethnicity and demographic trends.
- Health status of the population likely to be affected, including at-risk groups such as children or older people, aged care facilities and schools, current causes of death, illness and disability, and how health and wellbeing is perceived by different groups and communities.
- Indicators of personal behaviour including diet, smoking status, physical activity, and alcohol use.
- Environmental conditions including transport links, air, water and soil quality and the ability to increase capacity e.g. of a water supply or effluent disposal system.
- Other health determinants including housing conditions, types of housing, employment status, socio-economic status, levels of employment or unemployment, transport infrastructure, social support and access to services (including health care services and sport and recreation facilities).
- Locations where at risk-groups may be concentrated for example particular areas or schools.

3.3.2. Collecting information

Collecting information provides the detail required to make informed and balanced judgements about the potential health impacts of a proposal.

Generally in HIA, information is collected through:

- literature sources; and
- collection of quantitative and qualitative information.

THEORY BOX 5: PRIMARY AND SECONDARY DATA COLLECTION

In an HIA it is useful to make a distinction between primary and secondary data. The use of either will depend on the level of the HIA that is being undertaken (desk-based, rapid, intermediate, or comprehensive).

Primary data is data collected solely for the purpose of the HIA itself. Examples of primary data include: consultations with communities or the sampling of local air quality as part of the HIA. Comprehensive and intermediate HIAs will generally collect this type of data. Some rapid HIAs may also collect primary data through stakeholder interviews.

Secondary data is data collected for another purpose but that is relevant to the HIA and therefore used to inform the HIA. Examples of secondary data include: community consultations conducted as part of a needs assessment by local government, articles in the peer reviewed literature or routine data collected by hospitals or the Environmental Protection Agency. All levels of HIA will include secondary data.

3.3.2.1. Literature sources

Literature sources are secondary sources of information and data. Depending on the level of HIA chosen during scoping, it may not be necessary, practical or possible to collect new data. Therefore, already available secondary sources of information and data are used, for example peer-reviewed journal articles, other reports, policy documents or previous HIAs and other Impact Assessments.

The types of literature and evidence that should be reviewed are:

- ***Previous HIAs***

Other HIAs that have been conducted on similar topics can provide useful sources of information and save time and effort.

- ***HIA-specific Literature Reviews***

Where existing systematic or more general literature reviews are unavailable or deemed insufficient, a literature review of relevant studies can be collected from a systematic search of bibliographic and research databases.

- ***Existing Systematic Reviews***

Reviewing existing systematic reviews of the literature will provide robust overviews of both qualitative and quantitative information. These are generally seen as the 'gold standard' of the wider health impact literature. However, the numbers of systematic reviews relevant to health impacts commonly assessed in HIA are currently limited.

- ***Existing Literature Reviews***

Where systematic reviews are unavailable or deemed insufficient, existing but less systematic literature reviews can also save time and effort. However, the quality and comprehensiveness of these reviews needs to be taken into account.

- ***Grey Literature Reviews***

Reports, policy documents and other sources relating to the topic under consideration can yield important information but may not be found within the peer reviewed academic literature. Hence their colloquial name, 'Grey Literature'. Search engines, such as Google, Yahoo and Alta Vista, are useful tools to search for these.

PRACTITIONER REFLECTION 6: QUALITY OF SECONDARY DATA

"We have found that the evidence base for various impacts, including the sources or studies this information comes from, vary in quality. Sometimes information is just not available or readily accessible. This often means making a judgement to go ahead with incomplete information. However, doing so requires transparency about what methods were used to access the information and what gaps were encountered when collating the information."

THEORY BOX 6: SOME USEFUL WEB SOURCES BOTH IN AUSTRALIA AND OVERSEAS ARE:

› HIAs and impact assessments

- HIA Connect – **http://www.hiaconnect.edu.au/**
- Health Impact Assessment (HIA) Community Wiki – **www.healthimpactassessment.info/**
- World Health Organisation – **http://www.who.int/hia/en/**
- International Health Impact Assessment Consortium – **http://www.ihia.org.uk/**
- International Association for Impact Assessment – **http://www.iaia.org/**

› Systematic reviews

- Cochrane Centre – **http://www.cochrane.org/index0.htm**
- Campbell Collaboration – **http://www.campbellcollaboration.org/**
- Health Development Agency (HDA) – **http://www.hdaonline.org.uk/html/research/evidencebase.html**
- Health Evidence Network – **http://www.euro.who.int/HEN**
- Medical Research Council – **www.msoc-mrc.gla.ac.uk**
- University of York, Centre for Reviews and Dissemination – **http://www.york.ac.uk/inst/crd/**
- WHO – **http://www.who.int/en/** WHO Europe – **http://www.who.dk/**

› Literature reviews

- Pubmed – **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed**
- Medline – **http://medline.cos.com/**
- BMJ Journals online – **http://www.bmjjournals.com/**
- Google Scholar – **http://scholar.google.com/**
- Other databases such as Ovid and CINAHL are accessible through libraries.

3.3.2.2. Collection of quantitative and qualitative information

Some HIAs will include collections of primary and secondary data that are both quantitative and qualitative. Ideally a combination of sources of information should be used to 'triangulate' and strengthen findings.

At all times the collection of information during an HIA should focus on the quality of the information and evidence and should be based on two considerations:

› Quality or robustness of the research design – does the design match the scope of the HIA or the question asked?

› Validity of the conclusions – are the conclusions drawn appropriate in light of the scope/questions asked and design adopted.

A good handbook on undertaking research and evaluation (qualitative and/or quantitative) will prove useful detail to base identification on. Two examples of recommended texts are:

› 'Qualitative Research and Evaluation Methods' by Michael Quinn Patton[18]; and

› 'Real world research: a resource for social scientists and practitioner-researchers' by Colin Robson[19].

THEORY BOX 7: TRIANGULATION

Triangulation refers to the approach of investigating a phenomenon using two or more different methods. Similar findings obtained from all of these different methods about the phenomena in question will strengthen the conclusions and recommendations drawn. For example, in a rapid HIA on a population plan in rural NSW, both the literature review and key stakeholder interviews found that physical activity levels in young people was an important impact. In this way evidence found from secondary sources was triangulated with local primary data which, by showing similar findings, gave more weight to the HIAs recommendations concerning physical activity.

• ***Quantitative approaches to information collection***

Quantitative information provides numerical estimates of existing baselines to base the assessment on, e.g. census data at local level. It also provides information on the potential level of impacts and the numbers of people likely to be affected e.g. the likely level of emissions into the air and the population likely to be exposed to these emissions. Quantitative information can be both primary or secondary with the collection of primary data usually only possible in comprehensive HIAs.

• ***Risk assessment***

Risk assessment is the quantitative approach most associated with HIA. Risk assessment also has an identification stage that identifies key issues to assess[20]. In Australia, the enHealth Council has provided two comprehensive and complementary resources for those considering risk assessment as part of HIA[13,20]. However, a focus on risks alone is problematic for HIA given that the aim of HIA is to identify both positive and negative health impacts. The focus should therefore be on both risks and benefits[13]. Furthermore, the types of health impacts most amenable to quantification are often 'simple' and more easily measurable impacts related to exposures to air, water and soil pollutants.

THEORY BOX 8: HEALTH RISK ASSESSMENT AND HIA

There is some debate nationally and internationally over whether HIA should first and foremost be a risk assessment exercise. However in Australia, the EnHealth Council National Guidance on Environmental Health Risk Assessment (2002) explicitly states that "Environmental Health Risk Assessment provides a tool for appraising health risks in the broader process of Health Impact Assessment." (p.7). Therefore the proposal and the potential impacts being looked at in the HIA should drive the use of risk assessment to inform the completeness of the HIA.

• ***Qualitative approaches to information collection***

The identification stage also aims to collect qualitative primary or secondary information and data. Qualitative information adds depth to HIA because:

- It incorporates the 'real world' experience, knowledge, opinions and perceptions of people within populations affected by the proposal and people with expert knowledge[14,15].
- It can provide useful information on certain impacts for which it is not possible to make a quantitative estimate, particularly those associated with social factors[17].
- It can provide a more in-depth picture of the range of health determinants affected by the proposal.
- It can provide new perspectives on health inequalities that may not emerge from a purely quantitative approach.
- It can contribute to the prioritisation of impacts[14,15].
- It can shift the balance of power between HIA practitioners, experts and the proponents of the proposal to those who are most likely to be affected by the proposal.

However, qualitative information cannot be generalised easily. As qualitative information is collected in small numbers and in one specific place and time, using the results in other contexts is problematic.

• ***Stakeholder involvement***

Stakeholders can be useful sources of information and this information can be elicited through questionnaire surveys, interviews, focus groups and workshops. Potential stakeholders include:

- Community-based non-government organisations.
- Proponents of the proposal.
- Government agencies.
- Experts from tertiary education institutions.
- Communities and community groups.
- Senior and experienced practitioners in relevant fields.
- Professional bodies.
- Local businesses.
- Local councils and community boards.
- Decision-makers that can influence the proposal.

THEORY BOX 9: COMMUNITY INVOLVEMENT

Wherever possible representatives of affected populations and communities should be actively engaged in the HIA and involved in developing the findings of each stage of the HIA and the final recommendations. However, community involvement requires specific skills. For example:

- Assessing what community consultation processes and networks may already be in place[17].
- Identifying what groups within the community or population may be disadvantaged or marginalised.
- Having respect for consultees by keeping them informed of the findings of the HIA following their involvement.

More information on community participation can be found on the International Association for Public Participation website: http://www.iap2.org/index.cfm

THEORY BOX 10: EXAMPLES OF QUALITATIVE AND QUANTITATIVE METHODS USED TO IDENTIFY INFORMATION IN HIA INCLUDE:

- Focus groups.
- Scenario building (either quantitative or qualitative).
- Forecasting.
- Mathematical modelling.
- Issue identification for risk assessment.
- Health hazard identification and classification for dose response assessment (either quantitative or qualitative).
- Benefit identification.
- Stakeholder workshops.
- Surveys.
- Semi-structured or unstructured key informant interviews.
- Brainstorming.
- Citizens' juries (inviting members of the public to hear evidence from experts and make an assessment).
- Delphi processes (panel of individual experts and key people engage in consensus decision-making, where the group decides the weighting and scaling using an iterative process).
- Environmental monitoring (either quantitative or qualitative).
- Cost-benefit analysis.
- Evaluation.
- Multi-criteria decision analysis.

3.4. Endpoints of identification

Identification should result in a transparent summary report of the different techniques and approaches used to collect information, why they were used and their strengths and limitations. A summary of the impacts that were identified should be included.

4. Assessment

4.1. Purpose

The assessment stage synthesises and critically assesses the information collected during the identification stage, in order to prioritise health impacts.

PRACTITIONER REFLECTION 7: PRINCIPLES

"A clear set of principles by which to judge the evidence is vital at the assessment stage. This can be informed by the decisions that were made during the scoping stage."

4.2. Who is involved in assessment?

Assessment should be a multidisciplinary group exercise and involve a range of perspectives. The assessment of the potential impacts can be led by:

- the project team;
- the steering committee;
- an assessor with the necessary skills and knowledge; and/or
- workshops and other participatory events to explore the views of stakeholders, both those professionally concerned with the proposal (experts and/or health professionals) and those directly affected by the proposal (community members).

4.3. The process of assessment

The assessment step involves:

- **synthesising and assessing the information collected on impacts from the different sources, including the significance of that information; and**
- **deliberating to prioritise impacts.**

Assessment is a complex task that involves making explicit judgements to prioritise potential impacts. This complexity can be made easier by using a matrix to streamline assessment considerations. However, using a matrix is not the only method available. As experience with HIA increases different tools and approaches can be developed and used.

To ensure transparency and assist with decision-making, records should be kept on what decisions were made, why they were made, and the methods and tools used to reach them.

4.3.1. Assessing the information collected

4.3.1.1. Using an Assessment Matrix

Most existing HIA guidance has recommended the use of an assessment matrix to manage the information on impacts.

The purpose of an assessment matrix is to systematically:

- synthesise and assess the range, nature and magnitude of impacts;
- identify areas where trade-offs may be required; and
- work towards initial recommendations to mitigate negative and maximise positive impacts.

The list below provides a comprehensive overview of considerations to be covered in the assessment stage. This is provided as a matrix in Appendix 3, which can be used as a checklist of considerations.

Whether each consideration is included in an HIA will depend on what was decided at scoping: desk-top HIAs cover fewer impacts in less depth and so will include fewer considerations; comprehensive HIAs may cover all impacts in great depth and so will include many considerations.

The key considerations for the project team/steering committee to make, based on the evidence gathered (see Case Study 4 for examples), are:

- ***Activity***

This refers to the main activity (or gap) within the proposal that was scoped as contributing to potential health impacts.

- ***Relevant determinants of health***

Determinants of health can link the proposal's activity to a health impact. Useful documents on determinants of health include Dahlgren and Whitehead 3 and the World Health Organisation's 'The Solid Facts'[21].

- ***Source of information***

The sources of information for each activity being considered that will support the assessment of each impact.

- ***Typology weight***

Using a typology of evidence (see point 2.3.4 in the scoping step) will enable weight to be assigned to a source of information.

- ***Nature of impact***

Impacts can be both positive and negative or the nature of the impact may be unclear.

- ***Timing of impact***

The timeframe in which the impact may occur can be long, medium or short-term.

• ***Size of impact***

Impacts can be assessed (based on the evidence) as being large, medium, small or negligible.

• ***Likelihood of impact***

Impacts can be assessed (based on the evidence) as being definite, probable or speculative.

• ***Groups, communities or populations bearing differential impacts***

Assessing the differential impacts (positive and negative) on groups, communities and populations affected by the proposal is a basis for assessing health equity. At a minimum consider groups defined by age, gender, ethnicity/culture, socioeconomic position, locational disadvantage, and existing levels of health or disability.

• ***Nature of differential impacts***

Describe the nature of differential impacts, and assess whether these are unfair and actions are able to be taken to reduce or eliminate them.

• ***Scope for recommendations to be adopted and***

Assess the likelihood that recommendations will be adopted and acted upon (high, medium, low or negligible).

• ***Initial recommendations***

Initial recommendations sum up the assessment of each impact. These may form the basis for recommendations to be made in the next stage.

^It may be useful for the HIA Project Team to initially use a matrix and then present findings to the steering committee for discussion and deliberation.

CASE STUDY 4: ASSESSMENT CONSIDERATIONS

Based on: Neville L, Furber, S., Thackway, S., Gray, E., Mayne, D. A health impact assessment of an environmental management plan: the impacts on physical activity and social cohesion. Australian Journal of Health Promotion 2005; 16:194 - 200.

An HIA was conducted on a proposed foreshore environmental management plan developed by a local council. An intermediate HIA was scoped to focus on two activities: a) a shared cycle-way and the creation of community art; and b) two determinants of health: physical activity and social cohesion. Sources of evidence were: a community profile, literature review, policy review, a recreational environmental audit of six facilities along the foreshore, four key informant interviews, and documents of the local council's community consultations. The assessment covered:

Activity	1. Shared cycle and walkway 2. Community Art
Determinants of health	Physical Activity Social Cohesion
Source of information (typology weight)	Community profiles (+++), literature review (++), policy review (+), recreational environmental audit (+++), key informant interviews (++), community consultations (+++).
Nature of impacts	**Shared cycle and walkway** • **Physical activity** – positive impact (increase in opportunities for physical activity but negative impact through increase in risk of injury). • **Social cohesion** – unclear. **Community art** • **Physical activity** - positive impact (improved aesthetic environment). • **Social cohesion** – positive impact (improved aesthetic environment).
Timing of impacts	• Short-term through immediate changes planned to the foreshore. • Long term through regular maintenance of the cycle and walkway and updating of community art.
Size of impacts Based on the numbers of people using the foreshore (not the region as a whole) evident in the available literature and the steering committee's knowledge and expertise	**Shared cycle and walkway** • **Physical activity** – Large numbers of people affected. • **Social cohesion** – Medium numbers of people affected. **Community art** • **Physical activity** – Small numbers of people affected. • **Social cohesion** – Large numbers of people affected.
Likelihood of impacts Definite is a demonstrated association in the published literature or through expert opinion; probable is likely to have an impact; and speculative means the steering committee think the impact is possible	**Shared cycle and walkway** • **Physical activity** – Definite. • **Social cohesion** – Probable. **Community art** • **Physical activity** – Speculative. • **Social cohesion** – Probable.

CASE STUDY 4: ASSESSMENT CONSIDERATIONS

Groups, communities or populations bearing differential impacts	**POSITIVE** **Shared cycle and walkway** • **Physical activity** – potential benefit for all groups • **Social cohesion** - potential benefit for all groups **Community art** • **Physical activity** – potential benefit for all groups • **Social cohesion** - potential benefit for all groups	**NEGATIVE** **Shared cycle and walkway** • **Physical activity** – potential disadvantage for elderly, young children, locational disadvantage, low socio-economic status, people with disability • **Social cohesion** – potential disadvantage for elderly, young children, people from culturally and linguistically diverse backgrounds (CALDB), Aboriginal people, locational disadvantage, low socio-economic status, people with disability **Community art** • **Physical activity** – unclear • **Social cohesion** - potential disadvantage for Aboriginal people, people from CALDB
Nature of differential impacts	• Potential lack of access to foreshore for those travelling by public transport (elderly, locational disadvantage, low SES) is unfair, and council can take actions to reduce or eliminate by encouraging public transport for groups. • Potential for lack of involvement in community art (CALDB, different age groups, Aboriginal people) is unfair, and council can take action to reduce or eliminate by encouraging involvement by different cultural / ethnic / Aboriginal / age groups. • Risk of injury for elderly people is unfair, and council can take action to reduce risk by ensuring adequate lighting, signage, and space. • Risk of disadvantage for people with disability is unfair and council can take action to ensure the walkway is accessible to people with disability, and ensuring adequate lighting, signage, and space.	
Scope for recommendations to be adopted and acted upon	High likelihood because proponents of the proposal (local council) were involved in the HIA from the outset.	
Initial recommendations	**Shared cycle and walkway** • Maximise positive impact on physical activity and social cohesion: actively promote the cycle-walkway; strategically place drinking fountains, bike racks and picnic tables along the cycle-walkway; and provide adequate shading. • Minimise the potential for the plan to have a negative impact on physical activity and social cohesion: establish a regular maintenance program for all facilities; provide signage for the safe use of the shared cycle-walkway; and ensure adequate lighting. **Community art** • Maximise positive impact on physical activity and social cohesion: provide interactive community art and a cultural story trail; maximise community involvement and consultation in the planning and development of community art; and ensure accessibility of facilities for elderly and people with disabilities.	

TABLE 5

Impact Prioritisation

	HIGH IMPORTANCE	LOW IMPORTANCE
HIGH MODIFIABILITY	A ✔✔	B ✔
LOW MODIFIABILITY	D ✔	C ✗

4.3.2. Deliberating to prioritise impacts

During the assessment the project team and/or steering committee can begin to prioritise impacts. Prioritisation should be based on the assessment considerations used.

A simple matrix for prioritising impacts is found in Table 5. This matrix prioritises impacts by assigning a weight for how modifiable each impact is against how important it is. Impacts falling in box A (high importance and high modifiability) are given highest priority, followed by boxes B and D. Impacts falling in box C (low importance and low modifiability) are given lowest priority.

4.3.2.1. Managing discussion and deliberation

Where prioritisation is less clear cut (for example boxes B and D in Figure 5), group discussion and deliberation will be required. Focussing on two issues will help steer this deliberation. These are:

- the information assessed; and
- the opinions of those doing the assessment and the steering committee.

- ***Information***

Different sources of information may yield diverging or even conflicting evidence or information. This can become apparent:

- within sources of evidence, for example within the stakeholder/community workshops or interviews.
- between sources of evidence, for example modelling, and / or the literature, and / or community views.

There are a number of criteria that can help with the assessment of such information. Impacts that should be given more weight by the HIA steering committee and the project team are those that:

- are triangulated (see Theory box 7);
- have clear and important health and/or policy implications;
- are causal precursors of other impacts;
- are reported more frequently and with more consistency;
- affect greater numbers of people;
- affect vulnerable populations; and
- have local significance.

It is essential that all processes and criteria used to prioritise one impact over another are well documented.

- ***Opinions***

Groups doing the assessment may not always agree. When there is disagreement, and the best way forward is not clear, strategies to assist in the resolution of conflict include[6]:

- Clearly articulating the principles and values identified during the scoping stage. For example, how evidence will be valued.
- Basing decisions on mixed methods to draw out the range and scope of the potential impacts. For example, assessing potential decreases in air quality through community surveys as well as mathematical modelling.
- Sharing the findings with appropriate key informants or stakeholders so that areas of potential tension can be explored and discussed early. For example, asking experts their opinion on air quality measures and findings and bringing these opinions, and their sources, back to the HIA project team and steering committee.

4.4. Endpoints of assessment

The endpoint of this stage is the production of an overview of the findings of the identification and assessment stages. The report should be a transparent record of the processes and include:

- **prioritised impacts; and**
- **an initial formulation of recommendations to enhance positive health impacts and mitigate negative ones**

5. Decision-making and recommendations

5.1. Purpose

The decision-making and recommendations stage of HIA is where the steering committee makes decisions to reach a set of final recommendations for acting on the findings of the HIA[17].

The basis of these recommendations will be:

- the decisions made during the HIA;
- a consideration who will act on the recommendations; and
- a consideration of how the recommendations will be acted upon once they have been made and the potential barriers to their implementation.

5.2. Who is involved in decision-making and recommendations?

The HIA Steering Committee takes responsibility for this stage. It may be useful for the HIA Project Team to initially draft the recommendations and then present these to the steering committee for discussion and endorsement.

5.3. The process of decision-making and recommendations

There are two tasks in this stage:

- **Develop a draft set of concise and action-oriented recommendations.**
- **Write the final recommendations report and send this to the proponent of the proposal for implementation and action.**

5.3.1. Developing a draft set of recommendations

Developing recommendations should be based on:

- the scope of the HIA;
- the prioritisation of impacts; and
- the measures to enhance positive impacts; and mitigate negative impacts.

[4]As an alternative or addition to recommendations some guidance suggests the development of options for proponents of proposals to consider (for example the Merseyside Guidelines). This is a useful tactic to encourage ownership of the HIA results by the proponents. It is also worth considering the development of options earlier on during screening or scoping.

PRACTITIONER REFLECTION 8: DEVELOPING RECOMMENDATIONS

"It is also worthwhile mentioning that the recommendations may not solely be directed to those who want the proposal to be implemented – recommendations to other participating agencies may also be applicable."

- ***Types of recommendations***

In most cases the recommendations will correspond to the activities or gaps in the proposal that have the most potential to enhance positive health benefits or to generate negative health impacts. In some cases the recommendation may be that the proposal should not be implemented at all. In others, the recommendation will be to enhance the current actions outlined in the proposal.

- ***Rationale and transparent justifications***

Recommendations alone may be too dry and unsubstantiated for some decision-makers. Incorporating a summary document to support the recommendations can assist those requiring more detail. The document should include:

- a brief rationale and transparent overview of the HIA process; and
- a summary of the evidence gathered and assessed[8].

This document can become the basis of the executive summary of the final HIA report.

- ***Evaluation and follow-up***

Recommendations for evaluation and follow-up (see next stage) should be included.

- ***The art of developing recommendations: some tips***

Some tips for developing effective recommendations are:

- Highlight positive impacts and the positive aspects of the proposal before the negative impacts and negative aspects.
- Keep wording concise and action-oriented. Concise recommendations supported by achievable and realistic actions are likely to be influential. Waffly, vague and overambitious recommendations are not.
- Focus on a small number of achievable recommendations (but see Practitioner Reflection 9).
- Be explicit about who is best placed to implement the recommendation and provide suggestions on how the recommendation can be implemented.
- Creativity with formatting and displaying key messages in boxes can help readers navigate the recommendations and focus on the key messages.

› Focussing on who is going to implement the recommendations and how these are going to be implemented. Action oriented recommendations require explicit guidance on who is best placed to implement the recommendation and provide suggestions on how the recommendation can be implemented.

› Creativity with formatting and displaying key messages on boxes can help readers navigate the recommendations and focus on the key messages.

- ***Develop the recommendations with input from stakeholders***

Involve the proponents of the proposal and other stakeholders when developing recommendations. This helps to increase ownership of the recommendations and their relevancy. This is often termed 'negotiation' in HIA guidance, referring to the need to negotiate the recommendations to be relevant to stakeholders without compromising the findings of the HIA.

PRACTITIONER REFLECTION 9: NUMBER OF RECOMMENDATIONS

"If a proposal warrants a larger number of recommendations then there may be some value in categorising recommendations in terms of when they are likely to be implemented: short, medium and longer term as well as in terms of their likely costs. This allows decision-makers some quick implementation 'wins'".

PRACTITIONER REFLECTION 10: GETTING OWNERSHIP OF THE RECOMMENDATIONS

"It is important to involve the proposal proponents as early as possible in the decision making process. Having a representative on the steering committee is helpful. So is being aware of the steering committee and project team's negotiation skills!"

5.3.2. Develop a full report of the HIA and send this to the proponent of the proposal for implementation and action

While the recommendations are the most important output of an HIA, these are insufficient without a full report detailing the HIA process and outcomes.

The full report provides:

› Depth to the recommendations and provides detail on the process of the HIA.

› Details to assist others interested in conducting similar HIAs. This adds to the broader pool of information necessary to encourage the effectiveness of HIA as a scientific discipline.

PRACTITIONER REFLECTION 11: TRANSPARENCY DURING THE HIA ASSISTS WRITING THE FINAL REPORT

"Documentation throughout the HIA process, particularly during the screening and scoping stages, can significantly decrease the amount of time it may take to complete this report."

Some general tips for writing the report are:

› Keep a clear structure to the report. For example:

- ***an executive summary;***
- ***a detailed recommendations section;***
- ***an overview of each HIA step and the endpoints of each step; and***
- ***a conclusion.***

› Keep wording concise and where possible support statements with evidence collected throughout the HIA.

› Be transparent about how decisions were made at each stage including what tools and guidance were used. Inclusion of the process evaluation of the HIA facilitates transparency.

› Keep the report as short as possible. This will vary depending on the level of depth of the HIA (desk-top HIAs will be shorter than comprehensive HIAs).

THEORY BOX 11: THE 1:3:25 RULE

The Canadian Health Services Research Foundation has offered a useful strategy for writing concise reports. This is termed the '1:3:25 rule':

› start with one page of main messages - for HIA this may be the recommendations themselves;

› follow that with a three page executive summary; and

› then present the findings in no more than twenty-five pages.

This and other useful resources encouraging the effective translation of evidence into policy and practice are available for download from **http://www.chsrf.ca**

5.4. The endpoints of the decision-making and recommendations stage

The endpoints of this stage are:

- **a full report of the HIA including recommendations; and**
- **a written transparent, concise and action-oriented report of the HIA.**

6. Evaluation and follow-up

6.1. Purpose

The evaluation and follow-up stage has two components: evaluating the process and impact of the HIA; and establishing 'follow-up' to the HIA through monitoring and a plan for the management of a proposal's potential health impacts.

This stage should not be ignored as it is critical in making the specific HIA that was carried out, as well as HIA in general, a more effective intervention.

6.2. Who is involved in evaluation and follow-up?

The evaluation component of this stage involves those involved in the HIA (the project team, steering committee and other stakeholders) and, potentially, external evaluators.

The follow up component is the 'handing-over' component of the HIA to the proposal proponents, decision-makers and other affected stakeholders.

6.3. What is evaluation and follow up

As the title suggests, there are two elements to this stage:

- **Evaluation, covering:**
  - process evaluation of the HIA (what was done and was it seen as useful); and
  - impact evaluation of the HIA (what changes resulted from the HIA).
- **Follow up:**
  Linking the HIA to the actual health impacts arising from the implementation of the proposal through ongoing monitoring and the development of a simple health impact or health management plan.

6.3.1. Evaluation

Two specific types of evaluation are most readily achievable for an HIA: process and impact.

6.3.1.1. Process evaluation

Process evaluation examines how the HIA was conducted to learn from the experience and provide information that will be useful to future HIA theory and practice[23]. Ideally, a process evaluation plan is outlined during the scoping stage and involves the assessment of the HIA procedures against the Terms of Reference set for the HIA steering committee[8].

THEORY BOX 12: OUTCOME EVALUATION AND HIA[22]

Outcome evaluations investigate the long term health outcomes resulting from an intervention. Health outcomes are expressed in terms of physical function or disease state for example, a reduction in road traffic deaths. They can have multiple causes with each cause having a large number of determinants. Linking health outcomes to an HIA is extremely difficult and resource intensive (time, skills and money) with little chance of providing a strong causal link between the recommendations of the HIA and a proposal's positive or negative health outcomes.

Examples of process indicators which can be used to frame questions are provided in Appendix 4. The U.K. Health Development Agency[24] has devised a number of questions to help evaluate the process of an HIA:

- How was the HIA undertaken, what stages were used and, in particular, how were any inequalities addressed?
- What resources (financial, human, time) were used?
- What evidence was used and how was it used to inform development of recommendations?
- How was the health inequalities agenda addressed?
- How were recommendations formulated and prioritized, what factors influenced this process, and who was involved?
- How were the decision makers involved and engaged in the process? What were their expectations and were they fulfilled with the limited resources available?
- How and when were the recommendations delivered to the relevant decision makers?

6.3.1.2. Impact evaluation

Impact evaluation looks at the changes that took place as a result of the HIA. For example, whether the recommendations made were included in the revised proposal (short term) and in the implementation of the proposal (medium term).

Ideally, impact evaluation should be planned for during scoping. As a general rule of thumb, the impact of an HIA should be evaluated 12-18 months following its completion.

Examples of impact indicators to be used in HIA are provided in Appendix 4. Questions to help impact evaluation are[24]:

- Were the recommendations accepted, when were they implemented and what factors contributed to this?

- What are the likely reasons why recommendations were rejected or not implemented?
- Were the aims and objectives of the HIA met?
- What other impacts were associated with the HIA; e.g. enhanced partnerships, raising the profile of local health needs and putting health on the agenda of partner agencies, or organisational development and new ways of working within and across the organisations involved?

6.3.2. Follow-up

Follow-up encourages 'follow-up' involvement by proponents, decision-makers and other stakeholders, including communities, in monitoring and managing the actual health impacts of the implementation of the proposal. Follow-up is based on two related tasks: monitoring and the development of a health impact management plan.

6.3.2.1. Monitoring

Monitoring is a way of regularly checking whether the proposal is impacting on health once it is implemented. Monitoring is important for three reasons:

- Monitoring enables assessment of the predictive effectiveness of the HIA. Predictive effectiveness assesses whether the predicted positive impacts occur or are enhanced, and predicted negative impacts do not occur or are reduced.
- Ongoing long-term monitoring may uncover other impacts that were not anticipated in the HIA.
- Monitoring plays an important role in the absence of outcome evaluation. For example, monitoring local hospital admissions data for respiratory conditions, over time, will provide a picture of whether the construction of an incinerator leads to a change in the health status of a local population[22]. However, because such monitoring is long term it requires a significant commitment from HIA practitioners, proponents, local health services, local government and communities to follow through and report on the data[22].

6.3.2.2. Health Impact Management Plan

A health impact management plan outlines what should occur if the impacts predicted by the HIA occur or if unforeseen impacts not predicted by the HIA occur[25]. The plan should be developed in partnership with the proponent organisation and those likely to be affected by the proposal.

Monitoring of health impacts will trigger actions described in the plan if key negative health impacts are detected or increases in health inequalities are observed.

The plan should be clear about:

- what actions will be taken in response to issues arising from evaluation and follow-up activities. For example:
  - ***safeguards put into place such as monitoring emissions from a freeway that may be hazardous to the health of nearby communities;***
  - ***mitigation measures such as changing the site of a wind-farm to a site less likely to result in direct negative impact;*** **and**
  - ***enhancement measures such ensuring the needs of potentially disadvantaged populations are met;*** **and**
- who will be responsible for impact management. For example the proponents of the proposal and/or relevant regulatory bodies.

CASE STUDY 5: PROPOSED FOLLOW-UP PLAN OF A HOSPITAL REDEVELOPMENT HIA

Based on: Maxwell M, Peters, S. Health Impact Assessment of the Redevelopment of Liverpool Hospital: An Intermediate Health Impact Assessment of the construction phase of the redevelopment of Liverpool Hospital. Liverpool, Sydney: Sydney South West Area Health Service; 2007.

An HIA was conducted on a re-development of a hospital. To assist ongoing monitoring and action on potential health impacts from the redevelopment, the HIA provided a follow-up plan. The plan encouraged reporting against performance indicators that were developed for each of the recommendations:

TABLE ?

Proposed Follow-up Plan of a Hospital Redevelopment HIA

RECOMMENDATION	PERFORMANCE INDICATOR	RESPONSIBILITY	PROGRESS/ACTIONS
Active Transport Plan	Plan is developed, implemented and evaluated Increase in number of staff using active transport to travel to and from work	Hospital executive	To be completed
Park and Ride system	Report on feasibility of system for staff	Hospital executive	To be completed
Increased security presence	Audit of lighting and personal duress alarms	Hospital executive	To be completed
Non-attendance at appointments	System developed to monitor non-attendance	Hospital executive	To be completed
Employment and training for local community	Managing contractor actively seeks local unemployed Number of local people employed during construction	Managing contractor	To be completed
Dust containment	Managing contractor complies with dust containment regulations	Managing contractor	To be completed

6.4. The endpoint

The endpoints of this stage are:

- **a process evaluation report to be included with the final report;**
- **an impact assessment of what changed as a result of the HIA; and**
- **a health impact management plan to be included with the final report.**

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Glossary of Terms (see also[17, 24, 26])

Decision-makers	The people who have control over the final content of the proposal and/or are responsible for its implementation, including the extent to which it is influenced by the HIA.
Differential distribution of impacts	Where impacts are distributed unequally across or within population groups.
Direct vs indirect impacts	Direct impacts effect the health of the population directly, for example exposure to pollutants (including noise) that a proposal may release in the air, water and soil. Indirect impacts effect the health of the population indirectly through the proposal's influence on the determinants of the health, for example the affects a proposal might have on the local job market, access to local shops and amenities and the availability of public greenspace.
Endpoints	The outcome of each step within an HIA.
Enhancement Measures	Changes made to a proposal to increase the likelihood of positive impacts.
Health	A state of complete physical, mental and social well being and not merely the absence of disease or infirmity[27].
Health Determinants	The 'causes of the causes of health' that are found outside the traditional health sector, often referred to as social or environmental determinants of health.
Health Equity	Health equity is concerned with whether the differential distribution of health impacts is considered unfair and modifiable.
Health Hazards	An agent with a potential to create ill health (e.g., bacteria, toxins, chemicals).
Health Impact	A tool to assess the impacts of a proposal prior to the implantation of that proposal.
Assessment	
Health Impacts	The overall effects, direct or indirect, of a policy, plan, program or project on the health of a population.
Health Outcome	A change in the health status of an individual, group or population which is attributable to a planned intervention or series of interventions, regardless of whether such an intervention was intended to change health status.
Health Promotion	Concerned with promoting health and wellbeing.
Health Protection	Concerned with protecting health from risks and hazards.
Health Risk	Indicates the extent to which the potential of a hazard may be realized.
Locational Disadvantage	Locations that are disadvantaged through lack of access to services and infrastructure or experience high levels of social disadvantage, such as rural and remote areas, outer metropolitan areas, and pockets of disadvantage within metropolitan areas.
Mitigation measures	Measures to reduce the likelihood or severity of negative impacts.
Project team	Those responsible for leading the work of the HIA, for report writing, and for framing the recommendations about modifications to the proposal.
Proponents	Those responsible for developing the proposal under assessment.
Proposal	A draft policy, plan, program, or project.
Recommendations	Clear and concise statements of action resulting from the HIA.
Short, long term and cumulative impacts	Short term impacts are those potentially occurring within a short time frame (may be weeks, months or a few years, depending on the nature of the proposal and impacts). Long term impacts are those potentially occurring over a longer time frame, usually years or even decades. Cumulative impacts are a series of smaller impacts that collectively add up to a large impact.
Stakeholders	People involved in or affected by proposal development and implementation, drawn from public, private and voluntary sectors, and the communities or groups affected.
Steering committee	Group appointed to oversee the process and outputs of an HIA, and comprises representatives from key stakeholder organisations and, ideally, representatives from the communities affected. It sometimes includes one or more of the decision makers.
Unanticipated effects	Impacts that may not have been considered for various reasons such as time, resources, or professional orientation, during the development of a proposal.
Values	Beliefs about concepts such as health and equity, as well as views regarding the degree of importance to be placed on elements of HIA such as differential impacts and types of evidence, and views about the processes of HIA such as participation, transparency and decision-making processes.

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Appendix 1: Screening Tool for Health Impact Assessment

Based on:

- Screening Tool for Health Impact Assessment Queensland Health HIA Framework Draft 20 February 2004
- Seahorse HIA Planning & Report Writing Toolkit Salim Vohra et al version 4 October 2003, adapted from a tool developed by Erica Ison.
- CHETRE Screening Checklist, HIA Training 2004

1. What is the proposal about?

2. What is the context outlined for the proposal? (eg policy context, history)

3. Does the proposal concern any of the following determinants?

Lifestyle	**Yes/No**
Physical environment	**Yes/No**
Social/economic environment	**Yes/No**
Capacity of the health system to impact on these determinants	**Yes/No**
Other please specify	**Yes/No**

4. What are the assumptions embedded in or underpinning the proposal?

5. Why does this proposal have potential to impact on health?

What are the:

Potential positive impacts

Potential negative impacts

Intended consequences

Possible unintended consequences

6. Describe any information which identifies the nature and extent of the impacts on health for this type of proposal

7. List the groups most likely to be affected by this proposal

8. What are some of the potential equity issues?

Desirable

Undesirable

9. Is a HIA appropriate? **Yes/No**

Why or why not?

If yes, what type and how?

Recommendations/comments

Appendix 1 continued: Screening Tool for Health Impact Assessment

10. Checklist

ANSWERS FAVOURING DOING A HIA	TO YOUR KNOWLEDGE	ANSWERS FAVOURING NOT DOING A HIA
	HEALTH IMPACTS	
Yes / not sure	Does the initiative affect health directly?	No
Yes / not sure	Does the initiative affect health indirectly?	No
Yes / not sure	Are there any potentially serious negative health impacts that you currently know of?	No
Yes / not sure	Is further investigation necessary because more information is required on the potential health impacts?	No
No	Are the potential health impacts well known and is it straightforward to suggest effective ways in which beneficial effects are maximised and harmful effects minimised?	Yes
No	Are the potential health impacts identified judged to be minor?	Yes
	COMMUNITY	
Yes / not sure	Is the population affected by the initiative large?	No
Yes / not sure	Are there any socially excluded, vulnerable, disadvantaged groups likely to be affected?	No
Yes / not sure	Are there any community concerns about any potential health impacts?	No
	INITIATIVE	
Yes / not sure	Is the size of the initiative large?	No
Yes / not sure	Is the cost of the initiative high?	No
Yes / not sure	Is the nature and extent of the disruption to the affected population likely to be major?	No
	ORGANISATION	
Yes	Is the initiative a high priority/important for the organisation/partnership?	No
Yes	Is there potential to change the proposal?	No
FOR =	**TOTAL**	**AGAINST =**
	TYPE OF HIA	
Yes	Is there only limited time in which to conduct the HIA?	No
Yes	Is there only limited opportunity to influence the decision?	No
Yes	Is the time frame for the decision-making process set by external factors beyond your control?	No
Yes	Are there only very limited resources available to conduct the HIA?	No
	ASSESSORS	
No	Do personnel in the organisation or partnership have the necessary skills and expertise to conduct the HIA?	Yes
No	Do personnel in the organisation or partnership have the time to conduct the HIA?	Yes

Appendix 2: Checklist for level of depth of HIA

(Based on New Zealand Public Health Advisory Committee[22])

ISSUE	QUESTION	RESPONSE TO QUESTION	GUIDANCE ON THE APPROPRIATE LEVEL OF TOOL	MORE / LESS COMPREHENSIVE	DEPTH DECIDED
Scale of the proposal (e.g. type, topic, investment)	Are the size and importance of the proposal significant?		The greater the size and importance, the more comprehensive the HIA should be.		
Significance of health impacts, based on screening	Are there significant potential health impacts of proposal?		The greater the significance of potential health impacts, and the higher the degree of uncertainty, the more comprehensive the HIA should be.		
Timing	How urgent is the completion of the HIA to influence decisions?		If there is relatively high urgency then select a less comprehensive HIA.		
Timing	Is the timing critical in relation to other policies/ programs/ projects/ issues?		If timing is critically linked to other policies/ programs/ projects developments and timeframes are short, select a less comprehensive HIA.		
External interest	What is the level of political interest?		The higher the level of political interest, the more comprehensive the HIA should be.		
External interest	What is the level of public interest?		The higher the level of public interest, the more comprehensive the HIA should be.		
External interest	Are there other political & public considerations?		The more complex the considerations, the more comprehensive the HIA should be.		
Timing / external interest	Is there a 'window of opportunity' for the work?		Consider if there is a window of opportunity (i.e. timeliness, currency, political support). If the window is close, select the less comprehensive tool.		
Capacity (in-house)	What is the in-house level of expertise in HIA?		The higher the level of expertise, the more comprehensive the HIA should be.		
Capacity (in-house)	What level of staff resources and support are available?		The higher the resource and support level, the more comprehensive the HIA should be.		
Capacity (external)	What level of expert support is available?		The higher the level of expert support, the more comprehensive the HIA should be.		
Resources	What funds are available for the HIA?		The higher the level of funding, the more comprehensive the HIA should be.		
Resources	What data associated with the proposal is available and accessible? What is the health evidence base associated with the proposal?		If more data is available and accessible, the more comprehensive the HIA should be.		

Appendix 3: Comprehensive Assessment Matrix

ACTIVITY	RELEVANT DETERMINANTS OF HEALTH	SOURCE OF INFORMATION (SEE TYPOLOGY)	TYPOLOGY WEIGHT (SEE TYPOLOGY)	NATURE OF IMPACT[5]			TIMING OF IMPACTS[6]	SIZE OF IMPACT/ MAGNITUDE[7]	LIKELIHOOD[8]	GROUPS, COMMUNITIES OR POPULATIONS BEARING DIFFERENTIAL IMPACTS[9]	NATURE OF DIFFERENTIAL IMPACTS			SCOPE FOR REC.S TO BE ADOPTED AND ACTED UPON[10]	INITIAL REC.S[11]
				+VE	–VE	UNCLEAR					+VE/ –VE/ UNCLEAR	IS THIS AVOIDABLE?	IS THIS FAIR?		
ACTIVITY 1	DETERMINANT 1														
	DETERMINANT 2														
NOTES															
ACTIVITY 2	DETERMINANT 1														
	DETERMINANT 2														

Impacts can be both positive and negative – provide notes on what aspects are negative, positive or unclear.

^ Long, Medium or Short. Note the information this assessment of timing of impacts is based on

* Large, medium, small or negligible. Note the information this assessment of magnitude is based and why that category (L, M, S, N) was chosen

~ Definite, probable or speculative. Note the information this assessment of likelihood is based on.

✗ List groups, communities or populations who may bear differential impacts. At a minimum consider differential impacts in terms of age, gender, ethnicity/culture, socioeconomic position and locational disadvantage. Include the size of the population (Large, Medium, Small, Negligible, Unclear), noting the information this assessment of size is based on.

❋ High, medium low or negligible. Note the information this assessment of achieving change is based on

❖ List possible recommendations, drawing on the evidence gathered in the identification step. Consider differential impacts when formulating recommendations in order to maximise positive impacts, minimise negative impacts and to ensure an equitable distribution of impacts.

Appendix 4: Evaluation Indicators[24]

Process indicators:

- Identifying key stakeholders and involving them at key stages throughout the process.
- The setting up of a reference or steering group to carry out/oversee the work.
- Time spent by individuals on specific stages of the process.
- Minutes of all meetings circulated to stakeholders.
- Evidence of identification of best available evidence and how it was collated.
- Involvement of community in the process; who, how often and community perceptions of being involved.
- Staff available for the HIA; experience, training required, turnover.
- Assessment of timescales being met; if not, why not?
- Recommendations delivered to decision-makers in appropriate format at the appropriate time.

Impact indicators:

- Evidence of effective partnership working.
- Community development, e.g. local representatives developed, community organisations supported, empowerment of local people, skills and confidence developed.
- Health issues more prominent on local agenda.
- Improved knowledge of the causes of ill health (social model of health) by non-health participants.
- Decision-makers considered recommendations from the HIA.
- Recommendations (which ones) adopted by decision-makers and changes made in the proposal.
- Changes in proposal were implemented (may require longer term monitoring through follow-up).

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