

A silhouette of a person's head and shoulders in profile, looking out over a landscape at sunset. The sun is a bright, glowing orb on the horizon, casting a warm, golden light across the sky and the distant hills. The person's face is in shadow, with the sun acting as a light source from behind, creating a rim light effect on their hair and shoulders.

The Impact and Effectiveness of Equity Focused Health Impact Assessment in Health Service Planning

Ben Harris-Roxas

The impact and effectiveness of equity focused health impact assessment in health service planning
A thesis in fulfilment of the requirements for the degree of Doctor of Philosophy

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May 2014

For Harper, Nye and Carson

做人要有骨气

Be a person with backbone and spirit.

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Abstract

This thesis by publication examines the use of equity focused health impact assessment (EFHIA) on health service plans. The research questions addressed are:

- What are the direct and indirect impacts of EFHIAs conducted on health sector plans?
- Does EFHIA improve the consideration of equity in the development and implementation of health sector plans?
- How does EFHIA improve the consideration of equity in health planning?

The thesis is made up of seven peer-reviewed publications - five journal articles and two book chapters. It describes the use and evolution of health impact assessment (HIA) and EFHIA internationally and in Australia, how it has been used in relation to health service plans, examines its effectiveness and impacts on decision-making and implementation and examines several EFHIAs using case study and interpretive description methodologies.

The thesis makes two substantial theoretical contributions in the form of (i) a typology for HIAs and (ii) a conceptual framework for evaluating the impact and effectiveness of HIAs. This conceptual framework is tested for its applicability to EFHIA in health service planning contexts and refined in this thesis based on three case studies of EFHIAs conducted on health service plans in the state of New South Wales, Australia.

This research shows that EFHIA has the potential to have both direct and indirect impacts on health service planning. These impacts are influenced by a broad range of factors however, which are linked to the context in which the EFHIA is undertaken and the inputs into the EFHIA process and the procedures followed. The case studies in this thesis show that engagement with the EFHIA process and the extent to which EFHIA is regarded as a broader learning

process are important factors that mediate the extent to which EFHIAs influence subsequent activities. This research suggests that it is not possible to adequately describe the full range of impacts of EFHIA on decision-making and implementation without looking at perceptions about EFHIA's effectiveness, in particular the perceptions of those involved in the EFHIA and those responsible for acting on its recommendations. These perceptions change over time, suggesting that future research on the effectiveness of HIA should look at the mechanisms by which this change occurs.

Introduction

This thesis examines the use of equity focused health impact assessment (EFHIA) on health service plans in New South Wales, a state in Australia. It is comprised of seven peer-reviewed publications that describe the use and evolution of health impact assessment (HIA) and EFHIA internationally and in Australia, how they have been used in health service planning, examines its effectiveness and examines several EFHIAs using a case study methodology. This thesis makes a number of theoretical contributions, most notably in the form of a typology for HIA and a conceptual framework for evaluating the impact and effectiveness of HIAs.

Research Aims

The aims of this thesis are:

- To investigate whether and to what extent equity focused health impact assessment (EFHIA) can improve the development and implementation of plans and strategies within the health system;
- To establish what changes occur as a result of doing an EFHIA; and
- To establish whether EFHIA is effective and under what circumstances.

Research Questions

This has led to the following research questions:

1. What are the direct and indirect impacts of EFHIAs conducted on health sector plans?
2. Does EFHIA improve the consideration of equity in the development and implementation of plans?
3. How does EFHIA improve the consideration of equity in health planning?

These research aims and questions for this thesis are contextualised in Figure 1 along with the conceptual framework drawn on, the methods used and the measures undertaken to enhance the validity of this research's findings.

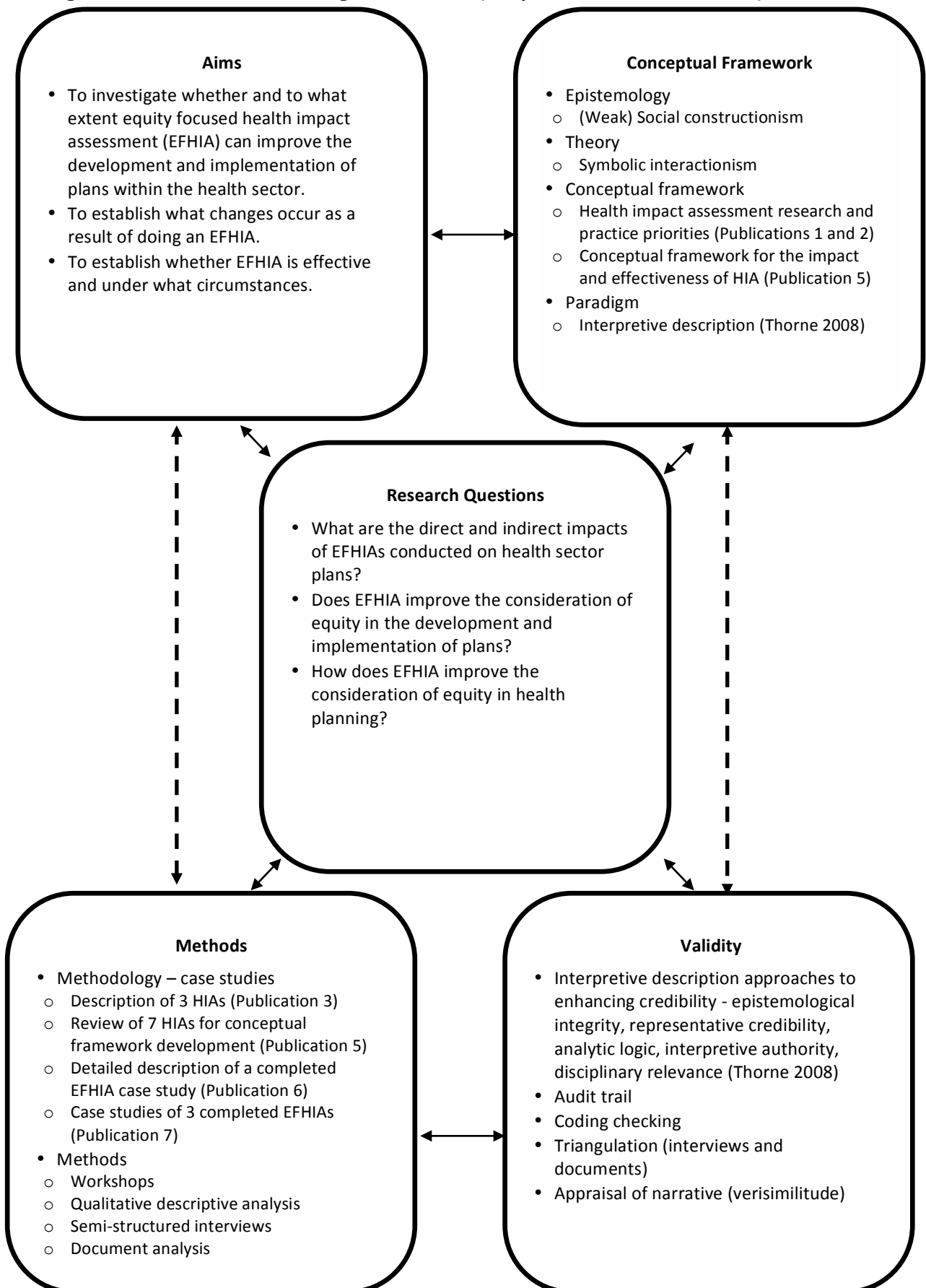
Hypothesis

This thesis is largely inductive and I have not followed a formal positivist or post-positivist process for rejecting a null hypothesis (Crotty 2003, Saldana 2003). However I approached this study with the following hypothetical proposition in mind:

EFHIA enhances the consideration of health equity in the
development and implementation of plans within the health
system.

This has provided a reference frame to guide my analysis. It has been informed by the research on the effectiveness of HIA that has been conducted to date (Haigh et al. 2013b, Haigh et al. 2013a, Rhodus et al. 2013, Wismar et al. 2007), which is discussed in greater detail in the Background and literature review chapter.

Figure 1: Overall research design framework (adapted from Maxwell 2005)



Why is this research needed?

The potential for policies, programs and projects to impact on population health has been understood for several centuries. Cases such as Minamata Disease, caused by mercury poisoning in Japan in the 1950s and 1960s, the Goiânia accident, where scavenged hospital radioactive materials killed four people and led to radiation poisoning amongst a further 200 people in Brazil, and the lead poisoning of Esperance residents in Western Australia by Magellan Mining in 2007, are just notable examples amongst a long history of events that have had impacts on the health of populations.

Health impact assessment (HIA) has emerged as a preventive response to these concerns, which attempts to address potential population health issues before they arise. It is a discrete form of ex-ante assessment within a broader field of impact assessment, which includes environmental impact assessment (EIA), social impact assessment (SIA) and strategic environmental assessment (SEA).

Health impact assessment (HIA) is increasingly recognised internationally as a mechanism to ensure that the potential health benefits of policies, programs and projects are maximised, that the potential negative health consequences and health risks are minimised and that potential health inequities are addressed (WHO 2008a, WHO 2008b, IFC 2009, IFC 2006). HIA has been on the public health agenda in Australia and internationally for more than 15 years, though its use has not been widespread (Harris & Spickett 2011, NPHP 2005). It has yet to be adopted as a routine practice by governments in most parts of the world and capacity constraints have limited the extent to which it is routinely conducted or required.

This is changing, however, as indicated by activity by the Australian Commonwealth Government, the New Zealand Government and every Australian state over the past decade to develop HIA (Simpson et al. 2004b, CHETRE 2009). In New South Wales provisions for HIA's use have been incorporated into a number of government strategies including the State Health Plan (NSW Health 2007a, NSW Health 2007b). In Victoria there are provisions for HIA's use in the *Victorian Public Health and Wellbeing Act (2008)*. Tasmania has required that major projects are referred to the Director of Public Health, who has a standing requirement that proponents commission consultants to conduct HIAs on their projects, subject to the requirements and review of the Department of Health and Human Services (NPHP 2005). Internationally HIA is required by agencies as diverse as the International Finance Corporation (IFC 2006, IFC 2009), the lending agencies who are signatories to the Equator Principles (Equator Principles 2006), the UK Department of Health (Department of Health 2010) and the European Union (Salay & Lincoln 2008a, Salay & Lincoln 2008b, Ståhl 2010a, Lock & McKee 2005, Ståhl 2010b, Smith et al. 2010)¹.

HIA has also been identified as a strategy to address potential health inequities that may arise from policies, programs and projects, in particular in the form of health inequalities impact assessment (Acheson 1998, Bro Taf Health Authority 1999, Acheson 2000, Barnes 2000, Lester & Temple 2004), health equity impact assessment (WHO 2008a, Povall et al. 2010, UCL 2010, Haber 2011, Douglas & Palmer 2011) and equity focused health impact assessment (Mahoney et al. 2004, Simpson et al. 2005, Gunther 2011). The differences between these different approaches are outlined in Table 1.

¹ This requirement is not always for a stand-alone, separate HIA process and may constitute an assessment of health impacts as part of other impact assessment procedures, such as an Environmental, Social and Health Impact Assessment (ESHIA) or an Integrated Impact Assessment (IIA).

Table 1: Health Impact Assessment-Related Terminology

Term	Explanation
Health impact assessment (HIA)	HIA is "a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population." (EHP 1999)
Health equity impact assessment (HEIA)	HEIA has been advanced as a means to ensure that the potential impacts of a proposal on health equity is considered prior to implementation (WHO 2008a, UCL 2010). It is related to the notion of health inequalities impact assessment that was originally proposed a decade ago in the Acheson Review in the UK (Acheson 1998, Acheson 2000). Despite these calls, the use of HEIA as a distinct form of assessment has been limited (Povall et al. 2010). The Wellesley Institute in Canada has recently developed specific guidance on how to conduct HEIAs (Haber 2011, Wellesley Institute 2013), which is similar to EFHIA processes (Mahoney et al. 2004). There continue to be ongoing debates about whether it is possible or desirable to conduct an impact assessment focused solely on health equity without considering more general health impacts (WHO Europe 2001, Barnes 2000, Barnes & Scott-Samuel 2002, Quigley et al. 2006, Povall et al. 2010, Gunther 2011).
Equity focused health impact assessment (EFHIA)	EFHIA is related to HEIA and was developed in response to concerns that (i) consideration of health equity is often limited within HIAs, often being restricted to the realm of professed values and aspirations (Harris-Roxas et al. 2004), and (ii) that it was desirable to improve the methods for considering equity within HIA, rather than developing a separate form of HEIA (Barnes 2000). The term was first used in the Jakarta Declaration on Leading Health Promotion (WHO 1997a) and subsequently in the Bangkok Charter (WHO 2006), but was operationalised with the development of the Equity Focused Health Impact Assessment Framework (Mahoney et al. 2004, Simpson et al. 2005, Stewart Williams et al. 2004) in 2004. EFHIA focuses on improving the consideration of equity and differential impacts at each step of the HIA process (Mahoney et al. 2004, Simpson et al. 2005).

Adapted from: Harris-Roxas et al. (2011)

N.B. The description of HEIA has been updated from the one in the 2011 source to reflect recent developments in the field.

Despite this widespread interest and use in many countries, to have its effectiveness in influencing decision-making and improvement demonstrated comprehensively. This issue is addressed in greater detail in Publication 4.

The context of this research

This research was conducted within the state of New South Wales (NSW), Australia. NSW has a population of 7.2 million people, the most populous in Australia. Health services in NSW, as across Australia, are delivered under a range of federal, state and regional funding and structural arrangements and through a broad array of services. This research was conducted during a period of considerable change within the health system, with one of the most important changes for this thesis being to the structure and distribution of Area Health Services that have been involved in the EFHIAs in this thesis. Area Health Services, now known as Local Health Districts, are regional organisations that delivered a broad range of hospital, community and population health services. The boundaries and some of the functions of these were reconfigured as part of a nation-wide reform of health funding and primary health care that was announced in 2009 (DoHA 2012, Keleher 2011). A network of regional primary health care organisations have been established across Australia, known as “Medicare Locals”, which have responsibility for a range of primary health care, community health and prevention activities. These organisations are less relevant within the specific context of this thesis but they highlight the broad and far-ranging nature of changes to the health system in Australia over the past five years.

Health sector planning in Australia involves working with a broad range of actors including clinical professions, senior health administrators, consumers, carers as well as other agencies

and sectors to develop plans for a broad array of health services. Health sector planning has increasingly focused on assessing population health needs and desired population health outcomes as a starting-point for planning over the past several decades (Keleher 2011), rather than relying on historical approaches to delivering and finding services. The field has also increasingly sought to adopt more uniform procedures for the development, implementation and monitoring of health service plans (McKenzie et al. 2005, Eagar et al. 2001). Health service planning in Australia has become a distinct, professionalised activity rather than something that is by guided by clinical administrators, as was more the case in the past (Eagar et al. 2001). This has created opportunities for the use of structured tools to inform these planning processes before plans are finalised and implemented, such as HIA and EFHIA.

My experience and history: positioning the researcher

I have been involved in the field of health impact assessment since 2003 and EFHIA since 2004. This has been mostly through my employment and study with the Centre for Primary Health Care and Equity at the University of New South Wales (UNSW 2013), which included involvement in several HIA and health equity-related projects. The largest and longest-running of these have been the New South Wales Health Impact Project, a five year HIA capacity building project funded by an Australian state health department that ran from 2003 until 2008 (Harris 2006, Harris et al. 2007a, Harris-Roxas & Simpson 2005, Quigley & Watts 2008), and a two year study on the effectiveness of HIAs conducted in Australia and New Zealand between 2005 and 2009, which was funded under the Australian Research Council Discovery Project scheme (Haigh et al. 2013a, Haigh et al. 2013b).

I have been involved in more than 20 HIAs and in a number of practitioner and professional groups related to HIA. For the past three years I have been the Health Section Co-Chair of the International Association for Impact Assessment. I founded the Asia Pacific HIA Network and organised the first Asia-Pacific HIA conference with colleagues at the University of New South Wales (UNSW) in Sydney in 2007. I was a steering committee member on the US Society for Practitioners of Health Impact Assessment (SOPHIA) when it formed in 2010. I was a member of the World Health Organizations Western Pacific Regional Office's Thematic Working Group on HIA from 2009-2011. I have also participated in two expert consultations on HIA at the World Health Organization Kobe Centre for Health Development. More recently I have consulted directly with government, industry and community groups on a number of HIA-related activities, including renewable energy projects and the health impacts of coal seam gas. In 2005 I established the Health Impact Assessment Blog (Harris-Roxas et al. 2014), which I have maintained since that time with my co-contributors Salim Vohra and Francesca Viliani. More than 680 posts have been published on the blog and there have been more than 293,000 page views.

These activities have all informed my thinking and approach to HIA. Importantly they also enabled me to develop relationships and collaborations with other researchers, HIA practitioners and organisations. Without these relationships it is unlikely that the research undertaken would have been feasible. This is because participants and participating organisations required considerable trust in, and goodwill towards, the researcher to grant access to planning documentation and key personnel, as well as being candid about their planning and decision-making.

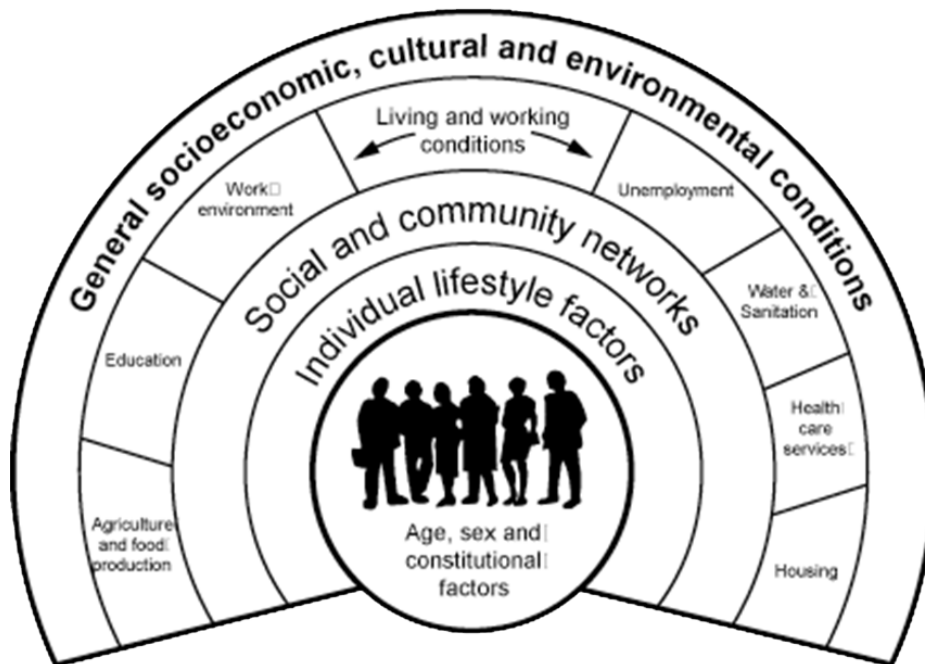
I have a personal commitment to social and health equity, my understanding of which is outlined in greater detail in the later section on EFHIA. This motivates my work on HIA and also provides an interpretive lens. I have made efforts throughout this thesis to ensure robust analysis to enhance the validity of the studies undertaken and to ensure findings are supported by the data collected (Colaizzi 1978, Sanders 2003, Thorne 2008, Thorne et al. 2004b).

Why look at health sector proposals?

This thesis focuses on the use of HIA to assess health service plans. There is an implicit assumption within the field that HIA is first and foremost a tool and process for intersectoral action for health (Mannheimer et al. 2007, PHAC 2007a, WHO 2008b, Lock et al. 2004, Lock & McKee 2005, Puska & Ståhl 2010). I agree with this because HIA has demonstrated usefulness in that regard, and intersectoral action for health provided much of the impetus for HIA's development as a field (PHAC 2007a). I do not, however, think this should be the sole use of HIA because it has the potential to inform a range of other decision-making contexts.

The iconic determinants of health diagram developed by Goran Dahlgren and Margaret Whitehead (1991) is well known to every HIA practitioner and has been adapted to explain the broader determinants of health in other settings (Barton & Grant 2006). It concisely and neatly illustrates the relationship between individual determinants of health and broader social determinants using a modified ecological model. The diagram underemphasises the important role health services can still play in determining health outcomes, though their absence may be understandable given the purpose for which the diagram was developed, namely to explain the need for public health to look beyond health services to improve population health outcomes.

Figure 2: The broader determinants of health



Source: Dahlgren and Whitehead (1991)

In some ways this tension between acting within the health sector or more intersectorally echoes older debates within public health (Bacigalupe et al. 2010, Harris & Wise 1995, PHAC 2007a). For example Martin McKee (2002) has observed that McKeown's earlier influence on public health was to popularise the view that improvements in mortality were mostly due to improvements in living conditions (McKeown 1979). Mackenbach and his colleagues rebutted this, at least in part, by demonstrating the decline in deaths from conditions that could be altered through health care represented a major part of overall improvement in life expectancy in The Netherlands between 1950 and 1984 (Mackenbach et al. 1988).

HIA may potentially provide a useful “check on design” for health service plans, programs and policies prior to their implementation to ensure they will have fewer unconsidered and unintended impacts (Simpson et al. 2004a). Additionally, many health sector programs and

services have the potential to disproportionately benefit people who are more receptive to health information, are able to act on health messages or who are more able to access health services. These are the portion of the population who may be regarded as “health literate” (Nutbeam 2009), which is estimated to be less than half the Australian population (ABS 2006). In this way health programs may actually widen health inequalities and increase the health gradient as they can improve the health of already healthy people far more than those with poor health (Mahoney et al. 2004, Simpson et al. 2005). Even though these programs may have a net health gain they could potentially increase health inequalities within and between population sub-groups (Mechanic 2000). This underlines the importance of a considered approach to health service planning as well as an approach that specifically focuses on health equity impacts (Macinko & Starfield 2002, Whitehead 1990, Dahlgren & Whitehead 2006). I will describe this in greater detail in the section on equity focused HIA later in this thesis.

Because of these considerations, this thesis focuses more narrowly on the specific use of equity focused HIAs on health service plans in Australia. The findings will have relevance to HIA practice in other sectors and in other countries however, as well as to those with an interest in health service planning.

A note on language used in the thesis

I have attempted to use the first person throughout this thesis and in many of the publications included, where appropriate. Use of the first person can be difficult within academic contexts but I believe it to be important, for qualitative research in particular (Holliday 2007, Anzul 1997). We each have an interpretive lens based on our own experience and it is important in to acknowledge this (Bazeley 2007, Miles & Huberman 1994, Anzul 1997). In addition to acknowledging my own perceptions and biases, which is itself intended to enhance the validity

of my analysis, I have taken other steps to ensure my conclusions are supported by the data collected (see Figure 1).

Throughout this thesis I have also referred to “an HIA” rather than “a HIA”, and “equity focused” rather than “equity focussed”. The idiosyncrasies of Australian English, with one foot both the English and American grammatical and spelling worlds, means that there is currently no convention governing the use of these phrases (Butler 2009).

While this thesis is focused on EFHIA many aspects of the discussion have applicability to both EFHIA and HIA, both within individual Publications but also within the discussion section of this document. As such the phrase “EFHIA and HIA” appears many times. EFHIA is a distinct form of HIA in my view, but it remains a part of the broader field of HIA practice. As such it is important to contextualise the findings of this research both in relation to EFHIA and HIA more generally.

A list of acronyms used in this thesis is included in Appendix 1.

The structure of this thesis

This thesis is by publication. I firstly provide an account of my theoretical orientation and experience on this topic. Then I review the literature on HIA, EFHIA and their effectiveness, which provides background for the publications. Each publication is then presented with a discussion of its background, significance, implications for theory and practice and contribution to my overall research aims. After the publications a conclusions section looks at the extent to which the research questions have been answered and what the implications of this thesis are for research and practice.

Table 2: Publications in this thesis

Publication number	Publication	Name of journal or book
Publication 1	Harris-Roxas B, Viliani F, Bond A, Cave B, Divall M, Furu P, Harris P, Soeberg M, Wernham A, Winkler M. <i>Health Impact Assessment: The state of the art</i> , Impact Assessment and Project Appraisal, 30(1): 43-52, 2012. doi:10.1080/14615517.2012.666035	<i>Impact Assessment and Project Appraisal</i>
Publication 2	Harris-Roxas B, Harris P, Wise M, Haigh F, Ng Chok H, Harris E. <i>Health Impact Assessment in Australia</i> , in Kemm J (ed) <i>Health Impact Assessment: Past Achievement, Current Understanding, and Future Progress</i> , Oxford University Press: Oxford, 2013: 223-243.	<i>Past Achievement, Current Understanding and Future Progress in Health Impact Assessment</i> (Oxford University Press)
Publication 3	Harris-Roxas B, Maxwell M, Thornell M, Peters S, Harris P. <i>From Description to Action: Using health impact assessment to address the social determinants of health in Determining the Future: A Fair Go & Health for All</i> (Eds Lavery M and Callaghan L), Connor Court Publishing: Melbourne, 2011: 119-130.	<i>Determining the Future: A Fair Go & Health for All</i> (Connor Court publishing)
Publication 4	Harris-Roxas B, Harris E. <i>Differing Forms, Differing Purposes: A Typology of Health Impact Assessment</i> , Environmental Impact Assessment Review, 31(4): 396-403, 2011. doi:10.1016/j.eiar.2010.03.003	Environmental Impact Assessment Review
Publication 5	Harris-Roxas B, Harris E. <i>The Impact and Effectiveness of Health Impact Assessment: A conceptual framework</i> , Environmental Impact Assessment Review, 42: 51-59, 2013. doi:10.1016/j.eiar.2012.09.003	Environmental Impact Assessment Review
Publication 6	Harris-Roxas B, Harris P, Harris E, Kemp L. <i>A Rapid Equity Focused Health Impact Assessment of a Policy Implementation Plan: An Australian case study and impact evaluation</i> , International Journal for Equity in Health, 10:6, 2011. doi:10.1186/1475-9276-10-6 www.equityhealthj.com/content/10/1/6	International Journal for Equity in Health
Publication 7	Harris-Roxas B, Haigh F, Travaglia J, Kemp L. <i>Evaluating the impact of equity focused health impact assessment on health service planning: Three case studies</i>	Submitted to BMC Public Health

Chronology of publications

The publications are not presented in chronological order for three reasons. Firstly, the order of the thesis below follows a logical sequence that more clearly addresses the research questions. Secondly, each publication has faced different publication delays, ranging from 2-18 months (the book chapters had particularly long lead times). As such the order they were published in is not the order they were written and submitted in. Thirdly I altered my theoretical orientation through the course of my candidature, which I describe in some detail in the following section. This changed the focus of my publications away from a series of detailed case studies to incorporate more reviews of the literature and practice (Publications 1-3) and principally theoretically oriented works (Publications 4 and 5).

Ethics

Ethics approval for this research was obtained from the University of New South Wales' Human Research Ethics Advisory Panel I: Social and Health Research (reference number 9_08_121).

Theoretical Orientation

This chapter presents the theoretical framework for the research thesis. This guides both the methodology and analytic techniques presented in later chapters and the papers.

Epistemology

Epistemology explains how meaning is made, how we know what we know. It is the theory of knowledge embedded in the theoretical perspective which thereby informs the methodology (Crotty 2003). Crotty contrasts three epistemologies: objectivism, subjectivism and constructionism. Objectivism proposes that there is an objective truth that can be identified. In subjectivism understanding reality is based only on the ways that humans see and interpret things. Constructionist meaning is found by an interactive process with the subjects and the object inextricably interlinked, influencing and being shaped each by the other (Burningham & Cooper 1999).

The latter is the epistemological orientation of this thesis because HIA involves the development of a shared understanding among a diverse range of participants of the health impacts of a proposed policy, program or project. As observed by Kierkegaard “what one sees depends on how one sees; for observation is never receptive, a discovering, but is also productive” (Kierkegaard 1997:69). Social constructionism is informed both by the objective reality of a proposal and the predicted impacts that it is likely to have, and by the subjective views, values and interpretations of those most affected (Berger & Luckmann 1967). Thus for example a HIA may consider not only the probability of a negative outcome (such as the probability of adverse health impacts due to an environmental change) but also the way these impacts are perceived and valued by a range of people (for example decision-makers or those who might be most directly affected).

My epistemological orientation can be characterised as “weak social constructionism” (Pinker 2002). This involves recognising that there are certain “brute factual” elements, i.e. that some objects are extant and identifiable. A mountain is a physical object that exists in the physical world, independent of language and socially constructed meaning (Searle 1995, Crotty 2003).² Most concepts and categories remain socially constructed however. They exist insofar as we, individually and socially, agree to act as if they exist. Examples include money, power, property ownership and government.

Within the context of this research this means that there may be some elements of the HIA process that are agreed and subject to a shared understanding, if not necessarily brute facts per se. This may be that HIA and EFHIA are processes that involve more than one person, various forms of data collection and analysis, and the production of reports. The purpose and meaning of HIAs and EFHIAs all remain entirely socially constructed however.

Theory

This thesis is theoretically situated within symbolic interactionism, which is embedded within a social constructionism epistemology. The underpinning principles of symbolic interactionism are that meaning is not inherent - people attach symbolic meanings to things and that these meanings rely on a process of social interaction (Blumer 1986). It looks at the symbolic meanings that people impose on objects, events and behaviours; in the case of this thesis it is about the meaning that is imposed on EFHIA.

² I recognise the limitations of this teleology however. The very category of “mountains” is socially constructed. The brute factual element is a geographic feature made up of rocks and dirt. Nonetheless there is some value in distinguishing between elements with more agreed and recognised “factual” elements and others that are more clearly, or even solely, socially constructed.

Social philosopher George Mead did much of the initial work on social interaction, which has subsequently been influential across a range of social sciences (Denzin 2008, Plummer 1991). Within symbolic interactionism, emphasis is given to subjective meanings because it argues that people's decisions and responses are dependent on what they believe rather than what is objectively true. People interpret one another's actions and these interpretations then form a social bond. Language is the principal vehicle for meaning arising out of these social interactions. Indeed society itself is understood as arising from people engaging in symbolic interaction (Blumer 1986).

Symbolic interactionism focuses on meaning and communication and as such it usually involves qualitative research methodologies. Symbolic interactionism is a particularly relevant theory in the context of this research because HIA is a process that involves communication and other interactions. Its impact on subsequent and related activities is closely linked to perceptions and beliefs. For example people's beliefs about the HIA process, the information that informs the HIA, and the types of processes and information that should inform planning, decision-making and other actions all have impacts on the ways HIAs are conducted.

Critics have suggested that symbolic interactionism is not truly social in scope; by focusing on interactions it focuses on organisations, groups and networks rather than the functioning of society as a whole (Denzin 2008). This criticism is less relevant in the context of HIA and EFHIA, because these are discrete practical activities that involve interactions between individuals, groups and organisations and are not seeking to necessarily influence broader social conditions. It is important to note that EFHIAs as processes, and the people who are involved in them, are still subject to broader social forces and social institutions and these still exert a considerable influence.

Conceptual framework

I recognised early in the process of undertaking this research that it would be important to have a framework to conceptualise the impacts of EFHIAs on subsequent decisions, implementation and related activities to guide analysis. This was not straightforward however because HIA, and impact assessment more generally, is a diverse field with competing conceptualisations of its role and purpose.

Though there has been considerable work undertaken in impact assessment more generally looking at evaluation and follow-up (Bond et al. 2005, Morgan 2012, Morrison-Saunders & Bailey 2003), there has been a recognition that what constitutes effective impact assessment is still ill-defined (Cashmore et al. 2004). At the heart of this is that there is not uniform acceptance of the purpose of impact assessment and its objectives, and what information is to be used and by whom (Hulme 2000).

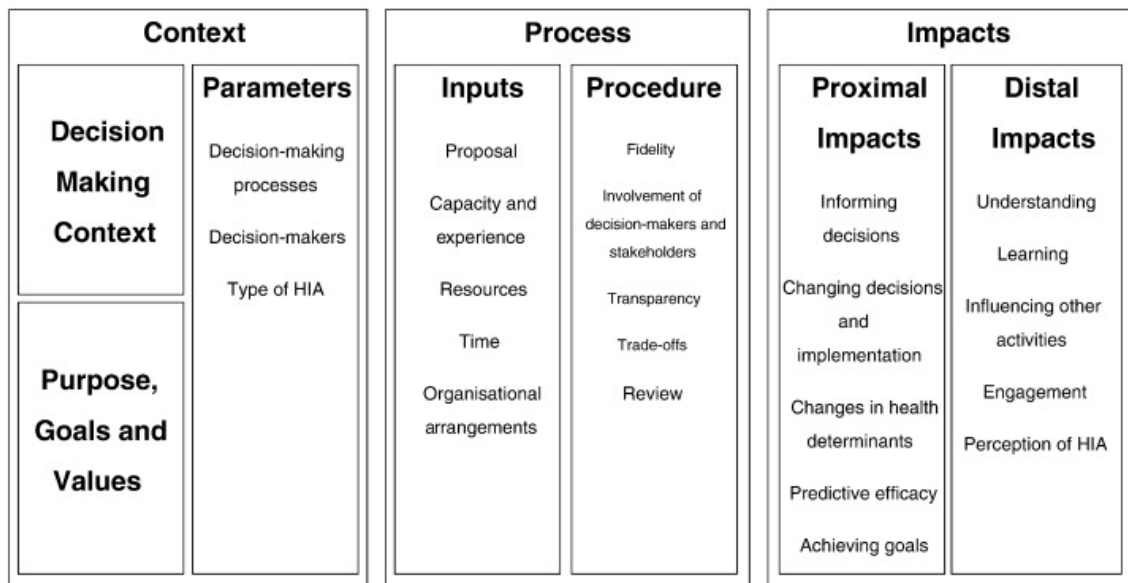
Impact assessment, in particular environmental impact assessment, has become a widespread practice in response to a practical need to consider potential environmental impacts before proposals such as extractive industry projects or changes to land use are implemented. Impact assessment is used in some form in almost every country and its use is now accepted and well understood. Though the underlying issue of its purpose and objectives remains occasionally contested, practice has become standardised to adhere with practice standards and to conform with the expectations of legal systems (Lee & Colley 1992). As a result of this I was not able to identify a conceptual framework from other forms of impact assessment that would be appropriate for explaining the broad range of factors that influenced whether HIAs changed decisions and other activities, based on my experience in conducting HIAs.

In the context of HIA there have been two significant conceptual frameworks put forward to evaluate the impact of HIA on decision-making and related activities. The first was developed by Parry and Kemm (2003). It proposes examining three domains when evaluating an HIA — prediction, participation (involving stakeholders) and informing the decision-makers. Each of these domains have both process and outcome criteria. This framework has informed subsequent evaluations, which have noted the difficulties in evaluating the full range of impacts of an HIA and the extent to which benefits may be realised (Ali et al. 2009, Ali et al. 2008, Ali et al. 2007).

The other significant framework for evaluating HIA's effectiveness that existed was developed by Wismar et al. (2007). It puts forward four categories of HIA effectiveness – direct effectiveness, general effectiveness, opportunistic effectiveness and no effectiveness. This framework has face validity because it recognises that an HIA's impact is not restricted to straightforward changes to plans and implementation. Anyone who has been involved in several HIAs however will recognise that an HIA may fit into several, or even all, of these categories simultaneously.

This lack of an appropriate comprehensive conceptual framework led to the development of a conceptual framework for evaluating the impact and effectiveness of HIA as part of this thesis, which is outlined in Figure 3. The conceptual framework and the process involved in developing it are described in considerable detail in Publication 5. It emphasises context, process and impacts of HIA as the overarching domains that affect impact assessments and their impact on subsequent decisions, implementation and related activity.

Figure 3: Conceptual framework for evaluating the impact and effectiveness of health impact assessment



Source: Publication 5 (Harris-Roxas & Harris 2013:53)

Paradigm

This thesis is positioned within an interpretative description qualitative research paradigm (Hunt 2009, Thorne 2008, Thorne et al. 2004b, Thorne et al. 1997). Interpretative description is appropriate within the context of this research because it goes beyond qualitative description to provide an in-depth and nuanced contextual description that draws heavily on interpretation and experience (Neergaard et al. 2009). It does this by synthesising, theorising and recontextualising rather than simply sorting and coding (Thorne et al. 1997, Thorne 2008). As such it takes place at slightly more of a distance from the data than more straightforward qualitative description and more clearly involves an interpretive filter (Thorne et al. 2004b). This is not necessarily a limitation though, as interpretation may allow for greater practice

insights. Care must be taken to enhance the quality and validity of findings however, through particular attention to (Thorne 2008):

- Epistemological integrity – a defensible line of reasoning about the epistemological orientation and methods used in the study;
- Representative credibility – that any claims or findings are consistent and limited to the phenomena being examined;
- Analytic logic – evidence of logic in the analytic approach and so that its credibility can be confirmed or rejected;
- Interpretive authority – so the reader can appraise the interpretation to determine which claims reflect subjective experience and which might reflect more common truths;
- Moral defensibility – that if the research is conducted on sensitive issues it is able to demonstrate relevance and beneficence;
- Disciplinary relevance – whether the research is relevant and appropriate to the development of disciplinary science;
- Pragmatic obligation – qualitative research in practice areas cannot ensure that findings will be confirmed or “proven” before being applied and as such they need to ensure they address practice issues and “consider findings ‘as if’ they might indeed be applied in practice;

- Contextual awareness – that the research articulates the context in which it occurred to ensure findings that are specific to the context are not over-generalised; and
- Probable truth – recognising that whilst it is not possible to identify absolute truths in interpretive research it is still valuable to seek probable truths which represent the best knowledge we have available, while acknowledging that these may eventually be found to be untrue. (adapted from Thorne 2008:221-231)

Methodology

This thesis uses a case study methodology. In case study research one example or phenomenon of interest is chosen for holistic study (Stake 2005), in this case an individual health impact assessment. Case study methodology is suited to complex social phenomena because it can look at everything, not just selected elements, in context, and allows investigators to retain the holistic and meaningful characteristics of real-life events (Yin 2002). A case study is a research methodology which is particularly apt where contextual factors are important for understanding and explaining the phenomenon being studied. Yin defines case study as “an empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context; especially when the boundaries between phenomenon and context are not clearly evident” (Yin 2002:23). This is clearly relevant in relation to HIA, where each assessment represents a partially bounded phenomenon, i.e. the assessment process, but each HIA is conducted in very specific governance, socio-political, cultural and disciplinary contexts.

Stake describes two types of case study: one in which the focus is on the complexity of the case itself (intrinsic); and the other in which the case illustrates or illuminates something of

interest (instrumental) (Stake 2000). According to Yin case study is particularly suited to the situations where the boundaries between the phenomenon and the context are not clear, which has been identified as a research issue in relation to research on HIA (Bekker 2007, O'Mullane 2013, Wismar et al. 2007). The specific temporal, decision-making and planning contexts in which HIAs are undertaken are impossible to disentangle from the way the HIAs are undertaken and the changes they may, or may not, bring about.

Case study methodology is particularly suited to the study of HIA, especially in helping to understand the interaction between the HIA process and the complex social, political, economic and organisational context in which the HIA is conducted. It can also provide contrasting examples that provide insights into the possible reasons for the variable impact and success of different HIAs. As noted previously, the processes of HIAs and their impacts cannot be properly understood without reference to the context in which they occur. This of course limits the generalisations that can be made. However it can be argued that findings from multiple case studies, or a single case examined over time, are more robust than the evidence from single case studies (Yin 2002, Stake 2005).

It is important to note that case studies are a methodology rather than a method. It is necessary to use a variety of social research methods in order to fully understand the context and phenomena that each case encapsulates. This is partly done for the purposes of triangulation and enhancing validity (Flick 1992, Tashakkori & Teddlie 2003), but it is also done for practical reasons to ensure the research has as much data on the case as possible (Bitektine 2008).

This thesis includes 13 case studies of HIAs and EFHIAs, as described in Table 3. These case studies have drawn on a variety of data from different research methods, including semi-

structured interviews, document review, written reflections by HIA practitioners, and workshops.

Table 3: HIA and EFHIA case studies included in this thesis

Case study	Type of proposal	Publication(s)
1. Sydney South West Area Health Service Overweight and Obesity Plan HIA	Health service plan	3
2. Oran Park and Turner Road HIA	Land use plan	3
3. Chesalon Living HIA	Care facility plan	3
4. HIA of Population and Land Use Planning for Bungendore	Strategic plan/ land use plan	5
5. HIA of the Greater Granville Regeneration Strategy	Strategic plan/ land use plan	5
6. Equity Focused Social and Health Impact Assessment of the Lower Hunter Regional Strategy	Strategic plan/ land use plan	5
7. HIA of the “Blue Mile” Wollongong City Foreshore Project	Land use plan	5
8. Greater Western Sydney Urban Development HIA	Strategic plan/ land use plan	5
9. Indigenous Environmental Health Workers in North Coast Area Health Service Proposal HIA	Health service plan	5
10. HIA of the Health Home Visiting Program in Northern Sydney Central Coast Area Health Service	Health service plan	5
11. NSW Australian Better Health Initiative Implementation Plan EFHIA	Health service plan/ policy implementation plan	6 and 7
12. The Good for Kids, Good for Life EFHIA	Health service plan/ health promotion program	7
13. NSW Sexually Transmissible Infections Strategy EFHIA	Health service plan/ strategic plan	7

Like all qualitative research, validity in case study research can be strengthened by the way in which data is collected and analysed. Data on HIA case studies should be collected from multiple different informants and sources that have different perspectives on the processes and impacts of the HIA (Haigh et al. 2013a, Blau et al. 2006). It is important to recognise that my personal experience and disposition in relation to HIA and EFHIA, and the extent to which I adopt a reflexive and transparent approach to my analysis and conclusions, will influence and hopefully enhance the quality of the case studies in this thesis.

Validity

This thesis follows a case study methodology, in part because each HIA or EFHIA discussed forms a natural, bounded case (Yin 2002). Yin describes four tests that can be applied a broad range of social research, namely construct validity, internal validity, external validity and reliability. These are set out in Table 4 and have been drawn on throughout this research's design, data collection and analysis.

Table 4: Case study tactics for four design tests

Tests	Case study tactic	Phase of research in which tactic occurs
Construct validity	Use multiple sources of evidence Establish chain of evidence Have key informants review draft report	Data collection Data collection Composition
Internal validity	Do pattern-matching Do explanation building Address rival explanations Use logic models	Data analysis Data analysis Data analysis Data analysis
External validity	Use theory in single-case studies Use replication logic in multiple-case studies	Research design Research design
Reliability	Use case study protocol Develop case study database	Data collection Data collection

Source: (Yin 2002:34)

This thesis is also informed by an interpretive description approach (see section above). This involves addressing epistemological integrity, representative credibility, as well as demonstrating analytic logic, interpretive authority and disciplinary relevance in order to enhance the overall credibility of analysis (Thorne 2008). Specific approaches used in this thesis to enhance the validity of the analysis and the findings include:

- Developing and documenting an audit trail, which involves clearly and transparently describing the approach to data collection and analysis (Richards 2005);
- Coding checking, which involves having people with different experience and perspectives qualitatively code the same text to ensure similarity of themes and issues identified (Bazeley 2007);

- Triangulation of methods through the use of a number of different methods, recognising that each method has strengths and weaknesses and should be selected with reference to their theoretical relevance in the context of the research (looking at process and perspectives through semi-structured interviews and document analysis, Denzin 1970, Flick 1992);
- Appraisal of narrative described in interviews for coherence and credibility (verisimilitude, Patterson 2008);
- Describing my own research perspective, with links to relevant experience (Flick 2007).

These methods have been adopted so that the reader can assess the quality of this research for its rigour and appropriateness of the methods, with particular reference to its credibility, originality, resonance with the studied experience and usefulness (Flick 2007, Charmaz 2006).

The issue of validity is also addressed in the methods sections of publications included in this thesis.

Changes in theoretical orientation

Over the course of this research my theoretical orientation changed. Initially I hoped to situate myself within a narrative analytic paradigm, which involves analysing narratives, in the forms of stories and accounts, to research and understand the way people create meaning in their lives (Labov 1972, Labov 1997, Labov & Waletzky 1997, Patterson 2008). I subsequently shifted my orientation to focus on interpretive description (Thorne 2008). This change can be observed in some of the publications in this thesis. For example Publication 6 refers to narrative analytic techniques that were used in that publication, whereas the other publications refer to interpretive description. This change was for three reasons.

Firstly, although the data I was collecting was elicited in narrative form it was not always recounted in a Labovian narrative format. This refers to Labov's schema for describing and categorising parts of narratives, including an abstract, orienting details, evaluation, result and coda (Labov 1972). Instead the accounts that arose from the interviews often took on the form of generalised discussions about EFHIA or HIA in general, despite specific prompts. This seemed closely related to the level of direct involvement of the interviewee in the HIA process. In essence, the less involved the interviewee was, the harder it was for them to tell the story of the EFHIA in the form of a traditional narrative. This point about the need for direct involvement in the HIA to gauge its impacts mirrors the findings of several other studies evaluating the impacts of HIAs and Health in All Policies initiatives (Bekker et al. 2005, Veerman et al. 2006, Bekker 2007, O'Mullane & Quinlivan 2012, Steenbakkers et al. 2012, O'Mullane 2013, Mannheimer et al. 2007, Molnár et al. 2012).

Secondly, even though much of the interview data took the form of narratives, my initial analyses made it clear that a different analytical approach would be required. The substance and form of the narrative alone, i.e. how people told the story of the HIA, was unlikely to answer this thesis' research questions. Nevertheless a subjective perspective is required when looking at the effectiveness of HIA due to the role that perception plays in determining it. As HIA is fundamentally a decision-making aid, perception of its role and usefulness cannot be disentangled from the changes that can be attributed to it. For example I was involved in a study with Kaaren Mathias that looked at an HIA that had been conducted in Christchurch, New Zealand (Stevenson et al. 2006, Stevenson et al. 2007). The study found that whilst it was possible to mark off items from the list of recommendations that had been implemented, when respondents were asked to attribute implementation to the HIA, or explain why some recommendations were implemented and not others, their responses were strongly

influenced by perception and recall (Mathias & Harris-Roxas 2009). This broader issue of perception of effectiveness is an important theme throughout this thesis and is discussed in some detail in Publications 5-7.

Thirdly, HIA is still an emerging field with weak theoretical foundations, as discussed in Publications 1 and 2. It evolved to address practical concerns about protecting and promoting health, rather than being guided by theory. Interpretive description is well suited to this kind of data and subject because it requires:

- An actual practice goal, in this case establishing what EFHIAs influence in health service planning and how that might be enhanced; and
- An understanding of what we do and do not know about a topic on the basis of the available empirical evidence and experience, which in this case takes the form of interviews, document analysis and my experience with HIA and EFHIA. (Thorne 2008).

As discussed in the section on this thesis' research paradigm, interpretative description goes beyond qualitative description and draws heavily on experience to provide an in-depth and nuanced contextual description of the subject being researched.

The need to alter paradigms is a recognised issue within the field of longitudinal qualitative research. Indeed, Saldana suggests that any qualitative research that is conducted over time that does not change its position in relation to the original paradigm becomes at best inflexible and at worst untrustworthy (Saldana 2003). The emergent nature of qualitative research means that there is some scope to change or supplement the methods used and the analytic approach (Scudder & Colson 2002). In this context "'improvements in technique' are admirable

researcher tactics, not those to be avoided for the sake of traditional reliability or validity”
(Saldana 2003:43).

Background and literature review

Health impact assessment

This thesis is specifically on equity focused health impact assessment but it is worth defining what I mean by HIA and to provide an overview of the methods and process involved in undertaking an assessment. This is also important in order to demonstrate my familiarity not only with HIA theory but also practice, an important part of quality assurance and validity enhancement in interpretive description studies (Thorne et al. 1997, Thorne 2008).

Box 1: Health impact assessment

Within this thesis I refer to HIA as a structured process for assessing the impact of proposals before they are implemented. It recommends changes to maximise positive health impacts and to minimise negative health impacts (Harris et al. 2007b).

HIAs assess the potential health impacts of a range of different types of proposals – including plans, projects, policies or programs - and make evidence-informed recommendations to inform decision-making and implementation (ECHP 1999, Cave & Curtis 2001, enHealth 2001, Scott-Samuel et al. 2001, Harris et al. 2007b, Mindell et al. 2008, Bhatia et al. 2009). The most commonly cited definition is:

...a combination of procedures, methods and tools by which a
policy, program or project may be judged as to its potential effects
on the health of a population, and the distribution of those effects
within the population.

(ECHP 1999:4)

An HIA's recommendations can take several forms and may include measures designed to:

- Mitigate potentially negative health impacts (IFC 2009);
- Enhance potentially positive health impacts (Bos 2006);
- Improve the distribution of potential health impacts within and between population sub-groups (Douglas & Scott-Samuel 2001, Mahoney et al. 2004, Harris et al. 2007b);
- Promote alternative approaches that are designed to achieve similar policy or program objectives (Sukumnoed et al. 2007, Forsyth et al. 2010);
- Or even recommend that the proposal should not proceed (Simpson et al. 2004a).

There is now a broad consensus that HIA is most useful and has the greatest potential to influence decision-making and implementation when it is conducted as an *ex ante* assessment prior to the implementation of a proposal (Quigley et al. 2006, Harris et al. 2007b, Harris & Spickett 2011, Cameron et al. 2011). This issue arose after controversies about the role of “concurrent” or “retrospective” HIAs earlier in the development of the field (Lock 2000, Kemm 2003, Mahoney et al. 2004). This approach is described as an *ex ante* assessment in the broader impact assessment literature, i.e. before the event (Hertin et al. 2009, Thiel 2009, Zimmermann et al. 2009). This focus on *ex ante* assessment within the broader impact assessment field is in contrast to some related forms of health assessment, such as health risk assessment, which are frequently conducted retrospectively (enHealth 2004, Gulis et al. 2014).

There are several approaches currently in use that allow the health impacts of activities to be considered, including evaluation, health needs assessment (Signal et al. 2007), monitoring (Smith et al. 2006, Simpson et al. 2004a), or planning checklists or prompts such as the Aboriginal Health Impact Statement used in New South Wales, Australia (NSW Health 2003),

equity audits (Hamer et al. 2003), the Health Equity Assessment Tool (Signal et al. 2008), or other checklists (Forsyth et al. 2010). HIA does not replace these approaches but complements them. It is important that we as practitioners not be doctrinaire in our approach to HIA by regarding it as solely appropriate for use once there is a clear documented proposal. HIA is flexible (Harris 2013). By developing and assessing alternative scenarios HIA can usefully inform the latter-stages of planning. By building frameworks for monitoring impacts on health and the determinants of health into an HIA's recommendations, HIA can usefully inform implementation. This is increasingly recognised in the impact assessment literature, with calls for impact assessors to be involved from the very earliest stages of planning a proposal through to its completion (Jay et al. 2007), though this may reflect the aspirations of the field rather than actual practice.

If it is not recognised that HIA can be relevant to more than one point in the planning process then practice will always be constrained to simply “tweaking” a proposal where the most important decisions have already been made (Sukkomnoed et al. 2007), a criticism that is often levelled at environmental impact assessments (EIAs) of projects (Polonen 2006). This criticism has, in part, led to the evolution of strategic environmental assessment, which aims to inform strategic decision-making about potential environmental impacts (Bond et al. 2012). So whilst HIA may be ideally positioned following the development of a proposal but before it is implemented, it is necessary to recognise that its role and influence may extend earlier into planning and later into implementation.

HIA follows a stepwise, sequential process, which has been described at length in other publications (Mindell et al. 2008 provides an overview of HIA guidance). Table 5 provides an

overview of the steps that make up an HIA, drawing on a guide that colleagues from the University of New South Wales and I co-authored in 2007 (Harris et al. 2007b).

Table 5: Overview of the steps of HIA

Step	Purpose	Task
Screening	Determine whether an 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 to be undertaken Set the scope of evidence to be gathered Develop a project plan
Identification	Develop a community/population profile and collect information to identify potential health impacts	Develop a community/population profile Collect data using a variety of sources/methods
Assessment	Synthesise and critically assess the data collected in order to identify and predict potential health impacts	Assess the data on potential health impacts collected from different sources Predict the significance, magnitude, severity and likelihood of impacts in order to characterise and prioritise impacts
Decision-making and recommendations	Make decisions to reach a set of recommendations for acting on the HIA's findings	Develop concise, action-oriented recommendations based on assessment Write a final report with recommendations
Evaluation and follow-up	Evaluate the process and impact of the HIA, and follow-up the HIA through monitoring and a health impact monitoring plan	Conduct process and impact evaluation Set up monitoring procedures Develop a health impact management plan

Adapted from Harris, Harris-Roxas, Harris & Kemp (2007b:4)

Although they may be described differently, for example the identification and assessment step may be broken into sub-steps (Scott-Samuel et al. 2001), the order of the steps and what they involve is broadly consistent across the large number of HIA guidelines that exist internationally (Abrahams et al. 2004, Birley & Peralta 1992, Cave & Curtis 2001, enHealth 2001, Harris et al. 2007b, Mahoney et al. 2004, Mindell et al. 2008, New Zealand Ministry of Health 2007, NHMRC 1994, PHAC 2005, PHC 1995, Scott-Samuel et al. 2001, Sukkumnoed et al. 2007, Coggins et al. 2007).

Health equity

Health inequalities are measurable differences, variations and/or disparities in the health of individuals or groups. Inequalities arise in populations due to a range of factors including (but not limited to) age, gender, ethnicity, geographic location and socioeconomic status.

Differential health impacts are those changes (positive or negative) that may occur as a result of a proposal and are *differentially* distributed among population groups (Benzeval & Meth 2002, Bull & Hamer 2001, Blane 2002, Graham 2002).

Health equity, in contrast, is about equal access to services for equal need, equal utilisation for equal need and equal quality of care for all, with a focus on health outcomes (Harris-Roxas et al. 2004). A health equity approach recognises that not everyone has the same level of health or level of resources to deal with their health problems and it may therefore be important to do different things in order to achieve similar health outcomes (Mindell et al. 2003).

Equity in health implies that ideally everyone should have a fair opportunity to attain their full potential and, more pragmatically,

that no one should be disadvantaged from achieving this potential, if it can be avoided. Based on this definition the aim of policy for equity and health is not to eliminate all health differences so that everyone has the same level of health, but rather to reduce or eliminate those, which result from factors which are considered to be both avoidable and unfair. Equity is therefore concerned with creating opportunities for health and with bringing health differentials down to the lowest levels possible. (Whitehead 1990:7)

While there are a number of definitions of health equity, the key features of relevance to this thesis are twofold. Firstly, health inequalities result from factors that are considered to be both avoidable and unfair. Equity in HIA in this context is therefore about both identifying and assessing differential health impacts and on making a judgement about whether these potential differential health impacts will be, are, or were, inequitable – that is, avoidable and unfair. Secondly, reducing the potential for these differential impacts to become health inequities by using the findings from an EFHIA to amend, ameliorate and improve the proposed policy, program or project (ideally before it is implemented) (Harris-Roxas et al. 2004, Simpson et al. 2005, Simpson 2005, Mahoney et al. 2004, Snyder et al. 2012, Macinko & Starfield 2002).

Such activities involve a more nuanced understanding of health equity that incorporates approaches that look at population sub-groups that are routinely identified as equity concerns (indigenous people, migrants, people with disabilities, etc.), they also go beyond this to

attempt more systematic consideration of potential health impacts within and between population groups.

How is equity usually addressed in impact assessment?

Equity focused health impact assessment (EFHIA), like health impact assessment (HIA), did not emerge from a wholly new disciplinary or historical context. It draws heavily on methodologies developed for other forms of impact assessment.

Equity is not frequently explicitly addressed in other forms of impact assessment, such as environmental impact assessment (EIA), social impact assessment (SIA) or strategic environmental assessment (SEA) (Harris-Roxas et al. 2004). Equity considerations, when they are made, tend to be implicit in nature rather than explicit. This implicit approach involves:

- Describing environmental and social vulnerabilities, e.g. ecologies and groups that may be at greater risk as a result of a proposal being implemented (Kværner et al. 2006, Gulis et al. 2014);
- Some limited consideration of differential impacts between population sub-groups, e.g. those in closest proximity to a development (Noble & Bronson 2006, Eales et al. 2005, IPCC 2007); and
- Public participation in the identification or appraisal process (Thiel 2009, Ahmad 2004, Saarikoski 2000).

These activities can be seen to constitute a first step in the consideration of equity. It is also worth noting that while these activities are referred to in the impact assessment literature, they are often not undertaken in practice (Kværner et al. 2006). The second, more explicit

approach to the consideration of equity clarifies the basis upon which decisions relating to fairness and remediability are made. It is this second step that is conceptually under-developed and rarely conducted in other forms of impact assessment, with the notable exception of equality impact assessment (EqIA), which is mandated in England (Vohra et al. 2013).

Differential impacts within other forms of impact assessment are often considered in terms of:

- Socioeconomic status, with particular reference to poverty;
- Age;
- Gender;
- Culture and language, particularly indigenous communities and populations;
- Location, including proximity and remoteness; and
- Existing levels of health and disability (Bruhn-Tysk & Eklund 2002, Burnett 2001, Himmelweit 2002, Ezzati et al. 2002, Harris et al. 2007b, Gunther 2011, Haber 2011).

This is usually done in two ways. The first approach *a priori*, which involves profiling previously identified groups and then assessing the impact of previously defined high impact aspects of the proposal on them, for example the impacts of resettlement on two nearby villages as a result of the construction of a extractive industry facilities (Lilien & Anwar 2008). This is usually done during the screening and scoping stages of an impact assessment (Harris et al. 2007b), though frequently those undertaking impact assessments are directed to look at the impact on certain population groups in their terms of reference or by industry performance standards (IFC 2006).

The second approach is *ad hoc*, which involves identifying potentially vulnerable groups within the specific context of the proposal, and then assessing what aspects of a proposal are most likely to impact on them. This approach is under-utilised because the process involved for determining which groups are more likely to be affected has the potential to add an extra step to an already time-consuming and time-sensitive process (Kemmm 2013, Kearns & Pursell 2011). *A priori* identification of differentially affected populations appears to be done more often than *ad hoc* identification (Harris-Roxas et al. 2004).

Differential impacts are usually assessed in other forms of impact assessment with the sole purpose of minimising negative impacts, rather than maximising potentially positive impacts arising from the proposal (Ezzati et al. 2002, Harris-Roxas et al. 2004). This may be partly explained by the triggers for impact assessment, which are different from those described in the health impact assessment literature (Elliot & Francis 2005, Bruhn-Tysk & Eklund 2002, Ezzati et al. 2002, Noble & Bronson 2005, Harris et al. 2007b, Hoshiko et al. 2012, Kang et al. 2011). Legislative and regulatory requirements often lead to consultants being commissioned by the proponents to undertake an impact assessment, as is usually the case with environmental impact assessment. This contrasts with HIA where those undertaking the HIA routinely have stronger ties to, or involvement in, the decision-making process (Douglas et al. 2001a, O'Mullane 2013, Lee et al. 2013) and may in fact work for the same agency.

In other forms of impact assessment there may also be less scope to consider positive impacts and their distribution among affected populations, and as such important implications for the consideration of equity may be overlooked. Other forms of impact assessment may tend to focus on mitigating negative impacts to ensure that people in general won't be markedly worse off as a result of a proposal being implemented. This is of course critical, but an

assessment of impacts is often incomplete without detailed consideration of “who wins?” from a proposal as well as an analysis of “who loses?” The notable exception to this is social impact assessment (SIA), which has a long tradition of considering which negative impacts may have to be managed or traded off against positive ones (Burdge 2002, Vanclay 2002, Lockie 2001). For example a proposed mining development may have considerable negative social impacts on local communities, but this needs to be balanced against potential positive impacts in the form of employment and economic development (Bond et al. 2012). The distribution of positive impacts are important from an equity perspective because consistently and systematically different groups benefit from, or are harmed by, changes to programs or policies and the introduction of new projects (Dahlgren & Whitehead 2006).

Public participation is the other major mechanism cited to ensure equity in impact assessment (Duncan 2003, Muro & Jeffrey 2008, Petts 2007, Mahoney et al. 2007, Elliott & Williams 2004). Measures that promote public participation are seen to make explicit the trade-offs associated with a proposal, and identify the groups most negatively impacted by the proposal. There are three problematic assumptions underpinning this:

- That all people can participate equally in the process;
- That the decision-making process allows for meaningful community input; and
- That those groups who are most affected identify and define themselves as groups and are able to identify the range of possible differential impacts (Harris-Roxas et al. 2004).

None of these assumptions relate solely to impact assessment. They apply to public participation in general (Darnall & Jolley 2004) and are dependent on contextual factors larger than impact assessment processes. Skilled practitioners can assist but may not be able to

ensure that all these issues are addressed when involving the public in impact assessments (Gwatkin et al. 2007). Groups have to be highly organised and possess an understanding of impact assessment and decision-making processes to take advantage of most avenues for consultation (Ezzati et al. 2002, Draucker & Martsof 2008, Wait & Nolte 2006). They face further hurdles if these avenues don't exist (Humphreys & Brown 2002).

How is equity usually addressed in health impact assessment?

The literature on HIA overwhelmingly indicates that equity should be a core value or principle of any HIA (Ritsataakis et al. 2002, ECHP 1999, Taylor & Blair-Stevens 2002, Kemm 2001, Douglas et al. 2001a, Patz et al. 2008, Parry & Scully 2003, WHO 1997a, WHO 2006, Mahoney et al. 2004, Gunning et al. 2011, Gunther 2011, Snyder et al. 2012). The Gothenburg consensus paper on HIA identifies a range of principles that should inform a HIA, among them equity, democracy and sustainability (ECHP 1999). There does appear to be a discrepancy, however, between the theory and the practice – equity in HIA is an aspiration, not necessarily reflected in all current HIA practice (Povall et al. 2013, Rhodus et al. 2013). This dissonance between theory and practice might be due to the fact that HIA has many of its roots in environmental impact assessment (EIA), which have tended to be undertaken in a regulatory context where consideration of differential impacts between human populations and sub-populations has been limited (Snyder et al. 2012).

An important seminar that had a formative impact on the development of HIA in the UK and internationally was held in 2000. The workshop considered whether a separate form of HIA – health inequalities impact assessment (HIIA) – was required to strengthen the focus on equity in HIA processes (Barnes 2000). The resolution was that all HIAs should have an equity focus

(Ritsatakis et al. 2002) and some have suggested that it is difficult to conceive how an equity focused form of HIA would be different to normal HIA practice (Kemm 2001). Another workshop was held in Liverpool in 2008 on equity in HIA and reached the same conclusion, as did discussions and workshops at the International HIA Conference 2009 in Rotterdam (Povall et al. 2010).

There is a risk that in developing a specific form of HIA such as EFHIA, equity won't be addressed in all HIAs. EFHIA could become something that only those with an explicit commitment to health inequalities do as part of a HIA. This stance, however, is based on the assumptions that (i) HIA is being utilised within the context of an explicit commitment to addressing health inequalities, and (ii) that there is a process for systematically addressing equity issues throughout HIA beyond having it as an underpinning principle. An explicit commitment to addressing health inequalities of the type mentioned does not currently exist in many parts of the world.

A major theme that emerges from the literature is that there is greater scope to address equity within health impact assessment than other forms of impact assessment, including health risk assessment. This is because:

- HIA is often more oriented to decision-support than providing technical information to address regulatory or administrative requirements (see Publication 4 for more information on the forms of HIA);
- There are explicit statements that establish equity as a core principle underpinning HIA's use; and

- The recent development of HIA in many countries has been driven by, and embedded within, a context of broader governmental policies to reduce health inequalities.

There is still considerable debate about what these factors mean in practice.

HIA has evolved as a tool for project, program and policy development and has an important place within it. Most HIAs in developed countries are done voluntarily with the goal of supporting and enhancing decision-making. In developing countries practice appears more varied, though HIAs are often undertaken to meet lending or accrediting agency requirements in relation to major projects (IPIECA 2005, IFC 2009, ICMM 2010). Douglas et al. (2001b) suggest that HIA has greatest potential if it is used to assist the policy, program and project development cycle by refining proposals rather than if it is solely used to provide a justification for previously decided courses of action. The different forms that HIA can take and its range of applications are discussed in more detail in Publication 4 of this thesis.

HIA in developed countries is often done by government on its own policies, which distinguishes it from other forms of impact assessment. These tend to be commissioned by the proponents (this varies depending on jurisdiction and it is important to note the exception of strategic environmental assessment - SEA). In proponent-driven impact assessments conflict often arises over the legitimacy of the science involved as it is seen as imparting an overall legitimacy to the proposal (Duncan 2003, Cashmore & Richardson 2013). HIA's current role as a less routinely-required or regulated process may allow it to consider a broader range of evidence. Evidence may be less challenged by other stakeholders in the process and this may include evidence of equity impacts, which are often more speculative in nature.

HIA as an intervention to reduce and redress health inequalities

A major driver for HIA's use internationally has been a commitment by a number of governments and international agencies to act to reduce health inequalities (IFC 2006, WHO 2006, WHO 2008a, WHO 2011, WHO & SA Government 2010, WHO ROA 2009). Following the *Jakarta Declaration on Leading Health Promotion into the 21st Century* in 1997 there was an increased interest in "equity focused health impact assessment", as called for in the declaration (WHO 1997a, Mittelmark 2001). This was particularly the case in the United Kingdom following the *Independent Inquiry Into Inequalities in Health* in 1998 which called for health inequalities impact assessment (Acheson 1998, Acheson 2000) of all government policies.

Following on from this in 1999 was the Leo Kaprio workshop on HIA and the subsequent *Gothenburg Consensus Paper* which set out equity as a principle underpinning HIA's use (ECHP 1999, WHO Europe 2001). Interest in an explicitly equity-focused form of health impact assessment has waned and increased periodically since (Mahoney 2002, WHO 2008a, Community Affairs References Committee 2013a), but an interest in health equity and a commitment to addressing health inequalities remains.

Equity focused health impact assessment

Equity-focused health impact assessment (EFHIA) is a form of HIA with an emphasis on the consideration of health equity and potential health equity impacts, i.e. assessing differential impacts and appraising whether these are avoidable, remediable or unfair. The origins of EFHIA as a distinct form of HIA lie in the Equity Focused Health Impact Assessment Project that was funded by the Australian Government through the Public Health Education and Research

Program between 2003 and 2004 (Stewart Williams et al. 2004). This project sought to bring together interest in acting to prevent and redress health inequalities (NSW Health 2004) with early work on health impact assessment in Australia and New Zealand (Mahoney 2002, Mahoney & Durham 2002, Mahoney & Morgan 2001). It resulted in the development of an EFHIA Framework (Mahoney et al. 2004) that provided structured guidance on how to do EFHIAs and then tested the approach through five EFHIA pilot case studies (Simpson et al. 2005). I was involved in this Project by conducting a literature review on the consideration of equity in impact assessment (Harris-Roxas 2004) and I had peripheral involvement in two of the pilot EFHIA case studies.

EFHIA follows health impact assessment processes to firstly determine the potential differential and distributional impacts of a proposal on the population as well as specific groups within that population and secondly, to assess whether the differential impacts are inequitable. The equity dimension of EFHIA is about assessing whether identified differential health impacts are inequitable, i.e. the result of factors that are avoidable and unfair and potentially preventable or avoidable (Mahoney et al. 2004). The EFHIA Framework has subsequently been used in a number of HIAs in Australia and internationally (Gunning et al. 2011, Wells et al. 2007, Snyder et al. 2012) and has informed the development of related approaches such as health equity impact assessment (Haber 2011, Povall et al. 2013, Wellesley Institute 2013).

Do we need a separate form of equity focused HIA?

There are some measures available in the existing approaches to health impact assessment that allow the consideration of equity issues, however the problem is that the practice often falls short of the aspiration (Harris-Roxas et al. 2004, Gunther 2011, Snyder et al. 2012). Equity

is often described as an underlying principle, but there is a lack of explicit direction about how to make health equity determinations within the HIA process. There is a need for structured practical measures to assist the incorporation of equity at *all* stages of HIA rather than just the scoping step. The Equity Focused Health Impact Assessment Framework was developed to address this need (Mahoney et al. 2004, Simpson et al. 2005).

The historical context for the development of the EFHIA framework is also important. Following the Jakarta Declaration and the Bangkok Charter (WHO 1997a, WHO 2006), both of which explicitly called for “equity focused health impact assessment” (i.e. that exact phrase), there was considerable interest in EFHIA and interventions to address health inequities. It was actively pursued in the United Kingdom in particular, following the *Independent Inquiry into Inequalities in Health* (Acheson 1998). After this initial interest, action on EFHIA or a separate form of health inequalities impact assessment dropped off. In large part this stems from discussions held at a methodological seminar on EFHIA held in Manchester in 2000. This meeting determined that practitioners shouldn’t pursue a separate form of HIA focusing on health equity. It was decided that these should instead be key considerations of *all* HIAs, as described below (this is a lengthy quote but important for the historical context it provides):

Many seminar participants felt that all health impact assessments should be concerned with inequalities because equality of income, status or opportunity is an important determinant of health. There is good evidence that more equal societies have better health overall. Equity is also a value, which arguably should underpin health impact assessment and inform the whole process. There may be trade-offs between improving average health, improving

the health of the most disadvantaged people, and reducing inequalities in health. Health impact assessment should make these trade-offs explicit; restricting inequalities to a separate assessment would make them less so. The seminar's conclusions were that all health impact assessment methods and procedures should focus on health inequalities, explicitly considering both impacts on disadvantaged groups and the distribution of impacts across the population. (Barnes 2000:90)

This decision was confirmed in later reviews about the potential need for a separate form of equity focused HIA (Gunther 2011, Povall et al. 2010). There has, however, recently been an upsurge of interest in Canada and parts of Australia leading to a number of completed HEIAs (Haber 2011, Wellesley Institute 2013, Harris et al. 2013b).

Statements such as 'all health impact assessments should be concerned with inequalities' are difficult to argue with. The concern is whether this aspiration is realised in practice. The problem is that there is not much evidence, beyond assertion and opinion, that it is (Harris-Roxas et al. 2004, Harris et al. 2009).

This is for good reasons. Looking at health equity in HIAs involves an additional two or three steps. First one has to identify potential differential impacts, both positive and negative, on different groups. Secondly one has to integrate a range of competing predicted impacts into a coherent assessment, i.e. reconcile positive impacts for some groups against negative impacts for others. These differential impacts are rarely of similar magnitude or severity. Thirdly one has to make a determination about whether these impacts are unfair or avoidable/remediable (Mahoney et al. 2004). This last step seems to be rarely done in practice because it involves

articulation of the values underpinning the assessment and making decisions on the basis of those values (Harris-Roxas et al. 2004), something many HIA practitioners favour leaving principally in the hands of decision-makers because it is outside the bounds of a solely technical assessment (Kemmm 2013, Kemmm et al. 2004).

In contrast it is simpler to treat populations as largely homogenous in terms of health impacts or to include some stand-alone consideration of specific, identified populations such as children, older people or indigenous communities. This is still valuable but does not represent a comprehensive assessment of health equity impacts. Systematically looking at all equity impacts adds time and complexity to an already time-consuming and complex process. These are very real concerns when working in policy settings or intersectorally (O'Mullane 2013). It is worth noting though that consideration of health equity needn't act as a disincentive or impediment to HIA or EFHIA's use. Gunning et al. describe how equity and differential impacts were more relevant and comprehensible concerns for other sectors than health itself when undertaking an EFHIA on a regional land use plan (Gunning et al. 2011).

As such it cannot be assumed that this kind of equity analysis is included in all HIAs, despite the aspirations and best intentions of practitioners. This necessitated the development of a practical mechanism to broaden the practice of HIA to incorporate better consideration of potential equity impacts – the *Equity Focused Health Impact Assessment Framework* (Mahoney et al. 2004, Simpson et al. 2005, Stewart Williams et al. 2004).

Related approaches

It is important to note that EFHIA is only one of a number of interventions that aim to ensure health equity issues are addressed in planning and implementation. A recent review by the

University of Victoria in Canada identified a total of 36 health equity-focused tools that are designed to inform needs assessment, planning, impact assessment, implementation and evaluation (Pauly et al. 2013), which was informed by an earlier scan of health equity impact assessment tools (Orenstein & Rondeau 2009). This list of 36 includes EFHIA, HIA in general and the HEIA Workbook developed in by the Wellesley Institute in Toronto (Haber 2011) – see Table 1 for a description of how these approaches are related. It is worth noting that HIA and EFHIA are amongst the best described and researched of the health equity tools identified. I briefly describe some of these related approaches below, in order to contextualise EFHIA and its use.

Health inequalities impact assessment

The use of health inequalities impact assessment (HIIA) was called for in the *Independent Inquiry into Inequalities in Health* in the UK in 1998 (Acheson 1998) and its use was pioneered in Wales. The approach is broadly similar to EFHIA because it follows an impact assessment process and seeks to integrate the consideration of health inequalities at each step of the process. The Bro Taf Health Authority's use of HIIA arose from the Welsh Health Equity Strategy, which sought to respond to range of health inequalities that existed in their area. The Bro Taf approach to HIIA suggests three levels of HIA:

- Comprehensive HIIAs to be undertaken on major new projects;
- Rapid appraisals to be undertaken for less costly new proposals or changes to existing services and should completed within two months, though it may take as little as 3-4 days; and

- Policy audits to for new policies or policy changes that do not merit rapid appraisals or comprehensive HIAs (Bro Taf Health Authority 1999, Lester et al. 2001).

HIA is very similar to EFHIA in its approach and historical use. Like EFHIA, HIA suggests that health inequality and equity considerations should be a major driver for further work (Lester & Temple 2004). Also like EFHIA, HIA has adapted rapid approaches to meet the pressures

Health Equity Impact Assessment

The term health equity impact assessment (HEIA) was used in the *Final Report of the Commission on the Social Determinants of Health* in 2008 (WHO 2008a), which recommends it as a policy- and program-level intervention to promote the consideration of health equity issues in planning and decision-making. Though the term is undefined in the report, it harks back to earlier high-level calls for HIA (Acheson 1998, Acheson 2000). The emphasis is on “as a standard protocol in all policy-making” (WHO 2008a:22).

Guidance on HEIA as a distinct activity has recently been developed in Canada by the Wellesley Institute (Wellesley Institute 2013, Haber 2011). It follows a structured, stepwise similar to that defined in the *Equity Focused Health Impact Assessment Framework* (Mahoney et al. 2004).

It is important to note that the examples of HEIA in the *Final Report of the Commission on the Social Determinants of Health* are all actually self-described EFHIAs. Given this, and the procedural similarities between HEIA, HIA and EFHIA, the differences between the three forms of impact assessment may reflect differences in nomenclature more than differences in approach.

There is an implication in the 2010 IMPACT review of health equity impact assessment that a new type of assessment is required look at the “root causes of inequalities”, or determinants of health inequity (Povall et al. 2010, Povall et al. 2013). This notion suggests that these can be examined independently of the factors that may determine health. This is not a procedural or methodological issue in my view, but a political one (Acheson 1998). Trans-national issues such as trade agreements and market deregulation have the potential to significantly impact on global health inequities, as identified in the *Closing the Gap in a Generation* report and the work of the Commission on the Social Determinants of Health’s Knowledge Networks (WHO 2008a). The reason that the health equity impacts of these have been rarely considered is not because they have lacked a technical procedure for assessing their impact on health equity. Rather it is because there has not been the will to examine the impacts these decisions from a health equity perspective. The issue is a political one rather than a technical one and calls for health equity impact assessment’s use need to be understood within that context.

Other health equity tools

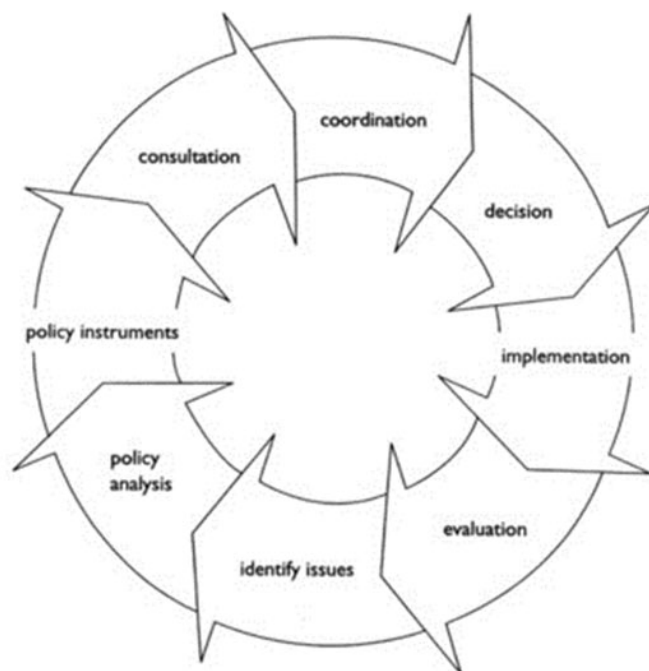
As noted above, a 2013 review found there are 32 types of health equity tools (Pauly et al. 2013). I consider them all to have worthwhile aspects and each one warrants examination in their own right. They represent complementary approaches that can usefully inform EFHIA practice. I have briefly described some of these below, though I have not attempted to catalogue them all in detail. Each one warrants their own separate substantive research agenda.

The Equity Audit is a planning tool that was developed by EQUAL and the Liverpool Public Health Observatory that was adopted by the UK National Health Service as a process to identify local priorities to identify health inequalities, to plan action and to track progress (Hamer et al.

2003). Similarly the WHO Kobe Centre for Health Development has developed the Urban Health Equity Assessment and Response Tool (Urban HEART) to help city governments to identify local health equity issues and to formulate policy and program responses.

The Health Equity Assessment (HEAT) Tool and the Health Equity Lens that have been developed in New Zealand are of particular relevance to EFHIA (Signal et al. 2008, New Zealand Ministry of Health 2004). Both attempt to identify potential health equity issues prior to decision-making and implementation. Similarly South Australia's Health in All Policies (HiAP) Health Lens attempts to identify the potential health and health equity impacts of other government sectors' proposals before they are implemented (Health SA 2008, Kickbusch & Buckett 2010, Harris & Harris-Roxas 2010). These three approaches are relevant to EFHIA specifically because they (i) seek to address health inequities, and (ii) represent policy instruments within the policy cycle (see Figure 4).

Figure 4: The policy cycle



Source: (Bridgman & Davis 2006:33)

When conceptualised within this type of standardised, or even idealised, policy cycle HIA is a policy formulation instrument that links facts and values about health and policy issues, as noted by Harris, Sainsbury and Kemp (2014)³. This is also true of EFHIA. It has its greatest influence at the policy instruments stage, however its influence is not solely at one point in time. The influence of policy instruments like EFHIAs can be observed at many stages, from the identification of policy issues through to the evaluation of policy responses (Coveney 2010, Stewart-Weeks 2006).

Though HIA has not definitively demonstrated its effectiveness as an intervention that unequivocally leads to improved population health outcomes, HIA and EFHIA's impact on decision-making and implementation has been more widely evaluated than any of the 32 related health equity tools discussed above (Pauly et al. 2013). HIA and EFHIA have relatively strong procedural and theoretical bases in comparison to the other health equity tools discussed above. This is because it draws on the theoretical underpinnings and tradition of IA. There has been also considerable research on it: 444 peer reviewed journal articles with HIA in the title are indexed on Scopus as of March 2014 (Elsevier 2014), though importantly only three have EFHIA in their title.

This means that whilst EFHIA is still an emerging area of practice, it has a more established research base and history of practice to draw on. None of the other approaches to addressing health equity discussed above have demonstrated that they are as comprehensive or adaptive in their approach as HIA (this is discussed in greater detail in Publication 4).

³ I recognise the limitations of the policy cycle (Everett 2003). It presents the policy process as a rational, linear, sequential process. This is rarely what the process resembles in practice, nonetheless it represents a useful conceptual framework for understanding policy development (Coveney 2010).

There is now recognition internationally that HIA can be an important mechanism for the consideration of equity issues within a broad range of different planning processes (and EFHIA to a much less well recognised extent). Interest in health equity and equity-related issues is also increasing globally (WHO 2011, WHO 2008a, WHO 2008b). Despite the suggestion that equity is being incorporated into all HIAs there is only limited evidence that differential impacts are considered and assessed in a systematic way. There is a need for clearly structured, practical guidance such as EFHIA, particularly in settings where an explicit commitment to reducing health inequalities does not exist.

Evaluating health impact assessment

Despite HIA being cited as a mechanism to improve consideration of health and health inequities in planning and implementation (Acheson 1998, WHO 1997a, WHO 2006, WHO 2008b, WHO 2008a), reviews have found that there has been only limited evaluation of the impact of HIA on decision-making and implementation (Taylor & Quigley 2002, Harris-Roxas et al. 2004, Gunther 2011). The considerable challenges in evaluating HIA have been acknowledged in the literature (Quigley & Taylor 2004, Cashmore et al. 2004). Decision-making processes, contexts and the policies that are subjected to HIAs vary markedly, making it difficult to develop a “one size fits all” approach to evaluation (Wismar 2004, Wismar 2007), and it seems likely that efforts to strictly codify HIA procedures would actually impair its usefulness across a range of settings.

Forms of HIA evaluation

There are four forms of evaluation relevant to HIA (Cunningham et al. 2011). The first is formative evaluation, which seeks to improve the HIA process while it is being conducted. This

is rarely done in practice as it may add time and tasks to an already time-pressured and time-sensitive activity (Hovland 2007, Bond et al. 2005). The second is process evaluation, which includes collecting information on the procedures for undertaking the HIA, who was involved and what resources were utilised. This is not done in every HIA but represents the most commonly conducted form of evaluation (Parry & Kemm 2005).

The third form of evaluation is impact evaluation, which looks at the changes that can be attributed to the HIA or EFHIA process. This includes consideration of the achievement of goals, which suggests that it is important to articulate the goals of HIAs from the outset. Recent research suggests that goals may be poorly articulated within Australian HIA and EFHIA practice (Haigh et al. 2013a).

The fourth form of evaluation is outcomes evaluation, which seeks to examine the extent to which an HIA led to changes in health outcomes or determinants of health. Alternately it can seek to confirm whether predicted impacts were realised (Hoshiko et al. 2012). Outcome evaluation remains a thorny issue. There is disagreement in the literature about whether HIA aims to improve health outcomes or whether it should aim to simply contribute to better decision-making (Ali et al. 2009). It is also practically difficult, due to fundamental challenges about attribution. This issue is discussed in considerable depth in Publication 5. It is my view that due to the complex causal pathways involved and the extended timeframes separating activities and health outcomes, it is not practical or particularly helpful to focus on outcomes evaluation of HIA or EFHIA. Process and impact evaluation present more useful lines of research if HIA is to demonstrate its ability to bring about tangible or demonstrable change.

Cunningham et al. published an excellent review of approaches to evaluating HIA (Cunningham et al. 2011). In it they highlight six approaches to evaluating HIA, which are summarised in

Table 6. There do not appear to have been any new approaches to evaluation that have emerged in the three years since the review was published, though several recent, larger evaluation studies have combined several approaches. For example the recent Australia and New Zealand HIA Effectiveness Study included review checklist, case study and impact evaluation components (Haigh et al. 2013a, Haigh et al. 2013b, Harris et al. 2013a).

Table 6: Approaches to evaluating HIA

Approach	Description	Pros	Cons
<i>Practitioner reflection</i>	<ul style="list-style-type: none"> • Reflections on the HIA process and what seemed to work • Focuses on learning arising from the HIA 	<ul style="list-style-type: none"> • Simple • Feasible • Doesn't require resources 	<ul style="list-style-type: none"> • Not formal evaluation • Not systematic • Limited in the conclusions that can be drawn
<i>Case description</i>	<ul style="list-style-type: none"> • Reports of completed HIA, including some indication of the process used and sometimes early impacts 	<ul style="list-style-type: none"> • Simple to write • Requires few resources • Tend to be shorter than HIA reports • Can describe the context in which the HIA was undertaken 	<ul style="list-style-type: none"> • Do not usually make judgements about the quality of HIAs • Tend to focus on documenting process rather than critical analysis
<i>Review checklists</i>	<ul style="list-style-type: none"> • Formal method which has been used to evaluate HIA reports • Examines the extent to which practice standards have been met 	<ul style="list-style-type: none"> • Draws on reports, does not require new data collection • Structured approach that looks at several aspects of HIA practice and reporting • May lead to improvements in practice standards 	<ul style="list-style-type: none"> • Focuses on documentation, which may not reflect the HIA process • Can focus on areas of reporting deficit without fully describing the context for the HIA
<i>Fault analysis</i>	<ul style="list-style-type: none"> • Focuses in identifying aspects of HIA responsible for its success or 	<ul style="list-style-type: none"> • Allows critical reflection on the HIA process • Focuses on 	<ul style="list-style-type: none"> • Does not appear to have been widely used • May not adequately

Approach	Description	Pros	Cons
	failure <ul style="list-style-type: none"> Informed by engineering approaches 	improving the success of future HIAs	account for the full range of factors outside the HIA process
<i>Cost benefit analysis</i>	<ul style="list-style-type: none"> Seeks to quantify the costs and benefits of HIA Costs involve accounting for an HIA's process, benefits mostly involve accounting for an HIAs impacts 	<ul style="list-style-type: none"> Allows HIA to be compared with other interventions 	<ul style="list-style-type: none"> Benefits may be poorly recognised and accounted Often relies on willingness to pay analysis (WTP), which is regarded as less reliable than other approaches to quantifying economic benefits Does not appear to have been widely used
<i>Impact evaluation</i>	<ul style="list-style-type: none"> Seeks to describe changes that may be attributable to the HIA Uses a variety of methods including document review, workshops, focus groups and interviews 	<ul style="list-style-type: none"> Seeks to identify changes that can be attributed to an HIA Flexible and adaptable to context 	<ul style="list-style-type: none"> Does not have a standardised approach Does not usually investigate longer-term impacts Requires dedicated resources

Based on (Cunningham et al. 2011)

This thesis focuses on impact evaluation of EFHIA. There is no specific procedure or method that is mandated for impact evaluations of other forms of impact assessments. Those impact evaluations that have been reported have used multiple methods to obtain information on the process and impacts of the HIA (Schijf 2003, Bond et al. 2005, ESCWA 2001). In a paper I co-authored with Kaaren Mathias we drew on data from interviews, document analysis and a workshop to gain information on the impacts of the Greater Christchurch Urban Development

Strategy HIA (Mathias & Harris-Roxas 2009). By using a flexible framework for impact evaluation, rather than any of the five other approaches set out in Table 6, we were able to identify some of the unanticipated and more indirect impacts of the HIA, such as the development of stronger relationships across sectors.

Effectiveness

At one level effectiveness is a simple concept. It is the degree to which something is successful in producing a desired result (Oxford English Dictionary 2008). Difficulty emerges when there are differing expectations and understandings about what constitutes 'success' and what constitutes a "desired result". This is the case with impact assessment, HIA and EFHIA. There is no consensus on what success or desired results would look like, largely because there are different understandings about their purpose and goals. Different stakeholders have different expectations about their purposes. Because of this there is no simple way to evaluate the effectiveness of HIAs and EFHIAs.

The issue of the effectiveness of other forms of impact assessment, in particular environmental impact assessment, has been examined for several decades (Sadler 1996). The UNEP EIA Training Manual is widely used and has informed the recent development of IA. It describes effectiveness as the extent to which EIA achieves its purpose, though it goes on to recognise that the purpose of EIA purpose is not uniform (UNEP 2002). It suggests that the purpose can be defined with reference to the terms of reference for the EIA, the extent to which information has been useful to decision-makers, or the extent to which the principles of EIA good practice have been met.

In recent times there has been less focus on EIA effectiveness, which may be due to its status as an accepted global practice. EIA's use is so widespread that Richard Morgan has suggested it is used in some form in every country except Democratic People's Republic of Korea (Morgan 2012). The focus of much EIA research is on describing and enhancing practice rather than investigating its effectiveness as a discrete intervention, possibly because of this widespread adoption.

In contrast there is a relatively higher level of research interest in the effectiveness of HIA, which may reflect disciplinary emphasis within public health on demonstrating the comparative effectiveness of interventions (Rychetnik et al. 2004). As noted earlier, HIA is one of a relatively small number of tools aimed at improving the consideration of health and health equity in planning, decision-making and implementation. Of these tools it is the most widely used, has the strongest theoretical base and the largest number of studies that have investigated its process, impact and utility (Wismar et al. 2007, O'Reilly et al. 2006, Dannenberg et al. 2008, Bekker 2007, Ward 2006).

Despite this, HIA still lacks an evidence base that compellingly and conclusively demonstrates that it is effectiveness in changing decisions and the implementation of policies, programs and projects. Part of the reason for this is the considerable diversity in the contexts in which HIA and EFHIA are used. Despite several large studies having looked at the effectiveness of HIA (Harris et al. 2013a, Dannenberg et al. 2008, Wismar et al. 2007) the factors that influence its effectiveness, and under what circumstances, remain somewhat contested (Krieger et al. 2010, Vohra et al. 2010). If HIA and EFHIA's use is to be more actively supported by governments and institutions, the benefits of undertaking HIAs and EFHIAs need to be ascertained and then weighed against the costs of undertaking them.

A relatively small number of studies have looked at multiple HIAs to evaluate their impact and effectiveness in influencing decision-making, implementation and related activities. Table 7 provides an overview of the larger evaluations of the impact of HIA on decision-making to date. These studies are discussed and contextualised in greater details in Publication 5, with the exception of three that have been reported since Publication 5 was published (Harris et al. 2013a, Rhodus et al. 2013, Pollack et al. 2011). The studies in the table illustrate the broad range of impacts that an HIA can have, as well as the complexity of factors that affect its impact.

The list of studies in Table 7 is neither exhaustive nor systematic, though it encompasses the major studies that have been done to date. Several of the studies described rely solely on document review to inform their analysis, which is a major limitation. The studies have also all been done in Europe, the USA, Australia and New Zealand, which means that international practice, particularly in developing countries, is unlikely to be reflected in the research that has been conducted to date (Erlanger et al. 2008). The table also excludes a number of important studies that have looked at HIA practice empirically but without reference to the impact of specific HIAs (Kraemer & Gulis 2014, Nilunger Mannheimer et al. 2007, Harris 2013, Signal et al. 2013, O'Mullane 2014).

Table 1: Overview of major studies looking at the effectiveness of HIA

Study	Country	Number of HIAs included	Sources of data	Main findings
Bekker (2007)	Netherlands	3 and 2 simulated HIAs	Reports, interviews, game simulation	<ul style="list-style-type: none"> Found that a technical approach to HIA can be at odds with the political and administrative requirements that would make HIA work HIAs can help to reframe policy issues HIA may be most useful when considered a “coordination tool” for intersectoral work rather than a scientific approach
Charbonneau et al. (2012)	USA	23	Interviews, surveys, document review	<ul style="list-style-type: none"> Results not yet released, due in 2014 Being conducted to evaluate HIAs funded through the Health Impact Project, an HIA granting program funded by the Robert Wood Johnson Foundation and the Pew Charitable Trusts
Harris et al. (2013a)	Australia and New Zealand	55 in document review, 44 in survey, 11 detailed case studies	Document review, survey, interviews, detailed case studies	<ul style="list-style-type: none"> Found all HIAs were effective in some way Found HIAs brought about direct and indirect changes to decisions and implementation Found timing, recognition of opportunities, having the right people involved, alignment with existing work and resourcing were related factors enhancing the impacts of HIAs Found that HIAs led to increased skills and knowledge, conceptual learning and social learning.

Study	Country	Number of HIAs included	Sources of data	Main findings
Dannenberg et al. (2008)	USA	27	Document review	<ul style="list-style-type: none"> Identified the characteristics of HIAs: type of proposal, HIA methods, nature of recommendations Provides a comprehensive overview of HIA practice in the US Categorised HIAs using Wismar's effectiveness framework (Wismar et al. 2007) Limited evidence on impacts due to reliance on documentation
O'Mullane and Quinlivan (2012)	Ireland	2	Document review, 48 interviews	<ul style="list-style-type: none"> Willingness to work with external partners enabled HIAs to proceed Broader contextual factors had a direct influence on the way the HIAs were conducted and received, e.g. government review of public administration HIAs enabled subsequent related health promotion and planning activities
Opinion Leader Research (2003)	UK	4	Group discussion, observation, surveys	<ul style="list-style-type: none"> Found regulatory requirements facilitated the impact of the HIAs Found mixed perceptions of HIA's value amongst those involved in the HIAs Lack of clarity about the extent to which any changes could be attributed to the HIAs

Study	Country	Number of HIAs included	Sources of data	Main findings
O'Reilly et al. (2006)	UK	15	Interviews, timesheets, surveys, willingness to pay surveys	<ul style="list-style-type: none"> • HIAs enhanced the consideration of health impacts in decision-making • HIA was assigned a high monetary value by those involved in the process • It was difficult to attribute changes to the proposal to HIAs
Pollack et al. (2011)	USA	60 indirectly (25 HIA teams)	Interviews	<ul style="list-style-type: none"> • HIAs ensured health is considered in other sectors' decision-making • HIA enabled better community engagement • Engagement of decision-makers was linked to the extent HIAs led to changes • Categorised HIAs using Wismar's effectiveness framework (Wismar et al. 2007)
Rhodus et al. (2013)	USA	81	Document review	<ul style="list-style-type: none"> • Reviewed HIA attributes and level of rigour documented in reports • Relatively little information on changes to decision-making or implementation due to reliance on documentation • Attempted to categorise HIAs using Wismar's effectiveness framework (Wismar et al. 2007)
Ward (2006)	New Zealand	3 formally, 2 others informed report	Document review, interviews	<ul style="list-style-type: none"> • HIA introduced new information to policy processes • Was a useful process for engaging stakeholders • Improved understanding of other agencies' roles and activities • Important learning experience for those involved

There are two main approaches to conceptualising the effectiveness of HIA that have been put forward in the literature. The first is the framework developed by Parry and Kemm (2005). It sets out three domains for evaluating HIA - prediction, participation and informing the decision-makers. Each of these domains have both process and outcome criteria (see Table 8).

Table 8: Domains for evaluating HIA

	Process Criteria	Outcome Criteria
Prediction	<ul style="list-style-type: none"> • Methods used for predictions • Methods for scoping • Baseline data collection • Use of checklists • Identification of differential impacts 	<ul style="list-style-type: none"> • Accuracy of predicted impacts
Participation	<ul style="list-style-type: none"> • Voice in decision-making and access to information • Knowledge gathering • Involvement of professional and/or community stakeholders 	<ul style="list-style-type: none"> • Degree to which stakeholders felt involved in the decision-making process and felt ownership of the HIA's recommendations
Informing the decision-makers	<ul style="list-style-type: none"> • Decision-makers engagement in the HIA • Timing of the HIA • Communication of the HIA's recommendations 	<ul style="list-style-type: none"> • Informing decision-making

Source: (Parry & Kemm 2005)

The other, more widely-used conceptual framework for examining HIA's effectiveness was developed by Wismar et al (2007) and arose from the EU study of HIA activity across Europe that is described in Table 7. The framework sets out four types of HIA effectiveness (see Table 9), which has been used in subsequent studies to attempt to categorise the impact of HIAs (Harris et al. 2013a, Haigh et al. 2013b, Dannenberg et al. 2008, Pollack et al. 2011). This

framework has been criticised for presuming a top-down approach to HIA and for focusing overly on administrative functions. It also fails to recognise that the quadrant an HIA falls into is mediated by perception. What appears to be direct effectiveness to one person may be regarded as opportunistic effectiveness by another, depending on factors such as how involved they are in subsequent decision-making and implementation, their experience with HIAs and their attitudes to the HIA.

It is worth noting that the conceptual framework was not the overall focus of Wismar et al.'s study. It is presented as an explanatory approach within a much larger text and is clearly not intended to represent the culmination of the research project.

Table 9: Types of HIA effectiveness

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

Source: (Wismar et al. 2007)

Though both these conceptual approaches have been important in framing the conceptualisation of the evaluation of HIA, they both have a number of limitations. They are both discussed and critiqued in greater detail in Publication 5.

The limitations of the two existing conceptual frameworks led me to recognise the need for a conceptual framework for evaluating the impact of HIA that was sufficiently flexible to capture the broad range of impacts that an HIA can have, while still providing a framework for evaluation. This is outlined in detail in Publication 5.

My position in relation to EFHIA

At the beginning of my candidature I had been working in the field of health impact assessment for around six years. At that time I was reasonably convinced that HIA was a useful practice, but there were still many areas where this practice could be enhanced. I also recognised at that time that HIA was facing an increasingly sceptical audience as it transitioned from an idea, perhaps whose time had come (PHAC 2007b, Scott-Samuel 1996), to a more routine practice, or at least a more commonly understood one. Within this context I knew that looking at the effectiveness of HIA would be important to the development of the field. I had been involved in the development of the EFHIA Framework in 2004 and had the opportunity to be involved in several EFHIAs. This led me to recognise the practical benefits of undertaking EFHIAs.

Over the course of my candidature my attitudes to HIA and EFHIA have changed. I still remain convinced that both are useful practices, but I now feel that the goal of HIA practice should not be for HIA to be routinely integrated into every planning, policy development or decision-making process. Instead I've come to believe that EFHIA and HIA should both be used selectively and strategically in contexts where they are most likely to be useful, but also when the recommendations are most likely to be acted upon. This also reflects my view, informed by undertaking this thesis research, that HIA is most useful when used entrepreneurially (Beeson

& Stone 2013, Oborn et al. 2011). In these cases HIAs are done by people seeking to maximise opportunities for health and health equity that present themselves, when the timing is right (Delmar & Witte 2012).

Similarly I began my candidature with a strong personal commitment to health equity and social equity more generally. I remain committed to those goals; indeed inequality has even more relevance now as a global issue than it did when I began. My understanding of how these goals might be achieved and some of the processes that may be required to achieve them has changed however. I now recognise that getting people to think about health equity requires that they think about issues in different ways, with explicit reference to their values. This requires a willingness to learn, and willingness to particulate and scrutinise the values that inform personal and organisational decision-making.

Many of the reasons for these changes in my attitude to EFHIA, HIA and health equity are outlined in the following seven publications. My own attitudes, beliefs and position in relation to the HIA and health equity also need to be understood as important interpretive lenses when considering the research I present and the accompanying theoretical discussion.

Publication 1: Health impact assessment - the state of the art

Background to publication

The purpose of this publication is to review the literature on health impact assessment, describe its development and history, appraise the current strengths and weaknesses of practice, and to identify priorities for research and practice-improvement. This publication appeared in a special issue of *Impact Assessment and Project Appraisal* on the state of the art of impact assessment (Bond & Pope 2012). *Impact Assessment and Project Appraisal* is a peer-reviewed academic journal that is sent to all International Association for Impact Assessment members. As such it is widely read by both researchers and practitioners in the impact assessment field. The special issue as a whole was a significant update on previous efforts to describe the state of impact assessment practice (Analitis et al. 2006, Equator Principles 2006, Sadler 1996, Anand 2004a).

My co-authors on this paper are all members of the International Association for Impact Assessment's Health Section, which I am Co-Chair of with Francesca Viliani. They work in academia, government, non-government organisations and private consulting and have conducted HIAs in Africa, South East Asia, Europe, the USA, Australia, New Zealand, India and Papua New Guinea. The process of developing this paper involved:

- Reviewing the audio recordings and summary documents from a series of IAIA workshops I held between 2006 and 2011 on "issues in HIA practice"; and
- Going through three rounds of comments with my co-authors to ensure the issues identified were relevant and applicable across a broad range of settings and countries.

Significance and innovation

Relatively few articles have attempted to provide comprehensive overviews of HIA practice (Sicilia & Purroy 2008, Vohra 2007, Krieger et al. 2003, Kemm et al. 2004, Blau et al. 2006, Scott-Samuel 1998, ECHP 1999). This is for two primary reasons. The first is that HIA emerged in response to concerns about the potential impacts of a range of activities on human health. Its use was essentially unplanned, at least in broad historical terms. This emergence occurred in different sub-fields within public health at different times and due to different factors, e.g. environmental health concerns about major projects, contrasting with concerns about the differential health impacts of policies.

The second reason relatively few overviews have been written is because it is difficult to reconcile differences in HIA practice, e.g. HIAs conducted voluntarily, those mandated by laws and regulations, or even those conducted by potentially affected populations. HIA has become more fragmented and diversified as its use has extended into new fields and jurisdictions. It is tempting to suggest that HIA should be more standardised to reduce some of these differences (Thompson 2008, Staff 2005), though in some ways this is a case of the “no true Scotsman” logical fallacy (Anand 2004b). By this I mean that it is tempting to suggest that if an HIA is done in a different way, using different data, on a different type of proposal, then it is easy to dismiss it as no longer an HIA. Instead a more nuanced approach is required to understand the characteristics of an HIA and what forms the boundaries of HIA practice.

This article reviews the development of health impact assessment as a field; identifies strengths, weaknesses, opportunities and threats to HIA practice; and calls for an updated international consensus on HIA and its use. As mentioned above, writing this article involved collaborating closely with other members of the International Association for Impact

Assessment's Health Section. Several of the authors had only shortly before this publication been engaged in public published debates about shortcomings in HIA's application and use (Thompson 2008, Krieger et al. 2010). This publication is a distillation of practice-based experience but also represents an important step towards a renewed consensus about HIA's purpose.

The article has been well-accessed, with 1,745 views between February 2012 and January 2014 reported on the Taylor and Francis site.

Publication 1

Harris-Roxas B, Viliani F, Bond A, Cave B, Divall M, Furu P, Harris P, Soeberg M, Wernham A, Winkler M. *Health Impact Assessment: The state of the art*, Impact Assessment and Project Appraisal, 30(1):43-52, 2012. doi:10.1080/14615517.2012.666035

This journal article can be accessed for free from <http://benhr.net/Publication1>

Implications for theory and practice

This paper highlights that HIA has spread rapidly in response to a specific set of historical and disciplinary concerns (see the section on "History of health impact assessment"). Because of this HIA's use has been adaptive and pragmatic: it attempts to address the problem of "how can we ensure health is considered?" As such HIA has not been a theoretically-driven or theoretically-derived activity, though its use necessarily throws up series of theoretical questions. This underscores the importance of an interpretive description approach (Thorne 2008) when investigating HIA's use and impact, the key features of which are:

(1) an actual practice goal, and (2) an understanding of what we do
and don't know on the basis of the available empirical evidence
(from all sources). (Thorne 2008:34)

In this case the actual practice goal was to overcome disagreements about HIA's use and applications by better understanding its origins and current challenges for practice. My aims for this paper were to ensure:

- *Representative credibility*, i.e. that the data be representative of the phenomenon described (Thorne 2008). I addressed this through a degree of triangulation of data sources, drawing on diverse practitioner perspectives, the workshop findings and an iterative, collaborative drafting process; and
- *Interpretive authority*, i.e. that we can be confident that the subjective truths described represent more common truths (Thorne 2008). I addressed this through collaborating with a broad range of co-authors whose experience was diverse and represented a range of practice perspectives to ensure a higher degree of "validity-as-reflective-accounting" (Altheide & Johnson 1994).

At the level of middle range theory (Coveney 2010, Boudon 1991) this paper advances a schema of regulatory and legislative approaches to using HIA internationally (see Box 1 within the paper). This is original and attempts to conceptualise the varied, and to some extent competing, governmental approaches to requiring and supporting HIA's use.

Contribution to overall research aims and questions

This article highlights a number of priority issues for further HIA research and practice improvement, namely:

1. Standards and review criteria;
2. Equity and the consideration of the differential distribution of impacts;
3. Resourcing of HIAs within integrated assessment processes;
4. Workforce and organisational capacity building;
5. Evidence of effectiveness in changing decisions and the implementation of policies, programs and projects;
6. Transparency about the nature of impacts predicted and the associated degree of uncertainty;
7. Consideration of alternatives within the HIA process; and
8. The role of communities within HIAs.

The first, second, and fifth of these priority issues directly addressed the first research aim of this thesis:

To investigate whether equity focused health impact assessment (EFHIA) can improve the development and implementation of plans within the health system.

This thesis will address these issues by developing, testing and refining a conceptual framework for the effectiveness of EFHIA. This work will contribute to establishing standards about what constitutes the potential effectiveness of EFHIAs, how equity and the consideration of differential impacts are addressed, and investigate the extent to which EFHIAs have influenced decisions and implementation in relation to health service plans. This also highlights the timely contribution this thesis may play in addressing theory and practice issues that are relevant to the field of HIA as a whole.

Remaining questions and link to next publication

The paper highlights several priorities for HIA research and practice, many of which this thesis aims to address. The next publication helps to situate me, as the researcher, in relation to HIA by describing the specific context for HIA's use in New South Wales, Australia, which is where this study was undertaken and where I gained most of my experience in relation to HIA.

Subsequent publications address the issue of the diversity of HIA practice and how the field of HIA can attempt to conceptually and theoretically make sense of it, and the implications of this for how the effectiveness of HIA is conceptualised.

Publication 2: Health impact assessment in Australia

Background to publication

The purpose of this publication is twofold. Firstly, it describes the development and specific context for HIA's use in Australia. Secondly, it assists in situating me, as researcher, in relation to the researched (Robinson & Eller 2010, Mahbubani 2009), which in the case of this thesis is the on the use and effectiveness of equity focused health impact assessment (EFHIA) on health service plans in Australia. Many of the later studies in this thesis are not only based in this geographic and historical context but were also only possible to undertake due to the relationships and experience built up through HIA activities over the previous decade (Mahoney et al. 2004, Harris-Roxas & Simpson 2005, Harris-Roxas & Harris 2007, IPCC 2007, CHETRE 2010).

This publication appeared in a book on health impact assessment that was edited by John Kemm and published by Oxford University Press (Kemm 2013). It is a major update on the first academic edited book to be published on HIA (Kemm et al. 2004). The first half of the book provides an overview of HIA and potential future directions for the field, written by Dr Kemm. The second half of the book is a collection of chapters on HIA's use in specific countries and setting, which is where this chapter sits. The chapter was blind reviewed by two peer reviewers and the editor.

My co-authors on this paper are my colleagues from the Healthy Public Program at the Centre for Primary Health Care and Equity at the University of New South Wales. I drew on my colleagues' and my experience in undertaking and researching HIA in New South Wales and other states in Australia over a ten-year period.

Significance and innovation

This paper integrates my knowledge and experience succinctly, and that of my colleagues, derived from being involved in more than 40 HIAs across Australia over the past decade and several HIA- and health equity-related research projects. It builds on earlier descriptions of HIA's use in Australia (Spickett et al. 1995, Mahoney & Morgan 2001, Mahoney & Durham 2002, Mahoney 2005, NPHP 2005, Callaghan & Lease 2007, IPCC 2007) but rather than providing an exhaustive account of historical developments it focuses on broader thematic trends that have influenced HIA's use, namely:

- Environmental health impact assessment;
- The use of HIA on policies, projects, and programs;
- People being understood as part of the environment;
- Increased evidence of the effectiveness of HIA;
- Developing HIA for real world use;
- An evidence base to support HIAs; and
- Equity considerations and equity focused HIA.

Under each of these topics my co-authors and I attempted to discuss progress and impediments. The chapter also uses the framework developed in Publication 1 (Johns & Sthapit 2004:46) to describe approaches to institutionalising HIA's use in Australia (Box 25.1, page 238).

Taken in its entirety, the chapter provides an overview of HIA's use in Australia as well as the issues and difficulties that I have grappled with as a researcher and practitioner. It also explains that the health sector has played a major direct role in the development of HIA in Australia and why the use of EFHIA itself has been a driver of HIA's use in Australia (Mahoney et al. 2004, Simpson et al. 2005). In addition it provides an important context for why EFHIAs have been undertaken on health sector proposals.

Publication 2

Harris-Roxas B, Harris P, Wise M, Haigh F, Ng Chok H, Harris E. *Health Impact Assessment in Australia*, in Kemm J (ed) *Health Impact Assessment: Past Achievement, Current Understanding, and Future Progress*, Oxford University Press: Oxford, 2013: 223-243.

This book chapter can be purchased from <http://benhr.net/Publication2>

Implications for theory and practice

One of the most important aspects of this paper is that it sets out a series of essential components for HIA quality. These are:

- A documented and transparent process that the assessment follows;
- A clear statement of the HIA's goals and purpose;
- A rigorous, documented approach to gathering and assessing evidence;
- Clear predictions of impacts;
- Recommendations for enhancement and mitigation; and

- Self-identified indicators of how the HIA's effectiveness will be judged (these will vary markedly depending on context). (Page 238 of the publication)

This issue, of what constitutes the most important or desired attributes of HIAs, has been a focus of HIA research recently and has relevance internationally (Winkler et al. 2010, Fredsgaard et al. 2009, Mannheimer et al. 2007, Elliott & Francis 2005). This list is aspirational and not exhaustive; it is unlikely that any single HIA includes all these components at present. It is clear however that issues of HIA effectiveness and quality are closely interrelated, an issue I address in Publication 5 in this thesis.

This chapter highlights that the use and development of HIA in Australia has been adaptive and pragmatic, as was the case with Publication 1 and again underscoring the importance of an interpretive description approach (Thorne 2008, Thorne et al. 2004b). I have attempted to address the issue of validity in this paper through *epistemological integrity*, i.e. making clear the basis on which I claim to have knowledge about HIA and an understanding of HIA practice (Thorne 2008). This chapter also helps to clarify my specific analytic lens, which has been influenced by my experience and disciplinary approach, the historical moment during which this thesis was undertaken, and the specific nature and evolution of the Australian HIA context.

Contribution to overall research aims and questions

This paper helps to situate me as researcher in relation to the researched. It also helps to describe the role equity focused HIA has played in the development of HIA in Australia. This is relevant to my second research aim:

To establish what changes occur as a result of doing an EFHIA.

The development of health equity policies have provided an important impetus for HIA development in Australia historically (NSW Health 2004). This has ensured that perhaps unlike other countries or jurisdictions there has always been a role for the health sector to conduct HIAs on its own proposals to minimise negative differential impacts and to redress existing health inequities. This may be different to other countries where HIA has principally been seen as a mechanism for intersectoral engagement to address the social determinants of health.

This chapter also identifies a number of potential issues about what constitutes quality in an HIA and what an HIA's purpose should be, which pertains to my third research aim:

To establish whether EFHIA is effective and under what circumstances.

These conditions are addressed and refined in subsequent publications in this thesis.

Remaining questions and link to next publication

This chapter raises a number of questions about HIA, what it is and what we as HIA practitioners and researchers perceive its purpose to be:

However, if we think about HIA as part of a broader healthy public policy agenda, in which HIA is an important tool that can be used selectively and strategically not only to inform and guide decision making but to change ways of working and understanding of health, we will see more signs for hope and encouragement. (Page 239 of the publication)

As mentioned in the previous section, this publication puts forward a set of essential components for HIA quality. In order to understand whether these could be used to evaluate the effectiveness of HIAs it is necessary to better understand the different forms HIA currently takes and whether these are appropriate in all cases.

The next publication places this thesis within the specific HIA practice context of New South Wales, the Australian state in which the HIAs investigated in this thesis were conducted Australia. This is in order to demonstrate my interpretive authority, pragmatic orientation and contextual awareness, which are all critical factors in enhancing the validity of interpretative description research (Thorne 2008). The later publications introduce broader conceptual frameworks for describing and evaluating HIAs and trial them.

Publication 3: From description to action - using health impact assessment to address the social determinants of health

Background to publication

The purpose of this publication is to provide greater detail of how HIA is used in a specific health service in New South Wales, which is the state in NSW that has Sydney as its capital and in which all the HIAs in this thesis were conducted. The chapter presents three HIA case studies but also describes the approach to building capacity for HIA's use that has been used in NSW, though this has been described in greater detail elsewhere (CHETRE 2010). The chapter helps to establish my context as a practitioner-researcher and describes how HIA is being used and promoted at a local health service level, which is a context very similar to the cases presented later in the thesis in Publications 6 and 7.

The chapter appeared in a peer-reviewed book on the social determinants of health, which was designed to raise professional and political awareness of research on the social determinants of health in Australia. The book was subsequently submitted in its entirety as a formal submission to the Australian Senate Standing Committees on Community Affairs in formulating the government's response to the WHO Commission on the Social Determinants of Health (Community Affairs References Committee 2013b).

This chapter was written with colleagues at Sydney South West Area Health Service, which is now the Sydney Local Health District and the South Western Sydney Local Health District following health system reforms, and my colleague Patrick Harris from the Centre for Primary Health Care and Equity at the University of New South Wales.

Significance and innovation

This chapter is one of the few descriptions of multiple cases of HIA in the New South Wales context, which forms the contextual basis of this research. Additionally it raises the issue of capacity and the critical role it plays in spreading HIA as a practice. The chapter was written with the goal of promoting HIA's use as a practical mechanism to address the social determinants of health.

Publication 3

Harris-Roxas B, Maxwell M, Thornell M, Peters S, Harris P. From Description to Action: Using health impact assessment to address the social determinants of health in Determining the Future: A Fair Go & Health for All (Eds Lavery M and Callaghan L), Connor Court Publishing: Melbourne, 2011: 119-130.

This book chapter can be accessed for free from <http://benhr.net/Publication3>

Implications for theory and practice

As mentioned in the background to this publication, this chapter formed part of a book that was used to lobby for an inquiry into Australia's response to the WHO Commission on the Social Determinants of Health's report *Closing The Gap Within A Generation* (WHO 2008a). When an inquiry was subsequently undertaken by the Australian Senate Standing Committees on Community Affairs the book formed a formal submission to the Committee (Community Affairs References Committee 2013b, Submission 19). The Senate Committee's report touches on a number of issues and argues for action on the social determinants of health, but the chapter on the "Government Response" has the most to say on HIA and Health in All Policies

(this is the chapter where the Australian Government and relevant government departments respond to the issues identified by the Committee). The response illustrates many of the concerns about HIA's use that are raised by different levels of government and is worth quoting at some length:

One argument put forward for the adoption of a health impact or equity assessment framework was that it would 'create a little bit more awareness and consciousness around how decisions we make in every government department impact on people's health and equity issues.' The actions already taken by a number of state governments point towards some jurisdictions being well ahead of the Commonwealth when it comes to ensuring that there is a sufficient understanding of the social determinants of health within government programs. Improving the awareness of health in areas outside the traditional health field is to be encouraged.

... Although the Department conceded that health impact assessments might be useful, it was argued that this needs to be considered alongside their time- and cost-heavy nature:

"Health impact assessments have been promoted as a means of assessing the health impacts of policies, plans and projects using quantitative, quantitative and participatory techniques. While we think that they may be a useful tool, we believe that they have the potential to be expensive and time-consuming, and we believe

that this needs to be taken into account in any further consideration of these.”

[Senate] Committee view

...The committee notes that the Department believes that it effectively takes a social determinants approach within its own policy making. However, the key point is that such an approach needs to be taken across government, and in particular in social, economic and employment policy decisions that affect social determinants (such as employment status, levels of welfare benefit, and access to education). The need for a social determinants approach lies not only within, but beyond, the health portfolio.

...There are already mechanisms in place to ensure that important issues are considered across government when necessary, such as the requirements for inter-departmental consultation in the preparation of cabinet submissions, the requirement for Regulatory Impact Statements in conjunction with the introduction of legislation, and statements of compatibility with human rights.

(Community Affairs References Committee 2013a:40-41)

There are several elements in this response that I have encountered from government agencies over the years, including every level of Australian government and private sector stakeholders in the land use planning and extractive industries sectors:

- HIA is expensive and time-consuming;
- Health is already addressed through existing planning and policy development processes; and
- HIA could create duplication between levels of government and other cross-sectoral policy initiatives.

These views do not seem to be well supported by the HIA literature but they are widespread and reflect the concerns of a range of policy actors about HIA (Wismar et al. 2007, Nilunger Mannheimer et al. 2007, Mahbubani 2009, Johns & Sthapit 2004, Hassan et al. 2005). These assertions may be true but there has yet to be empirical research that demonstrates them. Any discussions about expense and time investment in relation to population health interventions may also need to be compared to other interventions, rather than continuing to do nothing.

Contribution to overall research aims and questions

This publication sought to describe and clarify the potential direct and indirect impacts of HIAs conducted on health sector plans based on three NSW case studies. It also plays an important role in demonstrating my interpretive credibility and validity (Thorne 2008, Thorne et al. 2004a) within the context this research was conducted.

As described before, interpretive description research emphasises the need to enhance the credibility and validity of both one's interpretation and description through addressing a number of factors (Thorne 2008, Thorne et al. 1997). This is because even though reliability, validity and generalisability are often cited as the "holy trinity" to ensure the quality of

qualitative research, in emerging practice areas and weakly theorised fields research findings are often deeply intertwined with complex contexts. This can stymie attempts to generalise findings based on research data alone – interpretation is required, and as such others also need a good understanding of the researcher’s interpretive lens. Thorn (2010) sets out a number of factors to address in interpretive description research in order to enhance its credibility, which I described in greater detail in the introduction to this thesis. This publication attempts to address some of those factors, namely:

- Representative credibility – that any claims or findings are consistent and limited to the phenomena being examined. This publication helps to describe and ground HIA practice in NSW, partly by setting out circumstances in which it has appeared to be useful but also through describing three HIA case studies in moderate detail in order to provide a sense of the range of practice that exists even within one local health service area;
- Interpretive authority – so the reader can appraise the interpretation to determine which claims reflect subjective experience and which might reflect more common truths. This publication shows that I have engaged in a process of knowledge translation from research to practice and policy, which helps to demonstrate my interpretive authority; and
- My credibility as an HIA practitioner-researcher by describing the type of HIAs I have been involved in and how they are conducted. It also describes the kind of inter-organisational and interpersonal relationships that are required in order for research on HIA to be undertaken.

Remaining questions and link to next publication

The subsequent publication (Publication 4) attempts to address the broader issue of how the field of HIA understands and conceptualises the diversity of practice, given the need to define and place some boundaries around what constitutes an HIA and what does not. Subsequent publications address the need for a conceptual framework to evaluate HIA and then trial this framework.

Publication 4: Differing forms, differing purposes - a typology of health impact assessment

Background to publication

The purpose of this publication is to provide an overview of the issues in current HIA and EFHIA practice but also to identify the reasons for the diversity of current HIA practice, which has been reflected in Publications 1-3.

The ideas and typology presented in this journal article were first conceptualised for an invited keynote presentation for the 9th International HIA Conference held in Liverpool in England.

The original title of this presentation was “HIA at the Crossroads”. These ideas grew out of a period of reflection on the authors’ experiences in the NSW HIA Capacity Building Project (Harris & Simpson 2003, Harris-Roxas & Simpson 2005, Quigley & Watts 2008) where my colleagues and I realised that the HIAs we were supporting took different forms and served different purposes. This variety of forms often reflected the origins of the HIA, its purpose and conceptual underpinnings, which are alluded to in Publication 1. This often led to debate and confusion on the definition of HIA, and differing views about when and how it should be used (Harris 2005, Staff 2005).

Developing this paper involved reviewing contemporary literature and practice, putting the ideas forward in a keynote presentation at the 9th International HIA Conference, seeking feedback from leading international experts following the keynote presentation, constructing a selective timeline of the development of health impact assessment (Figure 1 within the article) that also identified stages in the development of HIA as a field.

The paper was published in the peer-reviewed journal *Environmental Impact Assessment Review*, which is published by Elsevier. *Environmental Impact Assessment Review* is an important forum for impact assessment research internationally, and it has an international

practitioner and researcher readership. Importantly a sizeable portion of the entire body of HIA research has been published in this journal. Of the 445 articles on health impact assessment indexed on Scopus (Elsevier 2014), 51 have been published in *Environmental Impact Assessment Review*. This is 11% of all the peer-reviewed articles indexed. It is also considerably more than *Public Health* (31 articles) and the *Bulletin of the World Health Organization* (22 articles), which have published the second and third largest number of articles on HIA.

My co-author was Elizabeth Harris, who was at that time Director of the Centre for Health Equity Training, Research and Evaluation (CHETRE) at the University of New South Wales. She is an experienced researcher with a track record in interventions to address health inequities, including HIA and EFHIA.

Significance and innovation

The paper makes a significant contribution by enhancing the understanding of the variety of forms and purposes of HIAs that can be seen in practice internationally. The article identifies four forms of HIA: mandated HIAs, decision-support HIAs, advocacy HIAs and community-led HIAs. It describes the context for each form of HIA in terms of their:

- Purpose;
- Origins;
- Role of values and judgments;
- Who conducts and resources the HIA;
- The role of stakeholders; and

- The types of learning that can be expected (see Table 2 in Publication 4).

This diversity helps to explain how the differing origins have led to lack of consensus about why, how and when HIAs should be conducted (Vohra et al. 2010).

In addition to the typology this paper also includes a representation of the historical events and disciplinary influences that have converged to lead to the development of HIA (see Figure 1 in Publication 4). This is a new approach that recognises HIA's use has not arisen in response to a single, unitary set of historical factors. An understanding of the origins of the different forms of HIA can help to untangle the often unacknowledged, or even functionally invisible, sources of disagreement about who are legitimate stakeholders in the HIA process; how evidence is valued and used; understanding of the decision-making processes they are trying to influence; and how HIA success is defined.

Publication 4

Harris-Roxas B, Harris E. *Differing Forms, Differing Purposes: A Typology of Health Impact Assessment*, Environmental Impact Assessment Review, 31(4): 396-403, 2011.
doi:10.1016/j.eiar.2010.03.003

This journal article can be purchased from <http://benhr.net/Publication4>

Implications for theory and practice

This paper highlights the importance of understanding the disciplinary and historical origins of the differing forms of HIA and how this understanding can be used to understand the origins of binary disputes that often emerge among practitioners, for example mandated versus

voluntary HIAs, project versus policy HIAs, etc. (Harris 2005, Thompson 2008, Krieger et al. 2010). Practitioners will often defend their disciplinary and historical perspectives, even though these are at times not even apparent to them (Kuhn 1962). This paper enables both researchers and practitioners to step back and consider how their approach to HIA is informed by a wider set of issues.

This paper's principal theoretical contribution is the typology itself. The typology is a form of middle range theory (Morrow & Muchinsky 1980) that advances a novel approach to conceptualising and categorising HIAs. It also places HIA in its historical context and seeks to describe the forces that have shaped its development and use. The paper's contribution to practice is that it helps to work towards resolving practice disagreements about what form HIA should take (Krieger et al. 2010). By recognising that HIA can take differing forms and serve differing purposes the field is better able to tackle the underlying issue of effectiveness, rather than fixating on differences.

Since it was published this paper has been well cited, indicating that the typology has conceptual and practical relevance. As noted in the paper "the typology may also imply that a neat categorisation of HIAs is possible and desirable... [but] there are often considerable overlaps" (Publication 4, p 401). As such the typology is not definitive. It represents a new way of conceptualising HIA practice and its diversity. It is not intended to be a fundamental or definitive taxonomy. The very existence of EFHIA, as a distinct but related form of HIA practice, helps to demonstrate the diversity of forms and purposes of HIA.

Contribution to overall research aims and questions

This paper informs the second research aim, which is “to establish what changes occur as a result of doing an HIA”, and the first research question on “what are the direct and indirect impacts of EFHIAs conducted on health service plans?” The typology allows us to better understand and conceptualise the purpose of HIAs and EFHIAs, which is a necessary step towards understanding what they are seeking to achieve. Without this improvement in our conceptual understanding of HIA it is easy to lapse into old patterns of “my form of HIA is better than your form of HIA” arguments, which are ultimately unedifying and do little to advance HIA theory or practice. This paper also contributes to the understanding of EFHIA specifically by describing the role that concern about health equity has played in the evolution of the field of HIA, and that health equity is a value that informs the use of HIA in relation to decision-support, advocacy and community-led HIAs.

This paper also helps to demonstrate my interpretive authority based on my ability to understand and conceptualise HIA practice, and the representative credibility of the case studies in this thesis. This is an important part of enhancing the validity and credibility of this thesis as a body of interpretive description research (Thorne 2008, Thorne et al. 2004b).

Remaining questions and link to next publication

This paper reflects the growing maturity and extent of practice of HIA, both in Australia and internationally, that has allowed the typology to be developed. Practice is now widespread enough and sufficiently sophisticated for different forms to be more apparent.

Now that the diversity and origins of HIA practice has been described in the typology, the remaining questions are:

- What represents 'success' in relation to HIA and EFHIA;
- What factors contribute to this; and
- Under what circumstances?

The next paper presents a conceptual framework for assessing the effectiveness of HIA, which addresses these questions. It identifies contextual and process factors that may influence the changes that can occur as a result of HIAs.

Publication 5: The impact and effectiveness of health impact assessment - a conceptual framework

Background to publication

This publication sets out a new conceptual framework for evaluating the impact and effectiveness of HIA. As discussed in Publication 4, HIA appears to be moving beyond the “proof of concept” phase of its development. The next challenge facing the field is to demonstrate the effectiveness of HIA. As described in the Background section of this thesis, there have been a number of significant studies conducted looking at the effectiveness of HIA (see Table 7). Two that have been reported in the past five months (Harris et al. 2013a, Rhodus et al. 2013) and one that is due to be completed soon (Charbonneau et al. 2012). These studies have made use of the conceptual framework that is presented in this publication.

It became apparent during the early stages of this thesis research that the existing frameworks for conceptualising the impact and effectiveness of HIA were useful conceptual approaches but were limited (Wismar et al. 2007, Parry & Kemm 2005). They failed to recognise the full range of factors that influenced how HIAs were conducted and also didn’t recognise the range of direct and indirect impacts that could come about as a result of HIAs. These limitations are discussed in greater detail in this article. The conceptual framework described in this paper was developed to guide this thesis and is based on a literature review, review of work undertaken as part of a major HIA capacity building project, and an in-depth study of 7 completed HIAs.

As with Publication 4, this paper was published in the peer-reviewed journal *Environmental Impact Assessment Review*. As discussed in the Background to Publication 4, *Environmental Impact Assessment Review* is an important forum for impact assessment theory and research. Importantly it has an international and multidisciplinary readership.

My co-author was Elizabeth Harris from the University of New South Wales. We had previously collaborated to develop the typology described in Publication 4, as well as for the NSW HIA Project activities that informed the development of this conceptual framework.

Significance and innovation

The development of the conceptual framework for evaluating the effectiveness of HIA has strong face validity as it builds on the frequently used framework developed by Donabedian et al. (1988), which looks at background, process and impacts. It is also derived from empirical data from a series of case studies, a review of the literature and experience. Table 1 in the publication describes each of these sources of informed or confirmed aspects of the conceptual framework.

The article foreshadows the potential use of the conceptual frameworks as basis for developing guidelines for reporting HIAs or for improving aspects of practice. There has been a recognition within the HIA field that there is value in improving the quality and consistency of HIA reporting (Bhatia et al. 2009, Fredsgaard et al. 2009, Dannenberg et al. 2008).

Publication 5

Harris-Roxas B, Harris E. *The Impact and Effectiveness of Health Impact Assessment: A conceptual framework*, Environmental Impact Assessment Review, 42:51-59, 2013.
doi:10.1016/j.eiar.2012.09.003

This journal article can be purchased from <http://benhr.net/Publication5>

Implications for theory and practice

Conceptual frameworks are the building blocks of theory development. They provide a detailed initial account of the relationships between concepts that can make up a phenomenon (Christensen et al. 2009, Christensen 2006). They involve different levels of empirical testing depending on the stage of theory development (see Table 10).

Table 10: The general method of theory building research in applied disciplines

	Phase	Procedures	Output
Theory	Conceptual development	Development of the key concepts of the theory, an initial explanation of their interdependence, and the general limitations and conditions under which the theoretical framework can be expected to operate	Explicit conceptual framework
	Operationalisation	Conversion of the theoretical framework into testable components	Components that can be (dis-)confirmed through research
Practice	(Dis-)confirmation	Planning, design, implementation, and evaluation of (dis-)confirmation studies	(Dis-)confirmation of the theoretical framework
	Application	Application to the problem	Judgement about the relevance of the theory for improved action and problem solving
Theory and practice	Continuous refinement and development of theory	Ongoing study, adaptation, development, and improvement of the theory	Increase in rigour and relevance

Source: (Kopainsky & Luna-Reyes 2008)

Conceptual models may have undergone varying levels of empirical testing depending on the stage of the theory development process. This conceptual framework was partly empirically derived, which is appropriate given HIA's status as an applied field and this thesis' paradigmatic basis in interpretive description (Thorne 2008). As Table 10 shows, the next step for the conceptual framework is to move beyond conceptual development to operationalisation, with a focus on testing components and confirmation/disconfirmation (Kopainsky & Luna-Reyes 2008). These tasks are undertaken in Publication 7.

Contribution to overall research aims and questions

This publication identified an empirically derived range of context, process and impact factors that are related to HIAs, which have been organised into a conceptual framework. It directly addressed the second and third research aims for this thesis, which are:

- To establish what changes occur as a result of doing an EFHIA; and
- To establish whether EFHIA is effective and under what circumstances.

In doing so it enables a much more nuanced understanding of the range of factors, both within the HIA process and more generally, that can influence the extent to which an HIA can have subsequent impacts. It set out the parameters based on which the first research question can be answered, namely:

1. What are the direct and indirect impacts of EFHIAs
conducted on health sector plans?

As such it makes a considerable conceptual contribution towards addressing this thesis' overall research aims and research questions.

Remaining questions and link to next publication

A number of limitations of this framework were identified through its development. As described in the article:

It will be necessary to consider what needs to be added to the framework and what elements may need to be removed or assigned a lower priority in other settings... Additionally the conceptual framework is largely focused on structural and process factors. The extent to which individual agency and opinions influence the overall effectiveness of HIAs warrants further study, and may need to be reflected in revisions to the framework.

(Publication 5, p. 57)

These issues are addressed in Publication 7, which seeks to test and refine the conceptual framework for use in relation to EFHIA. This framework has informed other research on HIA (Haigh et al. 2013b, Haigh et al. 2013a). This research also identified the need to refine the framework to make it more readily comprehensible, but also to better recognise the role of individuals in determining the impact and effectiveness of HIA (Harris et al. 2013a).

As mentioned above, the next step in theory-building focuses on operationalising the conceptual framework by testing and (dis-)confirming components of the conceptual framework (Kopainsky & Luna-Reyes 2008). In order to do this a detailed account of EFHIA is required. Too often the HIA and EFHIA literature has focused on higher-level discussion or provided guidance, rather than focusing on the practical elements of *doing* an HIA. There is relatively little detailed, thick description of HIA or EFHIA (Ponterotto 2006). This thick

description is provided in Publication 6, which provides a detailed account of an EFHIA and its impact on subsequent decision-making, implementation and related activities. It is a necessary step towards understanding the practice of EFHIA in order to refine the conceptual framework.

Publication 6: A rapid equity focused health impact assessment of a policy implementation plan - An Australian case study and impact evaluation

Background to publication

The purpose of this publication is to provide a detailed account of EFHIA, how it is conducted, and the extent to which it has impacts on subsequent decision-making and implementation. Though there are now a reasonably large number of research articles on HIA, relatively little has been published on EFHIA in the peer-reviewed literature.

This publication reports on a rapid equity focused health impact assessment (EFHIA) of the NSW Implementation Plan of the Health Australian Better Health Initiative (ABHI). The ABHI was developed in 2006 as part of a national reform package to achieve better health for all Australians through a focus on the prevention and early detection of chronic disease (Abott 2006). The NSW implementation plan was sent for comment to the University of New South Wales Centre for Primary Health Care and Equity (CPHCE), where the authors are based. The opportunity to undertake a rapid EFHIA on this plan prior to implementation was identified as an example of the way in which EFHIAs could be undertaken on health plans in short time frames and at reasonable cost.

The publication appeared in the International Journal for Equity in Health, which is the leading journal for research on health equity-related issues internationally. This journal was selected for submission because of its open access policy that ensures the findings are available to all researchers, practitioners and policy-makers with internet access, in particular those in developing countries.

My co-authors in this paper were all actively engaged in the NSW HIA Project (Harris-Roxas & Simpson 2005, Quigley & Watts 2008) that was located within the Centre for Primary Health Care and Equity. They have extensive experience in policy development within the NSW Health

system, health equity issues and EFHIA. The NSW HIA project was funded and supported by the NSW Department of Health, which had developed the NSW ABHI Implementation Plan. This provided an opportunity to undertake an EFHIA on a proposal that would traditionally not have been subject to impact assessments or health equity analyses.

Significance and innovation

This article is an empirical case study that provides a “thick description” of the EFHIA process (Ponterotto 2006). It is one of the few articles that have been published that provides a detailed insight into the processes by which the EFHIAs are undertaken and the time and resources involved. It was also the first impact evaluation of an EFHIA that was published in the peer-reviewed literature. As such it helps to provide account of how an EFHIA is undertaken, as opposed to an HIA; how this one was conducted; and what it changed.

The paper also describes the use of a series of five questions to systematically examine the potential health equity impacts of each component of the Implementation Plan included in the EFHIA, namely:

1. What is the initiative trying to do?
2. Is there any evidence of inequity?
3. Who may be disadvantaged by the initiative?
4. Are there likely to be any unanticipated impacts?
5. What are the key recommendations for implementation?

The questions have subsequently proved to have been used in EFHIAs with health and non-health stakeholders, and in preparing structured, standardised one page summaries of impacts that are easy to read and understand (Haigh et al. 2013a). These questions are informed by

related approaches to EFHIA such as equity lenses (Signal et al. 2008, New Zealand Ministry of Health 2004, Ntuli et al. 1999), and have been modified over time for use in EFHIA practice and research (Harris et al. 2012a).

The article has been highly accessed, with 8,442 accesses reported on the International Journal for Equity in Health site between January 2011 and January 2014. It achieved “highly accessed” status, which identifies BioMed Central articles that have been especially highly accessed, relative to their age and the journal in which they were published (BMC 2014b).

Publication 6

Harris-Roxas B, Harris P, Harris E, Kemp L. *A Rapid Equity Focused Health Impact Assessment of a Policy Implementation Plan: An Australian case study and impact evaluation*. International Journal for Equity in Health, 10(6), 2011. doi:10.1186/1475-9276-10-6

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RESEARCH

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A rapid equity focused health impact assessment of a policy implementation plan: An Australian case study and impact evaluation

Ben F Harris-Roxas^{*}, Patrick J Harris, Elizabeth Harris, Lynn A Kemp

Abstract

Background: Equity focused health impact assessments (EFHIAs), or health equity impact assessments, are being increasingly promoted internationally as a mechanism for enhancing the consideration of health equity in the development of policies, programs and projects. Despite this there are relatively few examples of completed EFHIAs available. This paper presents a case study of a rapid EFHIA that was conducted in Australia on a health promotion policy implementation plan. It briefly describes the process and findings of the EFHIA and evaluates the impact on decision-making and implementation.

Methods: The rapid EFHIA was undertaken in four days, drawing on an expert panel and limited review of the literature. A process evaluation was undertaken by email one month after the EFHIA was completed. An impact evaluation was undertaken two years later based on five semi-structured interviews with members of the EFHIA working group and policy officers and managers responsible for implementing the plan. A cost estimation was conducted by the EFHIA working group.

Findings: The EFHIA made both general and specific recommendations about how the health equity impacts of the policy implementation plan could be improved. The impact evaluation identified changes to development and implementation that occurred as a result of the EFHIA, though there was disagreement about the extent to which changes could be attributed solely to the EFHIA. Those responsible considered the recommendations of the EFHIA in the next versions of their ABHI implementation plans. Factors that influenced the impact of the EFHIA included consolidating understandings of equity, enabling discussion of alternatives, and differing understandings of the purpose of the EFHIA. The EFHIA cost US\$4,036 to undertake.

Conclusions: This EFHIA was conducted in a short timeframe using relatively few resources. It had some reported impacts on the development of the implementation plan and enhanced overall consideration of health equity. This case highlights some of the factors and preconditions that may maximise the impact of future EFHIAs on decision-making and implementation.

Background

There is now strong policy support internationally for governments and institutions to routinely assess the health impacts of major policies, plans, programs and projects on health to address health inequalities [1-9]. Over the past 15 years health impact assessment (HIA) has been promoted as a mechanism through which such

assessment can be achieved in a structured and transparent way [10-12]. There are now many countries that have extensive experience in the ways in which HIA can add value to policy and planning decision-making processes, with activity occurring in Europe, South-East Asia, Australia, New Zealand and the USA [7,13-26].

HIA enables the systematic consideration of health inequalities early on within the development of policies and other initiatives prior to their implementation [10,27]. In doing so, HIA becomes a practical policy intervention that can shift the rhetoric of healthy public policy into action [28]. However despite this promise,

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the experience of the last decade demonstrates that HIA has been difficult to institutionalise within policy development cycles [29]. Further, despite equity being a conceptual driver for HIA's use [27,30], evidence and commentary suggests this has had limited translation into practice [10,31-35].

The difficulty in using HIA at the policy level has been linked to concerns about HIA fitting within the (often short) timeframes associated with the development, announcement and implementation of policies [35-38]. This concern is in part linked to one aspect of the historical development of HIA as a field, as a part of regulatory project impact assessment [39-41], which conventionally follows a more structured planning process than policy. That the development and implementation of policy is less linear and less clear than project development poses a challenge to the step-wise process of HIA [42-44].

Health equity may be discussed in little detail within HIAs. This may be due to a number of factors. Firstly, there may be few opportunities to describe and discuss what potential health impacts are considered unfair. Secondly, there may be a lack of clarity about which differential health impact should be examined. In other words: how do we know who it is unfair for? Thirdly, it maybe be unclear what changes could remedy this unfairness or injustice [16,31-33,45-47].

These challenges can be compounded by a lack of existing evidence about which groups will be disproportionately affected by the type of proposal being assessed [32,33]. Explicitly considering the broader determinants of health, beyond biomedical impacts, and engaging communities within the assessment process may help to ensure equity impacts are considered. These may not equate with considering equity, nor do they automatically lead to consideration of differential impacts, fairness or whether unfair impacts could be avoided [16,31]. Examining differential impacts can add complexity to an already conceptually difficult HIA process that is usually undertaken in an interdisciplinary and intersectoral context [48].

Recognition of the need for a framework for rapidly assessing the health equity impacts of proposed policy and program proposals led to the development of rapid equity focused health impact assessment (EFHIA, see Table 1), informed by earlier work undertaken in developing a framework for EFHIA [46,47]. This paper presents rapid EFHIA as an approach and details the process and impacts of a rapid EFHIA that was undertaken over four working days on components of a complex state-wide health promotion initiative focusing on the prevention and early detection of chronic disease. It describes the context in which the EFHIA was undertaken, the methods used for the EFHIA and to evaluate

the process and impacts of the EFHIA, the findings of the EFHIA and of the evaluation, and conclusions.

Context

The NSW Department of Health *Australian Better Health Initiative (ABHI) Implementation Plan* was developed in 2006 as part of a Council of Australian Governments (COAG) reform package aimed at achieving better health for all Australians through a focus on the prevention and early detection of chronic disease [57]. The implementation plan looked at the implementation of the health promotion-related components of the ABHI in New South Wales (NSW), a state of seven million people in eastern Australia. In NSW, the prevention and early intervention initiatives and their supporting strategies needed to be developed within a short timeframe to enable resources to be allocated within the funding period identified in the COAG agreement.

The draft implementation plan was sent by the NSW Department of Health to key stakeholders for comment. The Centre for Primary Health Care and Equity at the University of New South Wales was included in this process due to its expertise in chronic disease prevention. Centre staff noted that despite equity appearing within the background to the document as a value there was little explicit focus on equity within the strategies and approached the NSW Department of Health about conducting a rapid EFHIA on the initiatives. This was agreed by those developing the initiative within the Department and they were receptive to an EFHIA being conducted provided that (i) it could be done within four working days as the final document needed final approval three days after this deadline, (ii) did not suggest new strategies but made recommendations on how existing strategies could be strengthened or modified, and (iii) did not recommend changes in funding levels. Issues related to Aboriginal health, though important in any consideration of health equity impacts in the Australian context, were excluded from consideration within the rapid EFHIA as these were being covered through a separate Aboriginal Health Impact Statement process.

Methods

Rapid EFHIA methods

A structured approach to screening and scoping the HIA was undertaken by the EFHIA working group using the NSW guide for HIA [56]. The core EFHIA working group was made up of three staff from CHE-TRE and one NSW Department of Health employee, all of whom were experienced in conducting HIAs. Additionally an expert panel was recruited to undertake the HIA assessment step. Each expert panel member agreed to attend one six hour assessment workshop (Day 2), comment of drafts and participate in two one-hour

Table 1 Health Impact Assessment-Related Terminology

Term	Explanation
Health impact assessment (HIA)	HIA is "a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population" [27].
Health equity impact assessment (HEIA)	HEIA has been suggested as a means to ensure that the potential impacts of a proposal on health equity is considered prior to implementation [4,49]. It is related to the notion of health inequalities impact assessment that was originally proposed a decade ago in the Acheson Review in the UK [12,50]. Despite these calls, specific guidance on how to conduct HEIAs has not been developed and there are ongoing debates about whether it is possible or desirable to conduct an impact assessment focused solely on health equity without considering more general health impacts [51,52].
Equity focused health impact assessment (EFHIA)	EFHIA is related to HEIA and was developed in response to concerns that (i) consideration of health equity is often limited within HIAs, often being restricted to the realm of professed values and aspirations [31], and (ii) that it was desirable to improve the methods for considering equity within HIA, rather than developing a separate form of HEIA [52]. The term was first used in the <i>Jakarta Declaration on Leading Health Promotion</i> [53] and subsequently in the <i>Bangkok Declaration</i> [54], but was operationalised with the development of the <i>Equity Focused Health Impact Assessment Framework</i> [46,47,55] in 2004. EFHIA focuses on improving the consideration of equity and differential impacts at each step of the HIA process [46,47]. A rapid EFHIA involves scoping the EFHIA so it can be conducted within a limited time frame with limited resources [56].

teleconferences (Days 3 and 4, see Table 2). The expert panel had nine members, seven of whom were able to attend the workshop. They included people with expertise in health equity, early intervention, health promotion, chronic disease prevention, and policy analysis.

The purpose of the screening report was to identify the potential links between the implementation of the initiatives, health improvement and potential health inequities. The screening report determined that the initiatives had the potential to improve health but also to have differential impacts across the population.

The scoping report (included in Additional File 1) established terms of reference for the EFHIA and expert panel, clarified definitions of health and equity, determined the dimensions on which differential impacts were to be considered in the EFHIA (age, gender, place of residence, ethnicity and socioeconomic position), the process by which the EFHIA would be undertaken, and clarification of values and assumptions, especially in defining health, equity and inequity. Of particular importance was a decision to make recommendations that would positively impact on the whole of the population (mainstream approaches) as well as those that would specifically focus on particular groups (targeted approaches). Due to time constraints it was agreed that the assessment process be principally based on expert opinion, supported by a small

number of reports providing data on inequity in relation to chronic disease [58,59].

At the appraisal workshop the screening and scoping papers were discussed, refined and accepted. The group then systematically worked through each of the eight strategies included in the assessment, addressing five specific questions:

1. What is the initiative trying to do?
2. Is there evidence of inequity?
3. Who may be disadvantaged by the initiative?
4. Are there likely to be unanticipated impacts?
5. What are the key recommendations for implementation?

These questions reflected aspects of the EFHIA framework [46], drew on work that had been undertaken by members of the EFHIA working group on the development of Australian National Health and Medical Research Council Guidelines [60], and are similar to other questions used in other equity audits and HIA screening tools [61-64].

To inform their decision-making, the group made an assessment of the potential size of the impact of the initiative on health, the likelihood of the impact and the groups who may be affected. The resulting EFHIA

Table 2 Timeline for the rapid EFHIA

Day	Day 1	Day 2	Day 3	Day 4
Who	EFHIA working group	EFHIA working group and expert panel	EFHIA working group and expert panel	EFHIA working group and expert panel
HIA step [52]	Screening and scoping	Identification and assessment of impacts (appraisal)	Negotiation and decision-making	Negotiation and decision making
Activity	Screening and scoping report, identification of key documents & organisation of expert panel	Appraisal workshop, drafting report	Teleconference, drafting report	Teleconference, drafting report

appraisal for each initiative was summarised in one page to facilitate use by the Department in the short timeframe within which they were preparing the implementation plan.

Drafts of the EFHIA report were circulated to members at the end of each day and teleconferences were held early on Days 3 and 4. A draft EFHIA report was sent to the NSW Department of Health on the morning of Day 5. The final document, which incorporated modifications based on comments received from the Department of Health, was sent on Day 7 [65].

Evaluation methods

Process evaluation methods

A brief process evaluation [66,67] was undertaken through panel members being asked to reflect on the experience via email and what they perceived as the strengths and weaknesses of the process. This was supplemented by a brief discussion one month after submission of the report with the officers and managers responsible for the NSW ABHI implementation plan.

Impact evaluation methods

To evaluate the impact of the EFHIA on planning and implementation, five semi-structured interviews were conducted two years after the EFHIA was completed. The attributes of these interviews are described in Table 3 using the CORE-Q consolidated criteria for reporting qualitative research [68]. The interviewees included policy officers and managers responsible for developing and overseeing the health promotion components of the *NSW Department of Health ABHIA Implementation Plan* and members of the EFHIA working group.

Each interviewee was asked the following questions:

1. Tell me the story of the New South Wales Australian Better Health Initiative equity focused health impact assessment. (Prompt: And then what happened?)
2. What changed as a result of doing the equity focused HIA?
3. Was the equity focused HIA a success?
4. What is required for an equity focused HIA to be successful?

Interviews were audio recorded and then transcribed.

The interviews were analysed qualitatively using a modified version of the analytic method developed by Colaizzi [69,70]. The major emergent themes from this analysis are detailed in the findings section.

Resource description methods

The resources involved in conducting the EFHIA were estimated by the EFHIA working group and are included to aid future cost utility studies of HIAs.

Findings

Rapid EFHIA recommendations

For each of the eight initiatives included in the EFHIA, a one page summary was included in the report which described in some detail the questions that guided the EFHIA. Additional File 1 includes the summaries for all the initiatives included in the EFHIA.

Evaluation Findings

Process evaluation findings

The data from the process evaluation identified four factors that assisted the EFHIA. These were the support, commitment and openness of the Department of Health to having their plan assessed, the clarity of the instructions from the Department of Health (included in Additional File 1), the structured process the EFHIA followed, and the composition and experience of the expert panel coupled with the ease with which they were able to work together. Because the Centre for Health Equity Training, Research and Evaluation (CHETRE) is recognised as having expertise in this area and had worked with many of the managers on previous projects [71], there was a level of trust which facilitated the conduct of the EFHIA. The structured process made it transparent what commitment was required of the participants and the expert panel in terms of time and scope of activities to be undertaken.

Three major constraints to undertaking the EFHIA were identified. These were the timeframe required, reliance on expert opinion and a limited range of literature rather than a broader range of evidence, and the difficulty in being objective concerning negative or unanticipated consequences that individual members of the EFHIA working group or expert panel strongly supported.

For policy officers and managers the EFHIA provided an opportunity for reflection on how issues of equity had been addressed in the draft implementation plan and how these and other issues could be improved. For example what balance was needed between innovation, which often had high political and professional appeal, and expanding and sustaining existing programs for which there was evidence of effectiveness. In other words, managers had to decide if they should inject more funding and support into a new suite of programs and to neglect existing programs.

Impact evaluation findings

The interviews identified a number of direct and indirect changes to the NSW ABHI implementation plan that occurred as a result of the EFHIA. Though there was a high degree of concordance about the process of the EFHIA (how it was conducted, who was involved, what the major events were, etc.) there was disagreement

Table 3 CORE-Q Consolidated Criteria for Reporting Qualitative Research [68]

No	Item	Description
Domain 1: Research Team and Reflexivity		
Personal Characteristics		
1	Interviewer/facilitator	Ben Harris-Roxas
2	Credentials	Master of Policy and Applied Social Research, currently enrolled in a PhD
3	Occupation	Research Fellow, University of New South Wales
4	Gender	Male
5	Experience and Training	Has undertaken several qualitative studies, trained in interviewing, qualitative analysis and using NVivo [92]
Relationship with participants		
6	Relationship established	A relationship existed with all interviewees prior to the interviews
7	Participant knowledge of the interviewer	Knew the researcher has worked on HIA and health equity for several years, have had contact through other activities than the HIA described
8	Interviewer characteristics	Is doing a PhD on EFHIA
Domain 2: Study Design		
Theoretical Framework		
9	Methodological orientation and theory	Analysis based on a modified version of Calaizzi's framework [69]
Participant Selection		
10	Sampling	Purposive
11	Method of approach	Email
12	Sample size	5
13	Non participation	0
Setting		
14	Setting of data collection	Participants' workplaces
15	Presence of non-participants	No
16	Description of sample	A mix of those who conducted the HIA and those who were responsible for implementing its recommendations
Data Collection		
17	Interview guide	Not provided in advance, piloted on 2 interviews not included in study
18	Repeat interviews	No
19	Audio/visual recording	Audio
20	Field notes	No
21	Duration	Mean 24 minutes, Range 20 minutes (min) to 33 minutes (max)
22	Data saturation	Yes, authors decided that saturation was reached after 5 interviews
23	Transcripts returned	No
Domain 3: Analysis and Findings		
Data Analysis		
24	Number of data coders	3
25	Description of the coding tree	No
26	Derivation of themes	Derived from the data
27	Software	NVivo [92]
28	Participant checking	No
Reporting		
29	Quotations presented	Yes, each participant is numbered when quoted
30	Data and findings consistent	Yes
31	Clarity of major themes	Yes
32	Clarity of minor themes	No

between the interviewees about the extent of change that occurred as a result of the rapid EFHIA. This disagreement was not fundamental: all those interviewed felt that the EFHIA had some impact on further planning and decision-making. Rather the disagreement was about the extent of change that could be attributed to the EFHIA. This ranged from a very small amount of influence according to some of those interviewed, to what was regarded as a moderate amount of influence by others.

The impact evaluation identified five major themes in relation to the impact of the rapid EFHIA:

1. Changing implementation planning There were a number of changes to the NSW ABHI implementation plan that were attributed to the EFHIA. The most obvious of these were that the managers responsible for the development of aspects of the plan were asked to re-draft their sections to take the EFHIA into account.

“What we did after we got the equity focused HIA, we gave it to all the managers, and then for each one of their little, sort of, almost section in the plan, we said ‘we want you to write a proper plan about how you’re going to do it, and we want in your plan, to specifically say how you’re going to address the recommendations of this.’

Interviewee 1

Other changes were attributed to the EFHIA, though there was greater disagreement between the EFHIA working group and the Department of Health staff about the nature, extent and reasons for the changes. An example of this were the recommended changes to the proposed resource allocation split between urban and rural Area Health Services for a specific activity within the implementation plan, to favour more resources going to rural health services.

I think it actually did have at least one impact that I know of, which was that we had identified that not enough money was being invested in rural areas, although the resources were going to be allocated, the rural and the urban areas were going to get the same resources. And so I understood that... the problem is, for some of the rural areas, what they would have been getting wasn’t enough to actually employ someone, so sixty thousand in the thick of an urban area’s quite a lot, but in a rural area, it actually doesn’t give you capacity. So I understood that what happened was each of the rural area health services was given a larger amount of money than the urban areas, and that they then wrote up their proposals... So it did have that impact.

Interviewee 2

Several interviewees identified this as a change attributable to the EFHIA but others discounted it, as the measure was not implemented in the form originally outlined in the draft implementation plan due to reallocation of funding. This mirrors some of the difficulties that have been found in other HIA impact evaluations in trying to attribute changes solely to a specific HIA [72-74].

2. Consolidating understandings of equity There was a broad agreement between the interviewees that the rapid EFHIA had brought the potential health equity impacts to the fore of the development of the implementation plan and that this was unlikely to have been as clearly addressed without the EFHIA. The interviewees from the Department of Health regarded this focus on health equity issues as a consolidation and focusing of existing knowledge, rather than being transformative or revelatory in nature - it was regarded as possibly under-considered information rather than unknown.

It probably provided a useful tool to make sure that people considered equity issues. Had we not had support for those type of [equity] issues being considered up the line, it probably would have been used as an internal advocacy tool...

...I’m not convinced that [the EFHIA] made people do things differently, because I think that they probably, should’ve, would’ve, hopefully would’ve, done those things anyway. It was nice that it was explicit, rather than left to being implicit.

Interviewee 3

So for me, personally, if you see the change [in] the acceptance of equity as a value determining and influencing people’s thinking and work, it’s good.

Interviewee 5

HIA’s usefulness in consolidating knowledge and understanding of health issues and potential health impacts has been noted in the literature [72,75], and approaches that explicitly examine health equity impacts seem likely to enhance understandings of health equity as well.

A challenge that was identified by the interviewees from both the EFHIA working group and the Department of Health was that many of the potential health equity issues that could have arisen did not relate to the overall structure or nature of the ABHI initiatives, but to the way the initiatives would be implemented.

...when I was going through the [EFHIA] recommendations, that some of them appeared to have gone beyond just saying what would happen. If you’re just trying to provide equity focused [recommendations], they’re often about good planning, which I think was

probably very apparent to the people during the equity focused HIA going 'what is the good planning in this?'

Interviewee 1

There were also some things in [the EFHIA report] that, I guess, implied, that we wouldn't consider, some issues that I think can be dealt with in careful planning, and careful implementation, and the intention, as I said before, if the [ABHI implementation plan] was really about 'this is the flavour of where we're going with this' we're going to have to obviously have greater implementation plans around each of these strategies, we've only got sixty pages to do it in.

Interviewee 3

This highlights some of the challenges in undertaking assessments of implementation plans. Policies, such as the ABHI as a whole, are necessarily aspirational, setting out areas of activity in broad terms. EFHIAs, and HIAs in general, need to consider implementation as it is at that stage where many unintended and previously unidentified impacts are likely to arise. The NSW ABHI implementation plan included details of how the initiatives would be implemented, but many of the very detailed planning and implementation activities were appropriately determined by operational and service managers. This identifies a tension relevant to all HIAs, but to EFHIA in particular; to what extent should an HIA focus on making recommendations to assist implementation?

Two preconditions seem to be important enablers of EFHIAs of implementation plans: a high degree of understanding of the policy context and processes being assessed; and trust and constructive engagement between the assessors and those responsible for the development and implementation of the implementation plan. This is similar to the findings of studies that have looked at the impacts of HIAs in the Netherlands [76] and impact assessments more broadly [77].

3. Enabling discussion of alternatives Several interviewees stated that the EFHIA enabled consideration of different ways of achieving the implementation plan's objectives.

...even during the time we were doing it... we were able to enter into some discussions about what might be alternatives. So I think that in these sorts of environments, we've got an opportunity to influence the implementation. It's actually really important to have debate and that's what I think the EFHIA allowed.

Interviewee 2

The identification and assessment of alternatives is an important and under-emphasised part of HIA and impact assessment practice [13,78,79]. The development of more formal procedures for generating alternatives that address health inequities, which may then be assessed using EFHIA, would be of use in ensuring health equity is considered earlier in the formulation of policy options.

4. Missed opportunities There was a degree of ambivalence towards the rapid EFHIA on the part of several of the interviewees, amongst both people from the Department of Health and the EFHIA working group. The terms "lost opportunity" or "missed opportunity" came up several times during the interviews. Whilst all five interviewees acknowledged that the EFHIA had some degree of direct and indirect impact on subsequent activities, three interviewees expressed disappointment that more didn't come from doing the EFHIA, in the form of either more robust consideration of equity in health policy in general or ongoing collaboration with the expert panel.

No, it was really a lost opportunity, I think, to get people engaged, and not only engaged in HIA, but in equity...

Interviewee 1

I think there might have been a missed opportunity... The EFHIA focused too much on issues that would have been addressed at later stages in the planning anyway.

Interviewee 4

This can be attributed, at least in part, to feelings that the Department was not able to be fully involved in the EFHIA due to the competing pressures involved in finalising the implementation plan. The EFHIA was viewed by two of the interviewees as being overly critical of the development of the implementation plan and failing to recognise the time-pressured and politicised context it was being developed in.

...by doing an HIA, if you start then telling people how to do good planning, it's almost like it's a little bit insulting to those who believe they are good planners, rightly or wrongly... So I think there's a fine line between telling people how to suck eggs, when they already know how to suck eggs, but doing it in a different way.

Interviewee 3

I think people felt when recommendations came in, that they saw as a critique, or not that they were a critique, because different... They were like 'Oh, but it wasn't a proper plan anyway, it was just, you know, we were just trying to get the money, and

that was our goal at that time, just get the money, and we said we'd do this, but not sure if we really will'.

Interviewee 1

This suggests that the involvement of stakeholders and decision-makers in the process of EFHIA is more than an ideological commitment to participation and representation; it is critical in enabling it to have an impact on decision-making and implementation [80,81]. There are of course significant, and possibly insurmountable, tensions between the rapid processes required if EFHIA is to inform policy development and implementation in a timely fashion and the need to engage stakeholders fully in the process of conducting the EFHIA.

5. Differing conceptualisations of the purpose of the EFHIA Although all participants described changes that were attributable to the EFHIA, in general the Department of Health staff described the EFHIA as making a more modest contribution to the development and implementation of the implementation plan than the EFHIA working group did. This difference may be attributed to greater involvement and familiarity with the ongoing development and roll-out of the implementation plan or differing understandings about the role and purpose of the EFHIA.

We didn't have a shared understanding of why we were undertaking it. Our purposes were probably different from CHETRE's purposes, and maybe that's where they don't work, but if you have two differing purposes, unless you can fully appreciate what those two different purposes are, maybe it doesn't work out as well as it could...

...I think there was a feeling that, well, we could get something out of [the EFHIA]. There were probably two rationales for why it would be useful. One is that we could get some, a critique if you like, or some feedback about, through an equity lens, on the strategies that we had proposed. And the second one was that it would perhaps serve a process of helping people who are more engaged in the consultation process.

Interviewee 3

In a way, it was about improving the quality of the document, it was actually quite important to be able to debate some of the issues.

Interviewee 2

These differences may be partly due to variations in the way people involved in the EFHIA understood the purpose of the HIA in general. Those from the Department of Health tended to describe HIA as a process for using evidence to informing decision-making, whereas

those from the EFHIA working group tended to describe HIA as a process for quality enhancement and examining unanticipated impacts.

There is an increasing consensus internationally that impact assessment should be understood as a learning activity [16,82-85]. Glasbergen [86] describes three types of learning that can occur through impact assessment:

- *Technical learning*, which involves searching for technical solutions to fixed policy objectives;
- *Conceptual learning*, which involves redefining policy goals, problem definitions and strategies; and
- *Social learning*, which emphasises dialogue and increased interaction between policy actors (this is distinct from the concept of social learning described in the psychology literature [87]).

Some of the differences in this case may be understood as different attitudes to desired learning goals of the EFHIA. Many of those from the Department of Health described the EFHIA as a technical learning activity; those involved in the working group described the EFHIA in terms more consistent with conceptual learning. There was very little discussion of impacts that might be classed as social learning within the impact evaluation interviews. Understanding the different types of learning that may come from an EFHIA, and which one is desired within a specific context, is important as different expectations may serve to create confusion and tension amongst those involved. In our work we would describe HIA as both a technical tool and a process and it is this process that provides the opportunities for conceptual and social learning to build ongoing relationships with other stakeholders.

Resource description findings

Costs and time details are included in this paper to transparently report what resources were used to undertake the rapid EFHIA and to assist future cost utility analyses [10]. The resources invested were estimated by the EFHIA working group and are detailed in Table 4.

The limited number of papers describing the human resource investments made suggest that between 684 and 3,784 project hours for an HIA are not uncommon [88,89]. This suggests that the estimated 106 project hours for this EFHIA was little by comparison.

Costs are also rarely described in the literature but 15 HIAs conducted in Europe have been reported to range between US \$1,316 and US \$190,878 [73], 15 English HIAs included in a cost benefit study ranged between US \$1,578 and US \$93,006 [74], and the *Merseyside Guidelines for Health Impact Assessment* reported in 2000 that the mean cost of three HIAs conducted in Liverpool was US \$18,033 [90]. This suggests that at US \$4,025.80 the EFHIA of the ABHI

Table 4 Estimation of resources invested to undertake the EFHIA

Resource	Project Hours (If Applicable)	Estimated Cost/Hour (If Applicable, USD)	Cost Estimate (USD)
EFHIA Workshop	42 hrs (Includes Participants)	\$34.80	\$1,461.60
Report Writing	48 hrs	\$34.80	\$1,670.40
Review and Comment on Report	8 hrs	\$34.80	\$278.40
Report Formatting, Referencing and Proof Reading	8 hrs	\$34.80	\$278.40
Travel Costs (1 Airfare)	-	-	\$227.00
Catering for Workshop	-	-	\$120.00
TOTAL	106	-	US \$4,035.80
<i>In Kind Subtotal*</i>	<i>106</i>	-	<i>US \$3,688.80</i>
<i>Cash Subtotal</i>	-	-	<i>US \$347.00</i>

* In-kind costs refers to people's time that was donated, rather than being paid for directly to undertake the EFHIA.

implantation plan is one of the least costly HIAs that has been documented.

Limitations

This paper describes a rapid, specific and contextually situated EFHIA. Care should be taken not to over-generalise the findings to other settings especially as it was conducted in response to the needs of a specific decision-making context.

A limitation in how the EFHIA was conducted was that the rapid EFHIA process relied on expert opinion from a relatively small group. Consultation was limited, as was systematic review of the literature, both largely due to time constraints. There was limited reference to increased dialogue or increased interaction between those involved following the EFHIA. This may suggest that social learning [86] through this EFHIA was limited. This could be due to its rapid nature, though other factors that were not identified may also have limited the extent of further collaboration.

There were also limitations in terms of how the EFHIA's impact was evaluated. Firstly, unlike some other HIAs whose impact has been evaluated [72] there was unfortunately no final document against which recommendations from this EFHIA could be checked off. This is often a feature of higher-level government implementation plans that cross a number of portfolio areas. This is a limitation that should be borne in mind when considering the EFHIA's direct impacts on decision-making. Secondly, a relatively small number of people were interviewed (five) for the impact evaluation. This is because this is the number of people who were intimately involved in both the EFHIA and the further development of the policy implementation plan was limited. This was in part due to the EFHIA's rapid nature, partly due to context-specific practices, i.e. who is involved in the development of policy implementation plans in NSW. Thirdly, several of this paper's authors were involved in conducting the EFHIA. The second,

third and fourth authors played an active role (see section on Authors' Contributions). Whilst efforts have been made to ensure that the findings are empirically supported, their involvement in the EFHIA process may have influenced the interpretation of findings. Lastly there is a possibility of recall bias, as some of those interviewed may have revisited the recommendations more often than others interviewed [91].

It is important to note that this paper is not solely an impact evaluation of a rapid EFHIA; it also seeks to describe the methods by which the EFHIA was conducted in some detail. This is because there are relatively few examples of EFHIAs reported in the literature to date, something that is required given the World Health Organization's recent calls for the use of health equity impact assessment [4]. Despite the limitations outlined, measures were taken to ensure procedural fidelity to EFHIA guidance [46] and the features of the impact evaluation interviews are outlined in Table 4.

Conclusions

Although it was only a rapid process this EFHIA had an impact on the development of the implementation plan. The EFHIA was well received by the Department of Health and its recommendations were incorporated into the NSW ABHI implementation plan's revision. Those responsible for developing specific sections of the implementation plan were asked to demonstrate how they had addressed issues raised in the EFHIA in their section.

This rapid EFHIA process relied to a large extent on expert opinion from a small group of people. There was little capacity to consult with other stakeholders or to systematically review the literature. Despite this the EFHIA has had an impact on the ways in which the ABHI initiatives were planned. This process also highlighted that in many areas, even if there had been more time for a detailed assessment, there was little direct evidence relating to potential inequities or on effective

interventions to prevent or redress them [4]. The ability to adapt existing knowledge to new contexts will be an important skill required in future rapid EFHIAs.

This EFHIA has demonstrated that HIA processes can be used within the political realities and time frames within which policy-makers operate. It demonstrated that EFHIA specifically, and HIA generally, can make a contribution to the implementation of health sector initiatives, not just other's sectors decision-making. It was also highlighted as a example of action towards enhanced capacity for monitoring, research, and intervention in the *Final Report of the World Health Organization Commission on the Social Determinants of Health* [4].

This process would not have been possible without the support of NSW Department of Health and the willingness of those involved in the development of the health promotion components of the NSW Department of Health *Australian Better Health Initiative (ABHI) Implementation Plan* to have their work scrutinised by people who largely worked outside the Department. It was also feasible to undertake the assessment within the time constraints due to the involvement of an expert panel with knowledge of the policy area and the ways in which the health system operated. Because this group of people were also experienced in working with government policy processes they were also able to concentrate on how potential problems could be minimised and potential gains enhanced within resource constraints.

It is important that whilst EFHIA can have impacts on decision-making and planning that it not be regarded as a panacea. The evidence that informed the EFHIA was limited and the assessment itself was not comprehensive, though nor did it claim to be. There is a need to be realistic about the extent to which a rapid process can be expected to systematically inform subsequent activities. Given that many policies require considerable time, expertise and resources to develop, however, an investment of four days to ensure that health equity issues have been explicitly considered may be regarded as time well spent.

A major challenge for all HIAs is to be able to respond in flexible and timely ways to the needs of policy-makers who are often developing proposals within brief timeframes and in politicised contexts. A rapid EFHIA process may provide a practical mechanism for looking at the potential health equity impacts of proposed initiatives.

Additional material

Additional file 1: Rapid Equity Focused Health Impact Assessment of the Australian Better Health Initiative Report

Abbreviations

ABHI: Australian Better Health Initiative; CHETRE: Centre for Health Equity Training, Research and Evaluation; COAG: Council of Australian Governments; EFHIA: Equity focused health impact assessment; EqIA: Equality impact assessment; HEIA: Health equity impact assessment; HIA: Health impact assessment; NSW: New South Wales.

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Authors' contributions

BHR contributed to the conceptual development of the article, undertook the impact evaluation and drafted the final version of the article. PH was involved in the EFHIA working group, undertook the process evaluation and contributed to drafts of the article. EH conceived the EFHIA, was involved in the EFHIA working group, conceived the article and contributed to subsequent drafts. LK was involved in the EFHIA working group and contributed to drafts of the article. All authors viewed and approved the final version of the article.

Competing interests

The authors declare that they have no competing interests.

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Implications for theory and practice

At a theoretical level, thick description of the type in this article is important for qualitative research with a theoretical basis in symbolic interactionism (Denzin 2001). Norman Denzin (2001) identifies five subtypes of thick description:

1. Biographical description, which describes a series of events chronologically;
2. Historical description, which brings historical moments “alive in vivid detail” (Denzin 2001:92);
3. Situational description, which creates a depiction of the context;
4. Relational description, which defines and gives depth to the relationships between actors; and
5. Interactional description, which focuses on interactions between people and groups involved.

This publication has elements of all five subtypes of thick description, which Denzin suggests may qualify it as an “exemplar” of thick description within a symbolic interactionist approach (Denzin 2001, Denzin & Lincoln 2005).

This thick description enables a nuanced understanding of the impacts of this EFHIA on health planning, namely changes to implementation planning, consolidating understandings of equity and enabling discussions of alternatives. Based on this case, the extent to which these impacts are realised appears to be linked to an interrelated set of factors. These are expectations about the type of learning sought through the EFHIA, understandings about the purpose of the EFHIA, and the level of engagement and involvement in the EFHIA process.

At a practice level, this paper addresses some of the key concerns of critics of HIA that it is expensive and time-consuming (as discussed in Publication 1). The methodology for estimating cost is rudimentary and future research will require more nuanced economic analyses, but it demonstrates that EFHIAs can have direct and indirect benefits without being an expensive, time consuming process. It remains one of the few publications to explicitly discuss the financial cost of particular HIAs (O'Reilly et al. 2006, Kearney 2004, Wismar et al. 2007).

Contribution to overall research aims and questions

This paper directly addresses all three of this thesis' research aims, namely:

- To investigate whether equity focused health impact assessment (EFHIA) can improve the development and implementation of plans and strategies within the health system;
- To establish what changes as a result of doing an EFHIA; and
- To establish whether EFHIA is effective and under what circumstances.

This article provides a detailed account of all the first three topics within the context of this bounded case (Yin 2002). As described before, interpretive description research emphasises the need to enhance the credibility and validity of both one's interpretation and description through addressing a number of factors (Thorne 2008, Thorne et al. 1997). This is particularly true in this case because of (i) my involvement in the EFHIA and (ii) the relatively small number of decision-makers who were involved in the development and early implementation of the plan assessed. This is in contrast to

Thorne (2008), who sets out a number of factors to address in interpretive description research in order to enhance its credibility, which I described in greater detail in the introduction to this thesis. This publication attempts to address some of those factors, namely:

- *Representative credibility* – that any claims or findings are consistent and limited to the phenomena being examined. This publication helps to describe and ground EFHIA practice but also the process of health plan development and implementation in NSW.
- *Interpretive authority* – by describing both the process of this EFHIA and the factors that have enhanced or limited its effectiveness so it is possible to appraise my interpretation to determine which of my claims reflect my subjective experience and which might reflect more generalisable truths.

Remaining questions and link to next publication

The next publication (Publication 7) examines the impact of three EFHIAs of health service plans. It also seeks to test and refine the conceptual framework for evaluating the impact and effectiveness of HIA presented in Publication 5 based on its applicability to EFHIA.

Publication 7: Evaluating the impact of equity focused health impact assessment on health service planning - Three case studies

Background to publication

The purpose of this publication is twofold. Firstly it seeks to test and refine the conceptual framework for evaluating HIA described in Publication 5. Secondly it describes the direct and indirect impacts of EFHIAs of health service plans.

After undertaking research presented in Publication 6, which involved a detailed case study and impact assessment of an EFHIA, it became clear that there would be value in between-case comparisons (Yin 2002) in order to enhance the generalisability of this thesis' findings and also to more comprehensively address all three of this thesis' research questions. Importantly this paper also seeks to test and refine the conceptual framework presented in Publication 5 to see if it is applicable to (i) similar but distinct contexts to the one in which it was developed, and (ii) EFHIA is a distinct form of HIA practice.

This publication directly addresses all three of this thesis' research questions:

1. What are the direct and indirect impacts of EFHIAs conducted on health sector plans?
2. Does EFHIA improve the consideration of equity in the development and implementation of plans?
3. How does EFHIA improve the consideration of equity in health planning?

This article is unpublished but it has been submitted to Biomed Central Public Health (BMC 2014a). This is for three reasons. The first is that it is an open access journal that is accessible by both researchers and practitioners in developed and developing countries. The second reason is because as an open access journal that is published online, it has no restrictions on article length. This is a lengthy paper because it presents the results of three case studies, discusses each, makes comparisons between these cases, and then refines the conceptual

framework. BMC Public Health is one of the few journals that allows authors to publish articles on this length and complexity in their entirety, without being forced to split them into multiple smaller publications. The third reason is that it is a journal with relevance across public health is a discipline. The results presented in this publication have specific relevance to EFHIA and HIA practice, and also to public health and health service planning more generally. The refined conceptual framework may be relevant to evaluation of a number of public health interventions.

My co-authors on this paper are Fiona Haigh, my colleague from the Centre for Primary Health Care and Equity at the University of New South Wales, and Dr Joanne Travaglia and Associate Professor Lynn Kemp, who are my PhD supervisors. Between them they have considerable experience in qualitative research, health impact assessment and health services research.

Significance and innovation

This is the first paper to present an impact evaluation of multiple EFHIAs, and one of only a limited number to present an impact assessment of multiple HIAs. All prior publications on EFHIA have been descriptive (Simpson et al. 2005) or have detailed single case studies (Gunning et al. 2011). Similarly the peer-reviewed literature on HEIA and HIA has concentrated on commentary, guidance or single cases (Povall et al. 2013, Douglas & Palmer 2011, Lester et al. 2001). As such it makes a contribution to the overall HIA literature, but represents a more significant contribution to the EFHIA-specific literature.

This paper also tests and refines the conceptual framework presented in Publication 5. This enhances the validity of the conceptual framework and also helps to demonstrate its

applicability in contexts other than the one in which it was developed. It also helps to identify any differences between the context, process and impacts of EFHIAs compared with HIAs.

Publication 7

Harris-Roxas B, Haigh F, Travaglia J, Kemp L. *Evaluating the impact of equity focused health impact assessment on health service planning: Three case studies*, submitted to BMC Health Services Research.

A pre-publication version of this manuscript is included below.

Evaluating the impact of equity focused health impact assessment on health service planning: Three case studies

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Abstract

Background

Health impact assessment has been identified internationally as a mechanism to ensure potential health impacts and health equity impacts of proposals are considered before implementation. This paper looks at the impact of three equity focused health impact assessments (EFHIAs) of health service plans on subsequent decision-making and implementation, and then utilises these findings to test and refine an existing conceptual framework for evaluating the impact and effectiveness of health impact assessments for use in relation to EFHIAs.

Methods

Case study analysis of three EFHIAs conducted on health sector plans in New South Wales, Australia. Data was drawn from 14 semi-structured interviews and the analysis of seven related documents (draft plans and EFHIA reports).

Results

The case studies showed that the EFHIAs all had some impact on the decision-making about the plans and their implementation, most clearly in relation to participants' understandings of equity and in the development of options for modifying service plans to ensure this was addressed. The timing of the EFHIA and individual responses to the EFHIA process and its recommendations were identified as critical factors influencing the impact of the EFHIAs. Several modifications to the conceptual framework are identified, principally adding factors to recognise the role individuals play in influencing the impact and effectiveness of EFHIAs.

Conclusion

EFHIA has the potential to improve the consideration of health equity in health service planning processes, though a number of contextual and individual factors affect this. Current approaches can be strengthened by taking into account personal and organisational responses to the EFHIA process.

Keywords

Health impact assessment, health equity, health service planning, impact evaluation, evaluation framework, conceptual framework

Background

The use of health impact assessment (HIA) has expanded rapidly over the past twenty years [1-5]. HIA is a stepwise process for assessing the potential health impacts of a range of different types of proposals, including plans, projects, policies or programs. It seeks to assist decision-making and implementation of proposals by developing evidence-informed recommendations to maximise positive health impacts and to minimise negative ones [6-12]. HIAs' recommendations can take several forms and may include measures designed to:

- mitigate potentially negative health impacts [8];
- enhance potentially positive health impacts [13];
- improve the distribution of potential health impacts within and between population sub-groups [10, 14-16];
- promote alternative approaches that are designed to achieve similar policy or program objectives [1, 13, 17]; or
- recommend that the proposal should not proceed [18].

There is a broad consensus that HIA is most useful and has the greatest potential to influence decision-making and implementation when it is conducted as an ex ante assessment prior to the implementation of a proposal [10, 13, 19-21].

Equity focused health impact assessment (EFHIA) is a specific form of HIA and has been promoted by public health organisations regionally, nationally and internationally. It is one of a number of strategies to ensure health equity is considered in the development of policies, programs and plans [14, 15, 22-32]. Though all HIAs should consider health equity, vulnerabilities and the distribution of potential impacts [33] in practice this aspiration has been difficult to realise [16, 22, 23, 34], often because it adds a layer of complexity to already time- and resource-constrained assessment processes [1].

HIA of health sector proposals

HIA has historically been principally regarded as a procedure and tool to promote inter-sectoral action for health [25, 35-39], for example calls for its use in *The Ottawa Charter* and

the WHO Commission on the Social Determinants of Health's final report [24, 40]. Most HIAs have focused on sectors such as land use planning, transport and social policy proposals rather than health sector policies, plans and programs [5]. Despite this trend, HIAs are also conducted on health sector proposals [41-46].

There has been a recognition amongst researchers and policy-makers that even though HIA may be most used in inter-sectoral settings, there is still value in assessing the population-level impacts of health sector initiatives [1, 47]. This is because while health sector plans explicitly seek to address health needs and health outcomes, they may not have fully considered impacts on health equity for a number of reasons. These may include the lack of opportunities to examine differential impacts within and between population sub-groups during planning and policy development, or time to consider how aspects of the design and implementation of health sector proposals could exacerbate health inequalities and increase the social gradient in health [32] by benefitting healthy people more than those with poor health [15, 44].

A good example of the recognition for this need to look at health sector initiatives comes from the setting for this study. The New South Wales *Health and Equity Statement* from 2004 called for the development of "a process for undertaking Rapid Health Impact Appraisals within NSW Health to identify the health impact of existing and new policies" [48]. This was distinct from more comprehensive approaches to HIA that the *Statement* recommended be used intersectorally. EFHIA, in particular ones that are conducted rapidly, have been recommended as a mechanism to address this need [16, 22, 24, 25, 28, 36, 49].

The need to demonstrate effectiveness

There have been calls for research to focus on the effectiveness of HIA and EFHIA if its use is to become more widespread and to justify investment in this process [1, 50-55]. Health systems and governments are resource-constrained, and interventions are increasingly expected to demonstrate their utility [24, 56]. Whilst there are a growing number of case studies demonstrating HIA's effectiveness in various contexts [57-69] it is still unclear whether and under what conditions EFHIA can be effective [1, 23, 49].

What is meant by effectiveness in relation to HIA, and impact assessment in general, remains difficult to assess. At one level the effectiveness of HIA can be said to be measured on the basis of whether an HIA's recommendations were accepted, adopted and implemented. At another level it can be said to require a much broader conceptualisation of effectiveness that encompasses direct and indirect, immediate and longer term impacts [68]. The tension between these approaches to thinking about HIA's effectiveness led the authors to build upon previous approaches to evaluating HIA [59, 62, 66, 70-72] to develop a conceptual framework that encompasses a broad range of contextual, process and potential impacts factors (see Figure 1).

[INSERT FIGURE 1 AROUND HERE]

The process for developing this framework [68] highlighted that measures of effectiveness that focus simply on the extent to which an HIA's recommendations are implemented misses many of the most important and valued impacts stemming from an HIA. These include factors such as changes to ways of working, learning, and engagement and collaboration. This view is consistent with the discussion and conclusions of other research on the effectiveness of HIA [3, 63, 70, 72].

This paper reports on the first known study to draw on several EFHIA case studies in order to identify EFHIAs' potential impacts on decision-making and implementation in health service planning. It tests the conceptual framework for evaluating the impact and effectiveness of HIA (see Figure 1) [68] to see if it applies to EFHIA and to identify what modifications may be required, as well as identifying factors that may promote and impair the impacts of EFHIAs on decision-making and implementation.

The context for this study

The three EFHIA cases in this study were undertaken in New South Wales (NSW), an Australian state with 7.3 million residents, the majority of whom live in its capital Sydney. In Australia health service delivery is largely the responsibility of state and territory governments, with the Federal government funding a range of primary health, disability and aged care services. Two of the EFHIAs were conducted within the NSW Ministry of Health (at

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that time called the NSW Department of Health) and one was conducted in an Area Health Service, which are semi-autonomous regional health organisations overseen by the Minister of Health.

The use of EFHIA was pioneered in Australia, Wales and other parts of the United Kingdom [15, 16, 27, 33, 44, 49, 73] and has subsequently been modified and adapted for use in different countries and contexts [22, 23, 28, 74]. It has evolved into a specific model of practice in NSW, and has tended to be conducted as rapid appraisals on health sector proposals [49]. In all three cases in this study the EFHIAs were conducted as rapid assessments and involved an integrated appraisal step (combined identification and assessment steps) [10, 15]. The case studies ranged in duration from the shortest taking six days to conduct, through to the longest taking almost twelve months to complete (though this was due to delays within the process, the EFHIA still followed a rapid structure [10]).

All three EFHIAs were undertaken during a period of considerable change for the health services in Australia, some initiated through a series of NSW State Government reforms [75] and some brought about by changes in Federal Government health funding arrangements [76]. These had direct implications for the organisations and programs in each of these EFHIA case studies by both creating and impairing opportunities for change and innovation [77]. Though this context of organisational change had an impact on the EFHIAs and the implementation of their recommendations, in many ways periods of health system reform is becoming a normal, ongoing state for health systems in most developed countries [78, 79]. Public health system expenditure and health workforce challenges, coupled with broader financial and economic crises, have led to series of reforms across many countries [80]. As such even though these EFHIAs were undertaken within a period of changes to health service planning, the findings of this study will still have relevance to other contexts.

Research aims and questions

This paper reports on research that aimed to investigate whether EFHIA could improve the development and implementation of plans within the health sector; which changes occurred as a result of conducting and implanting the recommendations of EFHIAs; and whether EFHIAs are effective and under what circumstances. The research questions included:

1. What are the impacts of EFHIAs conducted on health sector plans?
2. How does EFHIA improve the consideration of equity in health planning?
3. What changes to the conceptual framework [68] are required to evaluate at the impact and effectiveness of EFHIAs, if any?

Methods

Study methodology

This study was informed by an interpretive description research paradigm. This approach emphasises an in-depth and nuanced contextual description that draws heavily on interpretation and experience in order to understand practice issues [81, 82]. The overarching methodology for this study was retrospective case study of three completed EFHIAs. Yin's approach to case studies [83] was followed because it facilitates explanation of the complex causal links in real-life interventions, in this study EFHIAs; description of the real-life context in which the intervention has occurred, in this context the NSW health system; description of the intervention itself, i.e. how the EFHIAs were conducted; and an exploration of those situations in which the intervention being evaluated has no clear set of outcomes, i.e. the broad range of potential changes that might or might not be attributed to the EFHIAs [83].

The cases were identified purposively [84], which involved selecting cases to “illuminate, by juxtaposition, those processes and relations that routinely come into play, thereby enabling ‘the exception to prove the rule’” [85]. Purposive sampling is most useful when one needs to study specific organisational or decision-making contexts with knowledgeable experts involved, as was the case in this study [86]. Cases had to be:

- Rapid EFHIAs that had been completed between 2006 and 2008;
 - Conducted on health service plans;
 - Conducted in NSW (the state where the authors are situated, have the strongest connections to health services, and to ensure broad similarity in the organisational context between cases);
 - A mixture of centralised (NSW Ministry of Health) and localised plans (HNEAHS); and
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- A mixture of effectiveness (EFHIAs that were regarded as having changed the health service plan and those that weren't).

Four potential cases were identified, with the three included in the study selected because they represented the broadest range across the criteria above.

The background of each of the individual EFHIA case studies and their subsequent impacts on decision-making and implementation are outlined in Boxes 1-3 in the results section. The findings across cases and the implications for the conceptual framework [68] are also presented in the results section.

Data collection

The qualitative data collection methods are outlined in considerable detail in Appendix 1 and Appendix 2 using the CORE-Q criteria for reporting qualitative research [87] and the RATS qualitative research review guidelines [88]. Fourteen participants were identified purposively to ensure a mixture of people responsible for developing the health service plan, those involved in the EFHIA, and those responsible for acting on its recommendations (several interviewees fell into multiple categories, see Table 1)

[INSERT TABLE 1 AROUND HERE]

Participants were approached to be interviewed by email (11) or phone (3) and all potential participants who were approached agreed to be interviewed (100% participation rate). Semi-structured interviews followed a guide (see Table 2) and where possible documents relating to the original plan, the EFHIA and subsequent implementation documentation were obtained (see Table 1).

[INSERT TABLE 2 AROUND HERE]

Analysis

Data from both the interviews and the documents were imported into NVivo qualitative data analysis software [89] and then coded using the conceptual framework as categories (Figure 1). The data were subsequently free coded [90] to establish:

- if there were distinct concepts in the data that didn't fit into the conceptual framework;
- if there were concepts in the conceptual framework that weren't found in the data; and
- what topics were discussed in uncoded or sparsely coded portions of the data (portions of the interviews and documents with only one code or no coding after the initial coding pass).

Though this was not a grounded theory study, the constant comparative method informed the approach to coding by identifying any differences between respondents based on their role in the EFHIAs, and differences between the three EFHIAs (see Table 1 for an overview) [91].

The interview data was broadly similar in format as the interviews were structured around a semi-structured interview guide (see Table 2). The documents took quite differing forms; some were detailed textual descriptions whereas other documents were tables describing activities. These data was coded using the same process and approach as for the interview data but with specific reference to considering what information that might be expected was excluded as well as included in the documents. The importance of this approach is emphasised in the literature on document analysis [92].

Validity enhancement activities were undertaken through a "coding workshop" and checking coding with other two other researchers. A thirty-minute coding workshop was undertaken with six social researchers looking at two one-page excerpts from two separate interviews. The data was discussed along with what major themes were present. The workshop also discussed how these data might be coded against the conceptual framework [93, 94]. A sample of the data (three interviews, the longest one from each case) was coded by two other researchers, one with a familiarity with HIA but not the cases in question and another with no background in HIA but with familiarity with health service planning. The range of codes identified was similar and a limited number of differences in coding were resolved through discussion. Both these activities were undertaken to ensure broad similarity and agreement on coding and that major emergent themes were identified.

The overall analytic approach and validity enhancement measures adopted are described in detail in Appendices 1 and 2.

Ethics approval

Ethics approval for this research was obtained from the University of New South Wales' Human Research Ethics Advisory Panel I: Social and Health Research (9_08_121).

Results

Results from this study are presented in two sections – a section describing each of the three case studies and their impacts on decision-making and implementation, and then a section describing results across cases. The categories and sub-categories developed through coding the qualitative data (coding nodes) are described in Appendix 3 [90, 95].

Case descriptions

The EFHIAs each had differing degrees of perceived effectiveness. A description of each case, its context, EFHIA process and subsequent impacts are included below. Each case description outlines the factors have played a role in enhancing or limiting the impact of the EFHIAs on decision-making and implementation.

Case study 1: The Good for Kids, Good for Life EFHIA

Good for Kids, Good for Life was a four-year population level, multi-pronged childhood obesity initiative in Hunter New England Area Health Service (HNEAHS). The initiative received \$7.5 million in funding from the NSW Department of Health and the local Area Health Service. It was a significant program with school, child-care, health service and social marketing components. A rapid EFHIA was conducted between 2007 and 2008 to assess potential differential health impacts on Aboriginal children and young people to ensure the program did not exacerbate existing inequalities between Aboriginal and non-Aboriginal children.

The EFHIA drew on information from over 50 Aboriginal community consultations that were conducted in 30 Aboriginal communities across HNEAHS; population profiles of Aboriginal communities across HNEAHS; and a two-day appraisal workshop with experts and key

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stakeholders. The EFHIA sought to identify factors that would facilitate or hinder Aboriginal children's capacity to participate in the *Good for Kids, Good for Life* program, to eat healthily and to be active. It did not seek to address other potential inequities that could arise from the initiative in terms of age, gender, socioeconomic status or location, except insofar as these were considerations within Aboriginal population sub-groups.

The EFHIA recommended over 80 modifications to the program focused on providing education on nutrition, working through schools, addressing transportation barriers to healthy eating and physical activity, providing weight management advice and ensuring that participation in the program did not incur any direct costs for children or families. The EFHIA steering group also developed substantial guidance based on ten major themes on how the program could best work with Aboriginal communities, including ongoing consultation, use of culturally appropriate materials and working with well-known Aboriginal role models. The EFHIA recommended incorporating additional settings be added to the program's settings-based approaches (e.g. Aboriginal Community Controlled Health Organisations) [96] and amending policy templates and resources to improve cultural appropriateness.

All the EFHIA's recommendations were implemented to some extent and documented in revisions to the *Good for Kids, Good for Life* program plan, a detailed implementation plan that was regularly and formally reviewed as part of the program's implementation. The EFHIA was recognised more broadly by receiving the 2008 New South Wales Health Minister's Award for Aboriginal Health. The NSW Minister for Aboriginal Affairs, Paul Lynch, commended the EFHIA, saying "this project brings together a variety of agencies, community groups and industry to provide practical information... to make it easier for Aboriginal children to be active and eat well" [97].

Factors that facilitated the impact of the EFHIA on decision-making included:

- A high level of involvement of the Good for Kids program management in the EFHIA; and
- The commitment of the organisation to act on the findings of the EFHIA.

Factors that impaired the impact of the EFHIA included:

- Many aspects of the broader *Good for Kids, Good for Life* program had already begun implementation before the EFHIA was completed, potentially limiting the nature of changes and modifications that could be made to the program; and
- The HIA's focus on Aboriginal children and family limited the extent to which other potential health equity impacts could be addressed, though several interviewees suggested that if the program worked to address the needs and concerns of Aboriginal people, the needs of other disadvantaged groups would be indirectly addressed as well.

Case study 2: The New South Wales Australian Better Health Initiative Implementation Plan EFHIA

The Australian Better Health Initiative (ABHI) Implementation Plan was developed as part of a Council of Australian Governments (COAG) package aimed at achieving better health for all Australians through a focus on the prevention and early detection of chronic disease [98]. There had been an increasing recognition by both state and federal governments that there was a need for sustained investment in prevention in order to address issues such as healthy ageing, workforce health and productivity, increases in rates of chronic disease and risk factors associated with chronic disease, and widening health inequities. Combined, these issues had the potential to undermine the sustainability of the overall health system by increasing the burden on acute care services. As part of its response to the overall ABHI plan, NSW Treasury allocated \$20.1 million in new funding to be used over four years to enhance programs for promoting healthy lifestyles and supporting healthy lifestyle and risk factor modification. This represented a substantial increase in funding for preventive health in the state, and importantly it was a new pool of funding.

The NSW Ministry of Health (at that time the Department of Health) developed a series of initiatives within a very short timeframe, in order to respond to the deadlines imposed by the COAG planning process. These draft initiatives were included within the Implementation Plan and circulated to key stakeholders for comment, which led to the suggestion that an

EFHIA could be undertaken on the proposals. The Ministry of Health agreed to the EFHIA provided (i) it could be done within 4 working days as the final document needed to go to the Minister of Health three days after this deadline, (ii) did not suggest new strategies but made recommendations on how existing strategies could be strengthened or modified, and (iii) did not recommend changes in funding levels. Issues related to Aboriginal health were excluded from the EFHIA as these were being covered through a separate Aboriginal Health Impact Assessment process [99].

The EFHIA was scoped to look at two components within the ABHI implementation plan (promoting healthy lifestyles and supporting lifestyle and risk modification), in order to respond within the timeframes available. The EFHIA drew on a rapid review of the literature, a one-day workshop with seven key stakeholders from government and universities in NSW and Victoria. The EFHIA recommended a series of changes to items within the implementation plan. These recommendations were aligned to the existing structure of the implementation plan. For each item within the implementation plan the EFHIA included one page outlining:

1. What is the initiative trying to do?
2. Is there evidence of inequity?
3. Who may be disadvantaged by the initiative?
4. Are there likely to be unanticipated impacts?
5. What are the key recommendations for implementation?

The extent to which the EFHIA's recommendations were implemented remains contested and unclear. Some of the people interviewed indicated that there were clear changes to planning and implementation that could be attributed to the EFHIA. Others reported that these changes would have been made anyway as part of routine planning and program development processes, and that many of the changes to implementation could not be attributed to the EFHIA but to other contextual factors.

Factors that facilitated the impact of the EFHIA on decision-making included:

- A willingness and openness by the Ministry to have the draft implementation plan reviewed; and
- Adapting the EFHIA process to respond to time pressures.

Factors that impaired the impact of the EFHIA included:

- The limited number of people directly involved in the EFHIA process and that these people did not directly include the people responsible for implementing the EFHIA's recommendations, due to a number of timing and decision-making contextual factors; and
- Individual responses influenced how the EFHIA's recommendations were received, in particular the extent to which the EFHIA was perceived to be unduly critical.

The process this EFHIA followed and its impacts on decision-making and implementation have been described in considerable detail in a paper in *the International Journal for Equity in Health* [49].

Case study 3: NSW Sexually Transmissible Infections Strategy EFHIA

The *NSW Sexually Transmissible Infections Strategy 2006-2009* was the first STI strategy to be developed in NSW. The strategy identified a number of priority groups: Aboriginal people; gay and other homosexually active men; young people; sex workers; people with HIV/AIDS; people who inject drugs; and heterosexuals with recent partner change. These priority populations were identified based on epidemiological evidence about groups with higher rates of STIs, groups with relatively lower rates of STIs where the rate has been increasing, and groups identified as having relatively higher numbers of sexual partners.

The strategy set out a number of areas for activity, including:

- promoting general STI awareness;
- working with primary health care providers (general practitioners);
- prioritising access to and the focus of publicly funded sexual health clinics to those priority groups described above;

- promoting STI testing;
- improving contact tracing;
- strengthening health promotion programs around sexual health;
- developing the workforce; and
- research and surveillance priorities.

The EFHIA was suggested as an activity within the NSW Health Public Health Officer (PHO) Trainee program, which trains a cohort public health officers within the NSW health system in a broad range of public health skill areas. The strategy was identified by the manager of the PHO Trainee program in conjunction with the manager of the AIDS and Infectious Diseases Branch as being appropriate for an EFHIA. This was because it was undergoing a mid-term review in 2008, which allowed an opportunity for the EFHIA to guide and inform any changes that might be required whilst having a clear and well-structured strategy to assess. The stated objectives of the EFHIA were:

- To create a learning based exercise for the NSW Health Public Health Officer trainees;
- To review the policy and make equity-based recommendations to support the development and implementation of the next strategy; and
- To engage the AIDS and Infectious Diseases Branch within the Centre for Health Protection in the use of EFHIA.

The EFHIA was conducted following a rapid process with three workshops over a two-week period – one for screening and scoping, one for identification and assessment, and a final one for development of recommendations. Between the workshops three of the PHO Trainees undertook a rapid review of the literature and compiled a profile of STI transmission in based on NSW Health data, with a focus on identifying sub-populations with high rates of STIs and new and emerging patterns of infection. The participants numbers varied across the three EFHIA workshops but included a mix of PHO trainees and staff from the Centre for Health Advancement and the AIDS and Infectious Diseases Branch within the

Ministry of Health. The PHO Trainees had all previously received 4 hours introductory training in HIA. Technical procedural support for the EFHIA was provided by a lecturer from the University of New South Wales with a background in health impact assessment.

The EFHIA made a number of recommendations, which lead to an increased emphasis on access to services by groups within priority populations, such as Aboriginal communities in regional and rural areas. It also strengthened the Strategy's emphasis on working with primary health care as the principal mechanism to address issues of access for advice and treatment, as well as identifying people at risk.

Factors that facilitated the impact of the EFHIA on decision-making and implementation included:

- The willingness of the AIDS and Infectious Diseases Branch, who were responsible for revising and implementing the strategy, to have the EFHIA conducted and to participate in the process;
- The availability of PHOs to assist in the EFHIA and their diverse range of skills; and
- A clear, structured proposal to assess in the form of the strategy.

Factors that impaired the impact of the EFHIA included differing perceptions of the purpose of HIA, with some participants regarding it solely as a training exercise with no scope to change the proposal, whereas others regarded it as a legitimate activity with scope to affect change (notably including the AIDS and Infectious Disease Branch, who were responsible for implementing the proposal). The EFHIA was conducted to inform a mid-term review and as such there was not as much scope to alter fundamental aspects of the Strategy as there might have been if it was a newly developed strategy, though this needs to be balanced against the greater detail that was available to inform the assessment.

There were challenges reconciling conceptual differences between an equity analysis based on potential dimensions of within-population inequity (the EFHIA looked at differences in terms of age, gender, socioeconomic position, location, existing levels of health and

disability, sexuality, etc.) and a strategy that was developed with close attention to empirical data on the prevalence and transmission of STIs within specific populations (the STI strategy was developed to target specific priority populations, as well as strengthening health service links). This involved re-examining knowledge and assumptions about STI priority populations, as well as considering within-population differential impacts that could arise as a result of the policy.

Results across cases

The conceptual framework for evaluating the impact and effectiveness of HIA (see Figure 1) was used to structure the presentation of results across the cases [68]. This framework has been used elsewhere to frame analysis and discussion of HIA case studies [100] and looks at a broad range of context, process and impact factors that influence, and are influenced by, HIAs. This structure was also used because one of the aims of this paper was to examine what changes to the conceptual framework were required when evaluating the impact and effectiveness of EFHIA, as distinct from HIA.

Context

Decision Making Context

At a broad level there was a lot of similarity between the three case studies' decision-making context, which reflects the purposive nature of the case selection (see Methods). All cases were EFHIAs conducted on NSW health sector plans within a two-year period. Two of the case studies were from within the central Ministry of Health office; one was conducted within a local health district.

There was broad consistency in the approach to health service planning across all cases, which involved developing draft plans; consulting with a number of internal and external stakeholder groups; and reviewing related guidance, evidence and best practice. All three cases took place within a period of significant organisational change in the NSW health system, as discussed in the background section.

Purpose, Goals and Values

Purpose

Agreement or disagreement about the purpose of the EFHIAs was a significant factor that affected how the EFHIAs were conducted and its recommendations received, and the issue was relevant in all cases. Only one of the EFHIA reports stated its purpose clearly and unambiguously. Interviews highlighted that there was considerable variation about the NSW STI Strategy EFHIA's perceived purpose, specifically about whether its main purpose was to be a training activity or to inform the development and implementation of the Strategy. There was also some variation between interviewees about the perceived purpose of the ABHI Implementation Plan EFHIA:

"[The EFHIA was] a kind of a training opportunity for the Public Health Officer trainees in the first instance. So that was kind of its primary purpose and then it had a happy spin off of being something that could usefully inform our work."

NSW STI Strategy EFHIA interviewee

"There are quite dichotomous views about what people believe about HIAs. Some people believe there is a place [for HIAs], blah, blah, blah and they're fantastic. Other people believe [these issues are addressed as] part of a good planning process, and there's some there are in between those two.

ABHI Implementation Plan EFHIA interviewee

Goals

The goals of the EFHIA were not clearly stated in the documentation for two of the EFHIAs, though the goals of the original plans were articulated in all three cases. Goals were implied rather than stated in the interviews.

Values

There was explicit reference to equity in all three cases, mostly through the language used in the interviews. This may be unsurprising given they were all EFHIAs and equity is an explicit value described in the title of the process. There were very few instances of the explicit description of values in the documents analysed. There was considerable overlap in the way the purpose, goals and values of the EFHIAs were discussed in the interviews and documentation. A number of interviewees suggested that the EFHIAs may have had an impact on participants' values, but also identified this as an area of conflict or change that failed to eventuate.

It would have been a success if that was the case, you know, those sort of what we call a, you know, a more indirect impact around values, changes and stuff like that. That I would consider that as a success.

NSW STI Strategy EFHIA interviewee

Parameters

Decision-making processes

There was recognition in almost all interviews that the EFHIAs took place within broader decision-making processes, such as funding agreements between organisations. The documents described these decision-making processes well, as they provided clear boundaries for the scope of the EFHIAs. Several interviewees described this as a factor that facilitated the EFHIA by making clear what decisions had already been made and which were still possible to influence or change.

So we obviously need to be really clear from a Department point of view about what you could comment on, and what you couldn't comment on.

ABHI Implementation Plan EFHIA interviewee

Decision-makers

Decision-makers were consistently identified as a factor that set the boundaries in the EFHIAs before they had commenced. The extent to which the people who were in a position to act on the recommendations were receptive to an EFHIA being conducted in the first place was described as a significant factor that either helped or hindered all three EFHIAs, and seemed to vary between them.

The EFHIA happened after we circulated the plan for comment... [The EFHIA wasn't my idea, someone else] was pushing for the HIA.

ABHI Implementation Plan EFHIA interviewee

The HIA process was actually um... really useful for trying to, for demonstrating that we, as a project, were committed to, to listening and making changes.

Good for Kids, Good for Life EFHIA interviewee

Type of HIA

All three EFHIAs that were conducted rapidly, as that was one of the case selection criteria. The interviews confirmed that the desire to address equity well informed the very earliest decisions about whether to conduct the EFHIAs. All three EFHIAs were described as rapid and were intended to be conducted within short timeframes. The actual duration of the process varied markedly between the EFHIAs, ranging from a week to several months, though the amount of time invested, the approach to data collection and the use of rapid appraisal workshops to synthesise the evidence from multiples sources was quite similar across all three cases.

Timing of when the HIA is conducted

A significant parameter that was identified in the interviews, which had previously not been described in the conceptual framework (see Figure 1), was the timing of when the EFHIA was conducted. The extent to which an EFHIA was conducted at the right stage in planning was identified across all three cases as a critical factor that influenced everything that came

afterwards, including the process for the EFHIA being conducted but also extending to the extent to which recommendations were appropriate or addressing activities that were amenable to change. Whilst some of the interviewees recognised that there was value in having enough detail in the proposals to assess, most expressed concern that too many of the higher-level decisions about what the main features of the plans had already been made.

I would have said, “This is not a good thing to be doing an HIA on. It’s too complete, it’s too difficult to change. I understand that the idea is that you might be able to influence the next one, but it’s not an appropriate thing to be doing it on”.

NSW STI Strategy EFHIA interviewee

We actually started doing it after the project had already been commenced. But I think that was the difficulty. Because it was so hard to go back. And it should be something that’s done prior, whereas this wasn’t done prior.

Good for Kids, Good for Life EFHIA interviewee

Process

Inputs

Proposal

The timeframes for developing the initial plans that the EFHIAs assessed varied markedly, ranging from 2-3 weeks (the ABHI EFHIA) through to more than a year (Good for Kids, Good for Life EFHIA). Despite this all three cases had clear, well-described proposals to assess. The ABHI Implementation Plan EFHIA in particular had a clear proposal but also had a clear brief for the assessment team that set out the four components of the Implementation Plan that the Department agreed to being examined through the EFHIA.

I'm also not convinced that a rapid HIA on a document with only four pieces of the jigsaw puzzle was a good idea, would I do it for the next bit of the Implementation plan, I don't know. I like the idea of a rapid HIA, because then presumably it fits into all our timeframes, which are often unrealistically ridiculous... So one way I like the idea of that, I don't know.

ABHI Implementation Plan EFHIA interviewee

Capacity and experience

The experience, individual capacity and organisational capacity of those involved in the EFHIAs were described as a facilitating factors in all but two interviews. In all three EFHIAs the participation of people with experience in conducting EFHIAs, expertise in the proposal area and knowledge about related health equity issues was described as helping the EFHIA process.

I think as an experienced person when they try, you know instinctively, early on and try to see where things can go wrong. I could see the potential for absolute disaster going down a quite a sophisticated approach to the [assessment] matrix, so we used [an appraisal workshop]. Um, and ah, I think the EFHIA questions capture, they capture it, they capture the system.

NSW STI Strategy EFHIA interviewee

Another aspect of experience and capacity that was identified in the interviews was the involvement of the people who had developed the proposal being assessed. This involvement took different forms in each of the EFHIAs, largely due to competing time pressures. This extent of involvement assisted the EFHIA process but was also described as altering the way recommendations were framed and enhancing the impact of the EFHIA on decision-making and implementation. The EFHIA with the highest level of involvement of

those responsible for developing the proposal was the Good for Kids, Good for Life EFHIA. Four interviewees for this EFHIA described this high level of involvement as enhancing the process and impact of the EFHIA.

Yeah, yeah and once the recommendations were sort of offered and strategies presented back and negotiation around them to give them what we wanted. But they became a part of the program plan, so yeah that's sort of our main governing document. So if it's in the programme plan, they had to report on it to sort of their manager and then up to the program advisory committee.

Good for Kids, Good for Life EFHIA interviewee

Resources

Resources devoted to the EFHIAs took several forms including financial support, providing venues and logistical support for the appraisal workshops, and the provision of EFHIA technical and advice and support from the University of New South Wales. The most important resource discussed in the interviews however was the time of those involved in the EFHIA, most of which was paid by their employers. Two participants in the Good for Kids, Good for Life EFHIA were the only people in all three EFHIAs who were not participating as part of their paid employment.

Time

The time available to conduct the EFHIA was recognised as a significant factor that affected how the EFHIA was conducted. All three EFHIAs were rapid in nature, largely due to time pressures imposed by external decision-making processes. For example the bulk of the ABHI Implementation Plan EFHIA was completed in five working days in order to meet timeframes imposed by Council of Australian Governments (COAG) processes.

Yeah, the turnaround was ridiculous, and I certainly appreciate from our point of view it was going to be ridiculous, but even more so from the people who were doing [the EFHIA], it was going to be ridiculous.

We were given a very tight timeframe of when things needed to be approved by the Department, and ah, that was tied up to some extent in the COAG process.

ABHI Implementation Plan EFHIA interviewee

The Good for Kids, Good for Life EFHIA also had time pressures on it, given the program was being implemented at the same time that the EFHIA started. However instead of compressing the time available several people involved in developing and implementing the plan recognised there was a need to invest in understanding the EFHIA process and building trust with members of the EFHIA advisory group. Though this explanation and trust-building took some time, the EFHIA itself remained rapid in nature.

We had an advisory group in place um that advised on a range of things that relate to how we interact and operate with Aboriginal communities in the region. And we needed to sell this idea to them. And that was a bit of work. And it's, ah, it's a, the, the process they needed to understand and that took a while. But also they needed to be able to see what benefits it was going to bring in the long term and why it was worthwhile participating in this process. And that, that was hard work.

Good for Kids, Good for Life EFHIA interviewee

Organisational arrangements

Existing organisational arrangements significantly affected the process across the three EFHIAs. Both the NSW STI Strategy EFHIA and the ABHI Implementation Plan EFHIA mostly involved stakeholders within the NSW health system. This provided a clear context for why the proposals were important and provided an impetus and a degree of assumed agreement about their participation in the EFHIA. It also meant there was some degree of recognition of the importance of health equity and the NSW health system's commitment to it as a value informing health service planning and delivery [48].

The Good for Kids, Good for Life EFHIA involved a greater number of external stakeholders including Aboriginal community controlled health services, the state government departments for education and community services, Aboriginal health workers within the health system, and community representatives. They had to invest much more time explaining the proposal to stakeholders and why their participation was important, compared to the other two EFHIAs in this study.

Individual agency

Several interviewees emphasised the difficulties in engaging in a process that was not their choice to undertake or which they described as being thrust upon them. This lack of control or agency was often described when they were explaining why the EFHIA had limited impacts or wasn't well aligned with decision-making processes. Conversely, in the interviews where people said they played a role in initiating or voluntarily participating in the EFHIA they described this as leading more easily to implementing the EFHIA's recommendations, illustrating both aspects of the role individual agency played in the EFHIAs.

Okay, when HIA came up, we'd only heard briefly about it. I'd heard about it. I'd never worked on a HIA before in that context... One of the things that can be a bit daunting too, and I'm going to make a sort of assumption statement now, one of the things that can be quite daunting is someone from the [university] comes in and says, 'you beaut, great, fantastic tool to use'. If you haven't had experiences with that before, often you'll think, 'well, yeah, okay lets run with it'.

Good for Kids, Good for Life EFHIA interviewee

This item was not in the original conceptual framework (see Figure 1) but arose consistently in interviews as a distinct factor that influenced how the EFHIA was conducted, how its recommendations were received, and the extent to which it has an impact on subsequent decision-making and activities.

Procedure

Fidelity

In all three EFHIAs there was a high degree of adherence to established guidance on the procedural aspects of EFHIA. The only difference to the process described in some HIA guidance was that all three involved an integrated appraisal step, rather than separating out identification and assessment [9, 10]. This meant that information on the likelihood and magnitude of potential impacts was assessed as it was gathered, using a collaborative group process [27, 73], rather than reporting all potential impacts and then assessing them as separate steps. This was described as being due to the rapid nature of the EFHIAs and does mirror the process described in the original EFHIA Framework [15].

Involvement of decision-makers and stakeholders

There was marked variation in the level of involvement of decision-makers and stakeholders between the EFHIAs. In the Good for Kids, Good for Life EFHIA people who had the capacity to alter the implementation of the program were actively engaged throughout the process. In the cases of the NSW STI Strategy EFHIA and the ABHI Implementation Plan EFHIA the people responsible for implementing and overseeing the development of the plan were not able to be actively involved in all aspects of the EFHIA process, in both cases due to competing time pressures and other activities associated with the plans being assessed.

This was identified in the interviews as a critical factor that has the ability to assist or impede subsequent impacts on decision-making and implementation.

Well, I think one of the things seems to be to have in the room, during the assessment phase, people who can influence the outcome, because a lot gets lost in translation, and it's actually the discussions around why you've come up with the recommendations which are important, and that if you're not involved in those discussions, it's not always obvious how you went from Point A to Point B. So I think that's important, but probably unrealistic in many situations, but as much as you can, to get people who can influence the implementation involved,

I think, because in a way, it was about improving the quality of the document, it was actually quite important to be able to debate some of the issues.

ABHI Implementation Plan EFHIA interviewee

Transparency

All three EFHIAs documented and reported on the process they followed well, and the description of the process followed in the interviews was consistent with that described in the EFHIA reports.

Trade-offs and review

These factors were included in the original conceptual framework (see Figure 1) but weren't found in either the interview or document analysis data in this study.

Impacts

Proximal Impacts

Informing decisions

All three EFHIAs were described as informing the thinking about the proposals assessed and informing subsequent decisions, though the extent and nature of that change varied a lot. The extent to which they informed decisions seemed to be associated with the level of involvement of those responsible for implementing the plans in the EFHIA process.

If [the EFHIA] had been built in earlier, I would have had more ownership of it. And certainly if anyone above me had built it in [to the planning process], I would have felt a greater sense of responsibility to act... So I think making sure the people at the right level are involved at the right, at an early stage.

NSW STI Strategy EFHIA interviewee

Although almost all interviewees described the EFHIAs as informing subsequent decision-making to some extent, this was not necessarily described as leading to changes to decisions and implementation.

Changing decisions and implementation

The extent to which the three EFHIAs in this study influenced subsequent decision-making and implementation varied markedly, even when described by interviewees involved in the same EFHIA. Only one of the documents available to be analysed had been formally revised following the EFHIA (The Good for Kids, Good for Life implementation plan). This document showed that all the recommendations in the report were clearly incorporated into the implementation plan. This process was described in interviews as involving a degree of modification and negotiation but also emphasised that once recommendations were contained in the implementation plan they would be monitored for progress and reported against.

But the, the beauty of it was that [the EFHIA] wasn't my responsibility any more. It was sort of becoming embedded across [the program]. Yeah, yeah and once the recommendations were sort of offered and strategies presented back and negotiation around them to give them what we wanted. But they became a part of the program plan.

Good for Kids, Good for Life EFHIA interviewee

It is more difficult to point to concrete changes arising from the other two EFHIAs in this study. Interviewees disagreed about the extent of change that could be attributed to the EFHIAs. Both plans undertook substantial changes in response to broader changes to the NSW health system following the EFHIAs, which limited the extent to which subsequent changes can be attributed to the EFHIAs.

The positive thing that came out of it for me was that ah we heard some things had been changed. The difficulty was, and um, was that we had no idea what had been changed and we had no access to the

documentation. And we had no access to the decision making around it.

ABHI Implementation Plan EFHIA interviewee

To be honest, I'm not sure that much else came out of it. I think, you know, given how difficult it was, I think just the fact that maybe some people might consider using health impact assessment and that we may have influenced the Strategy are not bad outcomes.

NSW STI Strategy EFHIA interviewee

Changes in health determinants

Three interviewees described addressing the determinants of health as an important intent underpinning the use of EFHIA, though they were not able to identify any changes to specific determinants arising from the EFHIAs they participated in. Two of the documents analysed made explicit mention of the determinants of health.

Predictive efficacy and achieving goals

These impacts were included in the original conceptual framework (see Figure 1) but were not found in either the interviews or document analysis. Predictive efficacy refers to the extent to which predicted impacts eventuated and achieving goals refers to the extent to which the stated goals of the assessment were met. Both these factors seem to have been of limited relevance in the EFHIAs in this study, though this may be due to the study's setting, i.e. rapid EFHIAs being conducted voluntarily rather than to meet a regulatory requirement.

Distal Impacts

Understanding

The EFHIAs were all described as leading to better understandings of how other agencies worked, and the pressures and concerns that informed health service planning. They also led to understanding of ways of working in partnership with other stakeholders.

[The EFHIA] made them think about and what our [Aboriginal communities'] way of doing business is. Don't like this approach, the major consultation processes that needed to be undertaken before it actually was, before it was to be done. And that's my recollection. I think I actually thought [the proposal] had some good points to it. I think it was a valuable process but it would be more valuable if it had been thinking about this stuff when they planned it.

Good for Kids, Good for Life EFHIA interviewee

The EFHIAs were also described as leading to better understandings of planning processes and how the plans were originally developed, though this view was contested in some cases.

Yeah, I think in hindsight, I would want to know more about why [we would] would want to do one, and what they hoped to get out of it, and I would want [people undertaking the EFHIA] to know more about what we would hope to get out of it, so that those misunderstandings or miscommunications didn't happen in the process.

ABHI Implementation Plan EFHIA interviewee

Understanding of health equity specifically

Understanding of health equity and the determinants of health inequalities was highlighted as a major impact of all three EFHIAs. This was described as better understanding of the (i) potential health inequities that could arise or be exacerbated as a result of the type of proposal being assessed, and (ii) the distribution of potential impacts amongst population sub-groups based on different approaches to disaggregation (age, gender, socioeconomic status, location, etc.).

This change was likely to be due to the explicit focus on health equity in all EFHIAs. The extent to which understandings of equity changed as a result of the EFHIA varied between the three case studies, and even between interviewees within each one. The level of involvement in the EFHIA process (being the person responsible for undertaking the EFHIA,

participating in the assessment/appraisal step, etc) seemed to be closely associated with the extent of improved understandings of health equity, though this was not universal amongst the interviewees.

Understanding of health equity in the context of health service planning was also recognised by interviewees as not being straightforward:

I think there is something conceptually difficult about saying, “Okay, well you’ve identified gay men and drug users but then, who among those groups and more, you know that sort of... how do you prioritise... I mean, you know, how do you, and clearly with gay men you could, you could prioritise young gay men or do you could prioritise homeless young gay men... It really adds a layer of complexity and it makes it quite hard to conceptualise what you’re trying to achieve.

NSW STI Strategy EFHIA interviewee

I think from my own learning, one of the things we learned, I learnt, was that we overlook gender as one of the dimensions or differential impacts that, throughout the document, particularly things referring to adults, they really treated men and women as if they’re the same thing, and we know that their participation and their engagement’s very different, but we don’t necessarily articulate that... That was an unexpected finding for us, is how easy it is to overlook gender.

ABHI Implementation Plan EFHIA interviewee

This item was not in the original conceptual framework but arose consistently in the interviews and documents reviewed. It was described separately and using different language than was used for other forms of understanding, such as understandings of the determinants of health or understanding how other agencies worked.

Learning

The rapid nature of the EFHIAs was recognised by interviewees as responding to the decision-making context but that this may also have impaired the extent to which learning could take place. The nature of learning that was desired and anticipated from the EFHIA also seemed to be varied, with some participants talking about how they hoped the EFHIA would provide technical insights whereas others hoped it would enable people to think about the proposals, and health service planning in general, in a different way. In particular there were differing expectations about the nature and extent of alternatives that might be considered. The EFHIAs were described by four participants as involving a learning new concepts or approaches to addressing health equity concerns.

We were able to enter into some discussions with them about what might be alternatives, so I think that in these sorts of environments, we've got an opportunity to influence the implementation. It's actually really important to have debate, and that's what I think the EFHIA allowed.

ABHI Implementation Plan EFHIA interviewee

It hasn't obstructed anyone, in getting them to reflect on their work, really, even if they weren't, you know, up-skilling in the process of HIA, they probably could have learnt a few things about equity considerations, and how to incorporate that, so I think that might have been a missed opportunity to engage people in the process, probably the rapid nature makes that a little difficult.

ABHI Implementation Plan EFHIA interviewee

Influencing other activities

The EFHIAs were described as having impacts on a range of other activities, principally in terms of related planning and implementation issues that crossed over with other parts of health services. This influence on activities could be regarded as both positive and negative.

In the ABHI Implementation Plan EFHIA this influence was described as impairing or undermining relationships and potentially limiting future collaboration.

[EFHIAs] can be used to change the way other sectors think about health and equity, like land use plans and that sort of thing, and I don't think this is something that is going to work with health plans which are already pretty good at health equity. This will probably make me think about how I can use this with local government more though.

ABHI Implementation Plan EFHIA interviewee

Ideally I would like to say that what came out of it was a better relationships I don't think that happened, but that would have been, in terms of my original thought at the beginning, that was one of the outcomes I had hoped would come out of it.

ABHI Implementation Plan EFHIA interviewee

In the case of the Good for Kids, Good for Life EFHIA it was described by all interviewees as opening up lines of communication within the program and clarifying decision-making and resourcing processes for those involved.

[The EFHIA] suited our purposes for making the programme culturally appropriate, but to do it on its own wouldn't have done that. We sort of had a sort of a line to three other areas, sort of. So having the consultation or a more comprehensive consultation [that was] being done at the same time. Having, um, Aboriginal people working on the program, so identifying staffing and, also having some sort of resourcing agreement that what came out of it was actually going to be resourced, and like where we can go and do it.

Good for Kids, Good for Life EFHIA interviewee

Engagement

The EFHIAs were described by five interviewees as offering more avenues for engagement and participation than would usually be possible in health service planning. This was seen as closely linked to the structured EFHIA process and the degree of collaboration it involved.

Lots of the strategy documents are about, you know, let's get a bunch of people together and we'll build a shared understanding and we'll make a commitment together to move forward with any existing funds, and that can be, be limited.

NSW STI Strategy EFHIA interviewee

I, don't think you can ever underestimate the need for a good process, an inclusive process, rather than just focusing on the outcome. I think both are important, so in that way I think HIAs, you know, are important and can be successful.

ABHI Implementation Plan EFHIA interviewee

Perception of HIA

Twelve of the interviewees described the EFHIA process changed their perception and understanding of HIA, and in particular EFHIA, and where it might usefully fit within future planning activities. Even in cases where the EFHIA was described as less successful this change in the perception of HIA was reported.

Individual responses

The second coding pass of sparsely coded or uncoded parts of the interviews during the analysis highlighted a number of sections in the interviews where people described how the EFHIA process had changed their perceptions, understandings and relationships at an individual level rather than an organisational one. The language used to describe this was distinct from how the interviewees described organisational responses or how they regarded the EFHIA process. It is important to note however that this individual response as a result of the EFHIA was only reported by six of the interviewees.

I don't I've already said this but in my head that many of them the areas that I probably overlooked the most would [have been] equity related.

Good for Kids, Good for Life EFHIA interviewee

It made me think about some of my kind of thinking.

ABHI Implementation Plan EFHIA interviewee

I wanted to understand the process because it was new to me , but it was hard and it involved a lot of these new ways of thinking about it, and I am an epidemiologist and I just wouldn't analyse it that way naturally, so I think it changed my sense of how I should think about these problems.

NSW STI Strategy EFHIA participant

This item was not in the original conceptual framework but arose across the three EFHIAs and seems to be related to several other factors in the conceptual framework and is described in greater detail below.

Other factors influencing the impact of EFHIAs

The other factors that emerged in the analysis as important factors influencing the extent to which EFHIAs appear to have an impact on decision-making and implementation were (i) timing and timeliness and (ii) the interplay between values, agency and learning.

The case studies highlighted the need to undertake the EFHIA at the right stage in broader decision-making processes, i.e. early enough to ensure they could usefully inform decision-making. The other aspect of this is timeliness, which was the ability to conduct the EFHIA within the timeframe required or imposed by broader decision-making and implementation processes. There was variation between the case studies in terms of both timing and timeliness and the interviewees did not always describe that timing and timeliness had been

well addressed within the EFHIAs. Whilst these factors weren't the sole predictors of subsequent proximal changes (see Figure 1) they were important ones. This also suggests that timing and timeliness are factors that need to be addressed during the screening and scoping steps for both EFHIAs and HIAs.

The case studies also highlighted the interplay between values, agency and learning as related factors that may facilitate or limit the extent of changes that can occur as a result of EFHIAs. The EFHIAs in this study all involved some examination of potential health inequalities and looking at their distribution, whether these inequalities could be mitigated, and whether they were unfair. In all three EFHIA cases this involved some degree of re-examining organisational and personal values in order to inform whether potential inequalities were unfair and unjust, as well as which potential impacts should be prioritised for action. This necessarily involved revisiting and articulating the values that informed the development of the proposals as well as which values would inform implementation. In this way values played an important role in mediating the potential impacts of the EFHIAs on subsequent decision-making and recommendations.

This examination of values was not necessarily welcomed by all interviewees, particularly in cases where they were not closely involved with the assessment process or in the decision to initiate the EFHIA. They described the EFHIAs as focusing on issues that were not relevant to the decision-making context or not understanding the broader context for the proposal being assessed. The extent to which interviewees were able to express individual agency by initiating the EFHIA or participating in the EFHIA process was also related to whether they saw the EFHIA as successful or not. In every case where the interviewee described the EFHIA as not being a success they were either (i) not involved in collecting and appraising evidence in the assessment process, or (ii) did not play a role in initiating or agreeing to the EFHIA being undertaken.

Individual agency and participation in the EFHIA was linked to values but also appeared to be linked to the nature of learning sought from the EFHIA. Those interviewees who reported being less involved in the process or that it was someone else's idea often described the EFHIA as inappropriately looking at options and implementation recommendations, whereas

they had expected the EFHIA would focus on technical assessment, rather than focusing on implementation, or act as a “learning activity” (a phase used by four interviewees).

I do remember getting it back and going hang on a minute, we gave you really clear parameters about what you’re allowed, or whatever, for want of a better word, ‘to look at’, and it came back saying that. I really believe that it did misrepresent our intention behind it, and why we’d given these parameters around what was fixed and what wasn’t fixed... I think it does misrepresent, and it was quite antagonistic

ABHI Implementation Plan EFHIA interviewee

The HIA was successful, but really just marginally so. The proposal was too developed and worked up to change much, and the equity, the equity issues were not glaringly obvious ones. It was hard for novices, I guess that’s really what we were, hard for us to assess when it was a learning activity.

NSW STI Strategy EFHIA

Conversely those who were actively involved in the EFHIA process through their own choice described gaining new ideas about how to approach the issue the proposal was designed to address and a new appreciation of equity, particularly in relation to the proposal area being assessed.

I think there’s real value in an equity-focused HIA, because I think it does try and make people understand what equity is about. But I do think it’s a very hard concept to grasp, and people look at it, and I think that really happened with this policy, people look at it and they see that you’ve created these priority populations, so therefore you must have considered equity. And trying to get people to dig underneath that, even really quite, you know, educated and intelligent people, can be quite difficult. Because, it’s complicated.

This suggested that there were different understandings about the nature of learning sought from conducting the EFHIAs, ranging from technical to conceptual and even social learning [101, 102]. A shared understanding about the learning desired from an EFHIA, or lack thereof, may have affected its subsequent impact on decision-making and implementation, or even have lead to conflict. This shared understanding about learning also appeared to be linked to the interplay between values, individual agency and learning in these cases. It is important to note that while this interplay affected how the EFHIA was perceived, the effect was not uniform. While most people who had either not been directly involved in the EFHIA or not initiated it described the EFHIA as having fewer impacts, not all did. Even those who were most critical identified a number of positive impacts arising from the EFHIAs, in particular in terms of understandings of equity.

Discussion

In public health effectiveness is generally regarded as “the positive program outcomes, minus the negative outcomes” [103, 104]. This way of thinking about effectiveness may be less relevant in relation to EFHIA, and HIA in general, because EFHIA is an intervention that attempts to influence attitudes, knowledge, decisions and implementation [68, 105]. The desired outcomes are multifactorial, not universally agreed and potentially contested [1, 47]. This challenges attempts to characterise EFHIAs as simply effective or ineffective, as the results of this study illustrate. Though this discussion section is grounded in the EFHIA case studies included in this study, the issues identified may be relevant to HIA practice in general.

Perceptions of effectiveness

The case studies showed that some tensions can arise through the HIA process [61]. In the EFHIAs examined these tensions appeared to be linked to three issues. The first of these are that there may be disagreements between stakeholders about the perceived purpose of the EFHIA and what form it should take [47]. Other research the authors have been engaged in

suggests that Australian HIAs may emphasise the importance of explicitly stating goals less than HIAs in New Zealand [106], and possibly less than other countries as well.

The second issue was the perception that an EFHIA's recommendations could have been identified through normal planning and implementation processes and that the EFHIA didn't necessarily have to be conducted to identify these [61]. In other words, that an EFHIA's recommendations are "common sense" (a phrase used by one of the interviewees). While some of the recommendations and distal impacts of the three EFHIAs included in this study [68, see Figure 1] could notionally be anticipated through "common sense" analysis, in practice they may have been difficult to anticipate. A similar phenomenon has been noted in other fields such as organisational psychology and management, with information and recommendations being discounted as obvious despite not having been considered in advance [107]. This suggests that what seems like "common sense" may not be obvious in the real world of planning and decision-making. The case studies highlight that there are considerable external pressures on planning activities.

The third issue is the interplay between values, agency and learning. These are all factors affecting the process and impacts of EFHIAs that arise early in the process. This emphasises the need to screen and scope the HIA in some detail and to explicitly define and discuss the purpose of the EFHIA, the values that underpin it and what is hoped to be learnt from it. Recognising individual agency appears to be important in this.

These three issues, about the perceived purpose of HIA, the "common sense" nature of HIAs' recommendations, and values, agency and learning lie at the heart of any appraisal of an HIA's effectiveness. They are also intrinsically linked to individual perceptions. Checking off an HIA's recommendations against a final implementation plan can indicate some of its proximal impacts [see 58 for an example of this], though this will only ever tell part of the story of an HIA's effectiveness. This highlights the need to collection information on perceptions of effectiveness as a part of any HIA evaluation, an issue that has been under-explored in the literature to date.

Changes to the conceptual framework

The results illustrate that most of the items in the conceptual framework for evaluating the impact and effectiveness of HIAs (see Figure 1) were confirmed in relation to EFHIAs of health service plans, however some new items were identified through analysis and some existing items in the framework were not confirmed. These are outlined in Figure 2.

[INSERT FIGURE 2 AROUND HERE]

The first new item added as a parameter is the timing of when the EFHIA is conducted. Previously this had been described as time, which was a process factor. The EFHIAs in this study however showed that there was another distinct factor at play, which involved the point in planning and implementation at which the EFHIA was undertaken. The timing was often dictated by external decision-making factors and needs to be understood as a broader parameter under which EFHIAs are undertaken. Similarly timeliness has replaced time as an input into the EFHIA process in the revised conceptual framework because it is not just the time required to undertake the EFHIA but the timeframes of the broader planning and decision-making processes the EFHIA seeks to inform. The case studies showed that it was important to respond to these broader processes when scoping the EFHIAs.

Individual agency was added as an input into the process, because the extent to which many interviewees felt that they had a choice to be involved in the EFHIA or to commission it appeared to be closely related to the extent to which they were receptive to its recommendations or assisted the EFHIA process. This manifestation of agency appeared to take place at an individual level, particularly when the EFHIA was regarded as someone else's idea or that someone else imposed their participation on them. This may also be linked to the increased focus on values and resource distribution that is specific to EFHIA, which may lead to examination of the values and assumptions underpinning planning processes.

Understanding of health equity was added under the distal domain as a new item because it was highlighted consistently throughout the interviews and documents analysed. This may be expected given EFHIA's explicit equity focus. It relates to improved understandings of

how plans may redress or exacerbate health inequities as well as specific equity issues that may arise in relation to potentially affected populations, for example the Good for Kids, Good for Life EFHIA showed how the original plan may have had a number of undesirable differential impacts on Aboriginal communities.

The other new distal impact that was added to the framework based on the analysis was Individual responses. These individual responses are both impacts themselves, i.e. the EFHIAs changed people's individual responses and attitudes in several cases, but they also served to impede or facilitate other related impacts, i.e. individual responses led to the recommendations being discounted or rejected. In this way individual responses are both a distal impact and a kind of effect modifier; they are changed by the EFHIA but also change the EFHIA itself. The interview data in particular showed that individual responses were important. Even though all the interviews were conducted a year after the EFHIAs were completed, there were sustained impacts on the individuals interviewed. This may highlight the importance of humans in the EFHIA process, which seems axiomatic but may be easy to overlook.

The original version of the framework emphasised organisational and structural factors relating to HIA but this study highlighted that the involvement and engagement of *individuals* is important in mediating the perceptions of effectiveness. This emphasises that EFHIA cannot be fully evaluated in only procedural or structural terms. Individuals play an important role in determining the impact and effectiveness of EFHIAs but also HIAs in general.

A number of factors were identified in the original conceptual framework that were not found or confirmed in this study (see Figure 2). They include trade-offs and review under the procedure domain and predictive efficacy and achieving goals under the proximal impact domain. These factors may still be important, they were just not confirmed within the context of this study. For example predictive efficacy may not be important as these were all voluntary decision-support EFHIAs not done to satisfy regulatory requirements.

Implications for EFHIAs of health service plans

This study aimed to investigate:

1. What are the impacts of EFHIAs conducted on health sector plans?
2. How does EFHIA improve the consideration of equity in health planning?
3. What changes to the conceptual framework [68] are required to evaluate at the impact and effectiveness of EFHIAs, if any?

The impacts of EFHIAs conducted on health service plans are broadly similar to those of HIAs, with some suggestions from the case studies in this study that they may have more direct impacts on understandings of health equity issues relevant to planning and implementation. It also has the potential to influence individual responses, though this is unpredictable and appears to be dependent on other factors such as the degree of agency and choice amongst those involved in the EFHIA. This is reflected in the revised conceptual framework (Figure 2)

EFHIAs appear to improve the consideration of equity in health planning, though this study is too contextually specific to demonstrate this systematically. The mechanism for improving consideration of equity through EFHIA appears to be linked to (i) promoting a clearer articulation of values that inform both the EFHIA and the broader decision-making process, (ii) promoting a clearer articulation of the purpose of the EFHIA and the proposal being assessed, and (iii) negotiating the nature of the learning desired from an HIA [technical, conceptual and/or social learning, see 47, 102, 108-110].

The conceptual framework requires some changes to adapt to the context of EFHIA. These are outlined in the previous section. The most significant change is to include items recognising the role and importance of individuals engaged in the process, alongside the existing structural and procedural factors.

This study suggests that EFHIA can improve health service planning but it is dependent on a number of factors. If there isn't agreement about the purpose of the EFHIA and some degree of expressed agency on the part of individuals involved, through direct involvement in the EFHIA process and some degree of choice to be involved, the extent of learning from

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the EFHIA and its impacts may be limited. As such EFHIA may lead to different learning about health equity issues when compared with normal planning practice, but it may also need to be regarded as a collaborative learning process rather than as simply a document or one-off activity.

Strengths and limitations of this study

This study focuses on the specific use of equity focused HIAs on health service plans in Australia and as such its findings are somewhat contextually-bound. As mentioned in the background section, these EFHIAs were also conducted during a period of reform within the health system, though ongoing processes of change and reform increasingly reflect the reality of health service planning in most countries. These EFHIAs were also rapid in nature and did not aim to comprehensively assess all potential health impacts. It is worth noting though that (i) these are real EFHIAs that were scoped to meet the needs and time pressures of real policy and program decision-making, and (ii) this limitation applies to all HIA case studies.

The findings will have relevance to HIA practice in other sectors and in other countries however, as well as to those with an interest in health service planning. The use of HIA in relation to health sector proposals clearly remains relevant based on these case studies, particularly when they look at the potential health equity impacts of proposals.

Conclusions

The case studies showed that the EFHIAs all had some impact on decision-making and implementation, though most clearly in relation to understandings of equity and options for modifying service plans to ensure this was addressed. Timing, individual agency and individual responses to the EFHIA were identified as factors influencing the impact of the EFHIAs. The case studies also showed that the conceptual framework for evaluating the impact and effectiveness of HIAs [68] has relevance to EFHIAs but requires some adjustment to account for EFHIAs' emphasis on health equity and conceptual learning.

This study suggests EFHIA has the ability to enhance health service planning but this is dependent on a number of factors. In particular, if an EFHIA is to result in significant learning beyond technical learning [49, 102, 110] there may need to be shared understanding and agreement about the purpose of the EFHIA at an early stage in the process. For an EFHIA to lead to meaningful learning about health equity issues it may be necessary to regard it as a collaborative learning process integrated into planning activities rather than simply being a document or a discrete activity that occurs separate to planning. Studies comparing plans that have had EFHIAs conducted on them with similar plans that are the result of normal planning practice will be important in order to establish if this is the case.

List of abbreviations

ABHI: Australian Better Health Initiative; COAG: Council of Australian Governments; EFHIA: Equity focused health impact assessment; EqIA: Equality impact assessment; HEIA: Health equity impact assessment; HIA: Health impact assessment; HNEAHS: Hunter New England Area Health Service; NSW: New South Wales, PHO: Public Health Officer; STI: sexually transmitted infections.

Competing interests

The authors declare no competing interests.

Authors' contributions

BHR conceptualised the study, undertook the data collection and analysis and drafted the manuscript. FH assisted with the analysis and revised the paper. JT assisted with the development of the manuscript. LK assisted with the study design and conceptualisation and contributed to the development of the manuscript.

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Table 1: Characteristics of interviews and documents included in the analysis

Case Study	Total number interviewed	Number interviewed involved in development of original plan*	Number interviewed involved in EFHIA process*	Number interviewed involved in implementing the EFHIA's recommendations*	Documents included in analysis
Case Study 1: The Good for Kids, Good for Life EFHIA	5	3	4	2	3 (original program plan, EFHIA report, implementation plan)
Case Study 2: The New South Wales Australian Better Health Initiative Implementation Plan EFHIA	5	3	3	3	2 (draft implementation plan, EFHIA report)
Case Study 3: NSW Sexually Transmissible Infections Strategy EFHIA	4	1	3	2	2 (draft strategy, EFHIA report)
Total Across Cases	14	7	10	7	7

* N.B. Several interviewees fit into multiple categories so the sum between columns exceeds the total number interviewed.

Table 2: Semi-structured interview guide

1) Tell me in your own words how the EFHIA was undertaken

(Prompt: And then what happened?)

2) What changed as a result of doing the EFHIA?

3) Was the EFHIA a success? Why?

4) In general, what would make an EFHIA successful?

Figure 1: Original Conceptual Framework for Evaluating the Impact and Effectiveness of Health Impact Assessment (Source: Harris & Harris-Roxas 2013)[68]

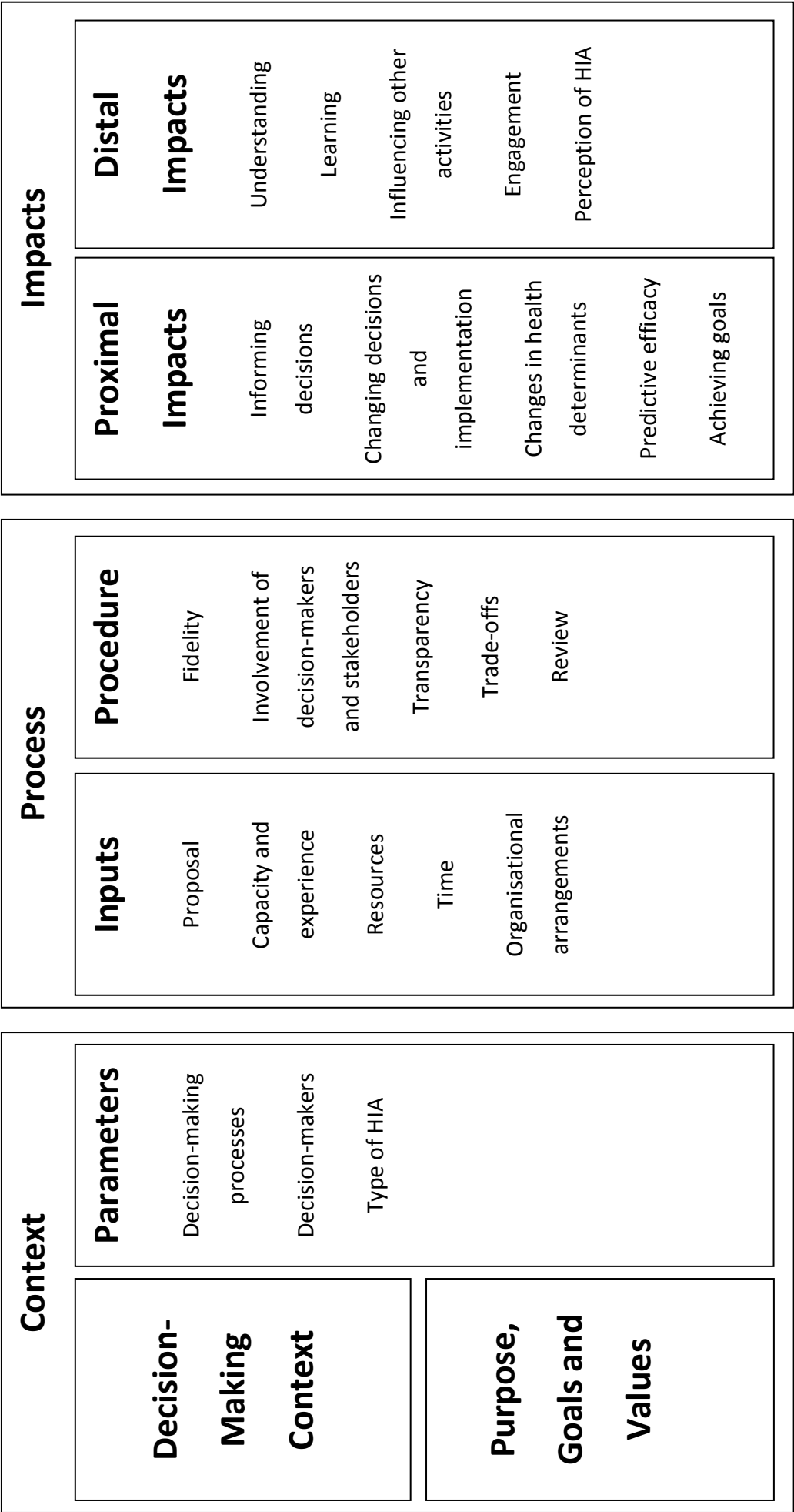


Figure 2: Revised Framework for Evaluating the Impact and Effectiveness of Equity Focused Health Impact Assessment



Notes: Bold text indicates changed conceptual framework elements. Items with [+] and green text are new framework elements. Items with [-] and red text are existing framework elements that were not confirmed through this study.

Appendix 1: CORE-Q Consolidated Criteria for Reporting Qualitative Research [87]

No	Item	Description
Domain 1: Research Team and Reflexivity		
Personal Characteristics		
1	Interviewer / facilitator	Ben Harris-Roxas
2	Credentials	Master of Policy and Applied Social Research, currently enrolled in a PhD
3	Occupation	Research Fellow, University of New South Wales
4	Gender	Male
5	Experience and Training	Has undertaken several qualitative studies, trained in interviewing, qualitative analysis and using NVivo [92]
Relationship with participants		
6	Relationship established	A relationship existed with 10 of the 14 interviewees prior to the interviews
7	Participant knowledge of the interviewer	Knew the researcher has worked on HIA and health equity for several years, the interviewer had contact with 10 of the 14 people interviewed through other activities than the EFHIA described
8	Interviewer characteristics	Is doing a PhD on EFHIA in health service planning
Domain 2: Study Design		
Theoretical Framework		

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9	Methodological orientation and theory	Interpretive description [111], case study methodology [83]
Participant Selection		
10	Sampling	Purposive
11	Method of approach	Emails (11 of 14) and phone calls (3 of 14)
12	Sample size	14
13	Non participation	No potential participants declined
Setting		
14	Setting of data collection	Participants' workplaces, in person or on telephone
15	Presence of non-participants	No
16	Description of sample	A mix of those who developed the health service plan, those who conducted the EFHIA and those who were responsible for implementing its recommendations in each of the three case studies.
Data Collection		
17	Interview guide	Provided in advance (see Table 2), piloted on 2 brief interviews not included in study
18	Repeat interviews	No
19	Audio/visual recording	Audio
20	Field notes	No

21	Duration	Mean 22 minutes, Range 16 minutes (min) to 40 minutes (max)
22	Data saturation	Yes, saturation across and within case studies was discussed by BHR and LK and by 14 interviews new categories and themes were not emerging.
23	Transcripts returned	No
Domain 3: Analysis and Findings		
Data Analysis		
24	Number of data coders	Initial coding was done by BHR making two coding passes of all data. The first pass of all interviews coded against the existing conceptual framework [68], the second pass was free coded to identify different or emergent themes or items. The four longest interviews were also coded by FH, as someone with expertise in HIA, and Mark Harris, as someone with expertise in primary health care and service planning but not HIA, to ensure compatibility and soundness of coding and that there were no additional themes that had not already been identified.
25	Description of the coding tree	Yes, see Appendix 3
26	Derivation of themes	Themes were derived from an existing conceptual framework [68] and also through open coding of interview transcripts and documents
27	Software	NVivo [89]

28	Participant checking	No
Reporting		
29	Quotations presented	Yes, selectively to illustrate analytic findings
30	Data and findings consistent	Yes
31	Clarity of major themes	Yes
32	Clarity of minor themes	No, the focus is on major analytic findings and higher-order changes to the conceptual framework

Appendix 2: Description of this study against qualitative research review guidelines – RATS [88]

Ask of the Manuscript	This paper
R Relevance of study question	
Is the research question interesting?	Research question:
Is the research question relevant to clinical practice, public health, or policy?	<ol style="list-style-type: none"> 1. What are the impacts of EFHIAs conducted on health sector plans? 2. How does EFHIA improve the consideration of equity in health planning? 3. What changes to the conceptual framework [68] are required to evaluate at the impact and effectiveness of EFHIAs, if any. <p>These questions explicitly address research priorities that have been identified in the literature [1, 3].</p>
A Appropriateness of qualitative method	
Is qualitative methodology the best approach for the study aims?	<p>This study is a multiple retrospective case study [112] of three completed EFHIAs. Data was collected through on semi-structured interviews with 14 participants and analysis of 7 reports and process documents (draft plans, EFHIA reports and revised plans) related to the EFHIAs and their implementation. Interviews were appropriate because this study seeks to understand perceptions of what changed through doing the EFHIAs and how this change occurred.</p>
T Transparency of procedures	
Sampling	
Are the participants selected the most appropriate to provide access to the type of knowledge sought by the study?	Purposive sampling of both case studies and of participants within case studies. The cases were selected to ensure they were EFHIAs of health service plans that had been conducted around the similar time (commencing in 2008), with similar levels of technical support and experience in EFHIA, and with differing perceptions of effectiveness, ranging from limited impacts on decision-making and implementation through to perceptions of significant impacts. Efforts were made to ensure that each case study included interviewees who were responsible for conducting the EFHIA, participated in the
Is the sampling strategy appropriate?	
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Ask of the Manuscript	This paper
	steering committee meetings, and who were responsible for acting on the EFHIA's recommendations.
Recruitment	
Was recruitment conducted using appropriate methods?	Participants were identified through documentation and initial discussions with people involved with each of the case studies.
Is the sampling strategy appropriate?	
Could there be selection bias?	All potential participants who were approached agreed to participate in the study. Participants were all actively involved in the EFHIA or in implementing its recommendations. No people were interviewed with limited involvement in the EFHIA case studies.
Data collection	
Was collection of data systematic and comprehensive?	<p>The interviews were semi-structured. Though the content of each interview varied all interviewees were asked:</p> <ol style="list-style-type: none"> 1) Tell us in your own words how the EFHIA was undertaken? 2) What changed as a result of doing the EFHIA? 3) Was the EFHIA a success? Why? 4) In general, what would make an EFHIA successful? <p>Additional related follow-up questions were asked based on the responses to these four questions.</p>
Are characteristics of the study group	The 14 participants were all people who had all been involved in the EFHIAs or been responsible for

Ask of the Manuscript	This paper
and setting clear?	considering and/or implementing the EFHIA's recommendations. 16 had backgrounds in health services, public health or health planning; 1 was a representative of an involved NGO.
Why and when was data collection stopped, and is this reasonable?	Data saturation was discussed between BHR and LK during the study. After 14 interviewees new themes both within an between case studies were not emerging.
Role of researchers	
Is the researcher(s) appropriate? How might they bias (good and bad) the conduct of the study and results?	<p>BHR had existing relationships with 10 of the interviewees and conducted the interviews. The authors have all previously been involved in HIAs, which may influence their understanding and expectations about what will come out of conducting HIAs. To address this BHR's qualitative coding was checked by FH and Mark Harris, a researcher with a background in health services research and primary health care but not a history of involvement in HIA.</p> <p>This study's methodology depended on existing relationships and the credibility of the researchers. Researchers without this background would have encountered greater reluctance from participants and organisations to take part in the study.</p>
Ethics	
Was informed consent sought and granted?	Written consent was obtained from participants. A written information sheet about the study was provided to each participant along with details of ethics approval.
Were participants' anonymity and confidentiality ensured?	Participants' anonymity was ensured in the participant information form. Transcripts were de-identified and quotes have only been selectively used to minimise any possibility of participants being identified.
Was approval from an appropriate ethics committee received?	Ethics approval was obtained from the University of New South Wales' Human Research Ethics Panel – Social/Health Research (9_08_121)
S Soundness of interpretive	

Ask of the Manuscript	This paper
approach	
Analysis	
Is the type of analysis appropriate for the type of study?	The analysis has two bases. Firstly it used an existing conceptual framework to identify and categorise potential factors and themes relating to the impact and effectiveness of the EFHIAs [68]. Secondly it used an open coding approach [90] to identify an additional or under-considered themes or factors.
Are the interpretations clearly presented and adequately supported by the evidence?	Where new interpretations are made these have been described in the body of the paper along with illustrative quotes from study participants' accounts.
Are quotes used and are these appropriate and effective?	Quotes have been used selectively to illustrate findings, partly to reduce repetition between quotes but also to minimise any risk of participants being identified through quotes.
Was trustworthiness/reliability of the data and interpretations checked?	Initial coding was done by BHR. The first pass of all 13 interviews and all 7 documents were coded against the existing conceptual framework [68] in NVivo [89], the second pass was free coded to identify different or emergent themes or items. The four longest interviews were also coded by FH, as someone with expertise in HIA, and Mark Harris, as someone with expertise in primary health care and service planning but not HIA, to ensure compatibility and soundness of coding. This process found consistency in the themes that had been coded and resulted in no additional themes being identified.
<i>Discussion and presentation</i>	
Are findings sufficiently grounded in a theoretical or conceptual framework?	This study is presented with reference to the existing empirical literature and uses methods accepted for evaluating the effectiveness of HIAs. Further it is draws in an interpretive description theoretical framework [81] and seeks to test a conceptual framework for evaluating HIA [68].
Is adequate account taken of previous knowledge and how the findings add?	
Are the limitations thoughtfully considered?	The strengths and weaknesses of this study are discussed in the text.

Ask of the Manuscript	This paper
Is the manuscript well written and accessible?	Yes, conforms with BMC Public Health manuscript requirements.
Are red flags present? These are common features of ill-conceived or poorly executed qualitative studies, are a cause for concern, and must be viewed critically. They might be fatal flaws, or they may result from lack of detail or clarity.	This study is based on interpretive description. As such it seeks to ground all interpretation in the accounts of participants and goes beyond description to provide an in-depth contextual description by drawing on the authors' interpretation and experience [81]. It does this by synthesising, theorising and recontextualising rather than simply sorting and coding [111] but this is required when conducting research on an evolving and practice-derived field such as HIA [68, 82].

Appendix 3: Coding nodes

	Nodes	Sub Nodes
Existing Conceptual Framework elements [68]	Broader Context	
	Distal Impacts	Engagement Influencing Other Activities Participatory Learning Perception of HIA Understanding
	Inputs	Capacity and Experience Organisational Arrangements Proposal Resources Time
	Parameters	Decision-Makers Decision-Making Processes Type of HIA
	Process	Involvement of Decision-Makers and Stakeholders Procedural Fidelity Review Trade-Offs Transparency
	Proximal Impacts	Achieving Goals Changes in Health Determinants Changing Decisions and Implementation Informing Decisions Predictive Efficacy
	Values, Purpose and Goals	
Nodes that emerged from free coding (see Richards, 2005 [90])		

Nodes	Sub Nodes
Amenability to Change	
Availability	
Barriers	
Changes during the HIA	
Chaos	
Cultural appropriateness	
Demonstrating	
Emotional Responses	Ambivalence
	Annoyance
	Comfortable
	Concerned
	Conflict
	Considered
	Criticism
	Disappointment
	Exclusion
	Frustrated
	Happy
	Resistance
	Support
	Suspicion
Enablers	
Equity Considerations in Planning	
Evidence	
Follow-Up	
Improvements to HIA	
Informed about what happened	
Involvement of assessors	
Memory	
Nature of recommendations	
Nature of report	
Opportunities	
Personalities	
Planning vs HIA	
Power	
Prompt Debate	
Rapid vs Comprehensive	
Relationships	
Subsequent changes	

Nodes	Sub Nodes
Successfulness Taken Notice Of Tangibility Terms of Reference Timing and Timeframes Understanding at other points in the HIA process Understanding of role Volition	Someone else's idea

Implications for theory and practice

An important lesson from this publication is that individuals matter in the process, impact and effectiveness of EFHIA. It is imaginable that one could undertake the perfect EFHIA process, perfectly resourced, within the perfect organisational context, at exactly the right time, using exactly the appropriate type of evidence to the decision-making context, and yet still end up with an EFHIA that has minimal impacts and which could be regarded as ineffective. This highlights the importance of individuals involved in the process, as well as their perceptions, attitudes, beliefs and responses. It also emphasises the importance of social constructionism and symbolic interactionism perspectives when evaluating EFHIA.

This serves to highlight the importance of understanding individual agency (Franzese 2013) in research on EFHIA and HIA more generally. This publication demonstrates that it is not possible to adequately describe the impact of EFHIA without examining the role of individuals. As has been noted in the recent literature on the importance of individual agency in public health (Veenstra & Burnett 2014), attempts to clearly delineate agency and structure (Bourdieu 1977) are rendered irrelevant in the face of the complex and necessarily adaptive nature of public health practice. Individual agency cannot be divorced from organisational and disciplinary contexts – both are intertwined.

This calls into question the emphasis within the HIA field on codes of conduct, professional practice standards, and discussion about approaches to evidence gathering (Rhodus et al. 2013, Bhatia et al. 2009, National Research Council 2011). Put simply, these may be missing the point. They represent only part of the overall picture for ensuring that HIA is used appropriately and successfully. A more nuanced recognition of the importance of context, processes, institutions and individuals is required.

Contribution to overall research aims and questions

This paper aimed to address all three of this thesis research questions:

1. What are the direct and indirect impacts of EFHIAs conducted on health sector plans?
2. Does EFHIA improve the consideration of equity in the development and implementation of plans?
3. How does EFHIA improve the consideration of equity in health planning?

The direct and indirect impacts of EFHIAs conducted on health service plans are outlined in the revised conceptual framework in Publication 7. EFHIA appears to improve the consideration of equity in the development and implementation of plans, taking into account the contextual limitations of this study. The mechanisms by which EFHIA improves the consideration of equity in health planning includes:

- Informing implementation;
- Consolidating understandings of equity;
- Enabling discussion of alternatives;
- Articulation of values;
- Time;
- Role of individuals;
- Conceptualisations of the purpose of EFHIA; and
- Learning.

Considerably more detail on these factors is included in the discussion chapter that follows, along with more information on the answers to this thesis' overall research questions.

Remaining questions

The questions that remain unanswered from this final publication lie largely outside the scope of this thesis. These include the need for studies that compare EFHIAs with routine planning practices, and comparisons between EFHIAs and related interventions such as equity lenses or integrated assessments (New Zealand Ministry of Health 2004, Lee 2006). This sort of implementation science-oriented comparative research (Damschroder et al. 2009) will be important in forming the next steps of the evolution of both EFHIA and HIA more generally, as outlined in greater detail in the discussion section for this thesis that follows.

Discussion

Summary of publications

This thesis is made up of 7 publications.

Publication 1 described the history and development of HIA, its current strengths and weaknesses, and priorities for improving the field.

Publication 2 provided an account of the development of HIA in Australia, the practice context, and the role EFHIA has played in catalysing its use in Australia.

Publication 3 detailed the use of HIA in a specific health service in NSW and my interpretive credibility as a practitioner-researcher. It formed part of a submission to the Australian Senate Standing Committees on Community Affairs' inquiry into the social determinants of health.

Publication 4 set out a typology for health impact assessment, which seeks to describe the diversity. This article has been cited 31 times since publication.

Publication 5 detailed a conceptual framework for evaluating the impact and effectiveness of HIA. It also described the process by which the conceptual framework was developed, which involved a literature review, a review of reports from a major HIA capacity building program, and a review of 7 HIAs.

Publication 6 provided one of the most detailed descriptions of the process and impact of an HIA in the peer reviewed literature, and one of the few pieces of research on EFHIA that has been published. It provided a grounded account of the factors that influence the impact of an EFHIA on subsequent decision-making, implementation and related activities.

Publication 7 described the impact of three EFHIAs on decision-making, implementation and understandings of health equity. The article also refined the conceptual framework presented in Publication 5 for use in relation to EFHIA

Findings from the publications

Four major findings emerge from the publications in this thesis. The first finding is that EFHIA should be understood as a learning activity. As discussed in several of the publications, EFHIAs are associated with not only technical learning but also conceptual and social learning (Glasbergen 1999, Muro & Jeffrey 2008, Fiorino 2001).

The second finding is that learning about equity issues requires an examination of the values that inform decision-making; both personal and organisational. Many of the values that underpinned the development of the proposals assessed in the EFHIAs included in this thesis were implied rather than stated. For example the NSW Sexually Transmissible Infections Strategy EFHIA had a clear concern about at-risk populations, though these populations were identified primarily based on epidemiological analysis of prevalence rates. A different values orientation may have led to identifying priority population groups in advance, such as culturally and linguistically diverse groups, Aboriginal communities, or prison populations. Neither approach is necessarily better than the other but they do involve examining the values that inform decision-making.

The third finding is that perceptions of EFHIA as a process can alter their subsequent impacts. If an EFHIA is seen as legitimate and valuable by decision-makers it has a greater chance of influencing decisions; if it is not it will face a more difficult task in bringing about change. These perceptions can change over time, often in ways that are hard to predict. As a consequence evaluations of EFHIAs need to examine changes in perception over time. The perception of HIA

has also been recognised as an effect modifier in other studies (Ward 2006, O'Mullane & Quinlivan 2012, Bekker 2007).

The fourth and final finding is that timing and involvement in the EFHIA process are important success factors to maximise EFHIA's subsequent proximal and distal impacts. Timing and involvement in the process may be intertwined factors. The involvement of decision-makers in the EFHIA process may enable greater timeliness and responsiveness by explaining the decision-making processes the EFHIA seeks to inform. Similarly, the timeliness of an EFHIA may enable decision-makers to participate in the EFHIA and act on its recommendations. This mirrors the findings of the recent review of 55 HIAs that were completed in Australia and New Zealand between 2005 and 2009 (Harris et al. 2013a, Haigh et al. 2013b, Haigh et al. 2013a, Pollack et al. 2011).

Revisiting the research aims

This thesis had several aims. The first was to investigate whether and to what extent equity focused health impact assessment (EFHIA) can improve the development and implementation of plans and strategies within the health system. The case studies included in this thesis demonstrate that EFHIA does have the capacity to improve the development and implementation of health plans, though the question about extent of change that can be attributed to EFHIA remains contested (see Publications 6 and 7 in particular). This is consistent with the findings of other research on HIA in New Zealand that I have been involved in, which found that it was unclear whether the changes that seemed to be due to the HIA would have occurred anyway (Mathias & Harris-Roxas 2009). This also reflects the findings of the Cost Benefit Analysis of HIA that was undertaken in the UK (O'Reilly et al. 2006). The HIAs

analysed were all highly valued by those involved⁴, though it was very hard to point to changes that could be attributed to the HIAs alone.

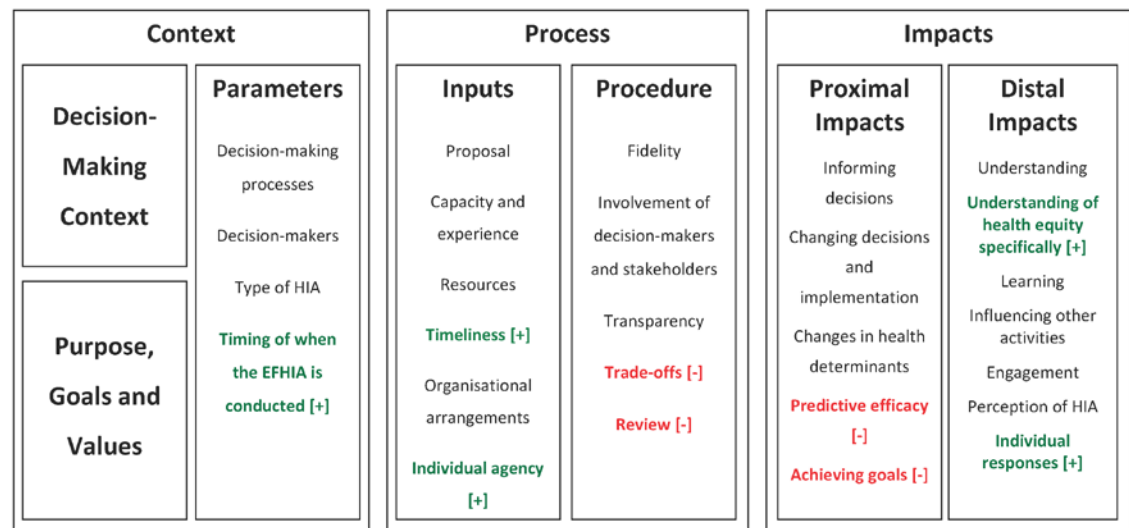
The second aim of this thesis was to establish what changes occur as a result of doing an EFHIA. Publications 6 and 7 provide the most detailed accounts of the changes that may occur as a result of EFHIAs. It was important to develop the conceptual framework presented in Publication 5 first in order to identify the nature and range of potential impacts that EFHIAs might have. Publication 7 tested and refined the framework, which was originally developed with reference to HIA in general, for use in relation to EFHIAs.

Many of the things that change as a result of doing an EFHIA seem to be similar to those that change as a result of doing an HIA, as Figure 5 shows. The notable exceptions to this are understandings of health equity specifically and individual responses to health equity issues. The contextual and process factors that were different for EFHIAs based on this research include the timing of when the EFHIA is undertaken, the timeliness of the EFHIA itself and individual agency. Timing and timeliness have also been identified as important factors in other recent studies evaluating HIA's impacts (Harris et al. 2013a, Haigh et al. 2013a, Charbonneau et al. 2012).

⁴ The reliance on willingness to pay analysis to quantify the benefits of HIAs limits the findings of this study considerably. Willingness to pay analysis has been criticised for poorly reflecting the true benefits of an intervention relative to their financial and social costs (Olsen & Smith 2001).

This suggests that EFHIAs are not fundamentally different to HIAs but the changes they can make may be more dependent on timing and the individuals involved in the process. EFHIA's impacts also seem to be more focused on understandings of health equity and changing individual responses (see Figure 5). This may not be surprising given EFHIA's more explicit focus on values, which may challenge individuals' understandings and attitudes more than solely technical assessment processes. In reality there is no such thing as a solely technical assessment exercise. All impact assessments involve judgement and a reliance on values to some extent, from determining what is considered to be relevant evidence through to the procedures followed (Cashmore 2004). The difference may be the extent to which these values are articulated, recognised or contested.

Figure 5: Revised framework for evaluating the impact and effectiveness of equity focused health impact assessment



Notes: Bold text indicates changed conceptual framework elements. Items with [+] and green text are new framework elements. Items with [-] and red text are existing framework elements that were not confirmed through this study.

Source: Publication 7

The third aim of this thesis was to establish whether EFHIA is effective and under what circumstances. This is linked to definitions of effectiveness, which in its most simplistic sense is about the extent to which EFHIAs produce their desired results (refer to the Effectiveness section in Background and literature review for). Very few of the HIA or EFHIA case studies in this thesis articulated their goals in advance. This suggests that there was not necessarily explicit agreement about the desired results of the EFHIAs. Instead their goals are implied and inferred: they sought to ensure potential health and health equity issues were considered and acted upon. The extent of change that could be attributed to the EFHIAs described in this thesis was often disputed. Some regarded the EFHIAs as leading to significant change, others regarded the changes as minor or inevitable.

As such attribution is not simply a matter of ticking off EFHIA recommendations that were implemented. It boils down to whether the EFHIA was *perceived* as effective. The perceptions of those involved in the EFHIA and those who are responsible for implementing the EFHIA's recommendations matter when evaluating whether an EFHIA is effective. Perceptions themselves determine the circumstances under which EFHIAs can be effective or not. This thesis suggests that evaluations of the effectiveness of EFHIAs cannot be divorced from how they are perceived, by both those who were involved in the assessment and those who were not.

Revisiting the research questions

What are the direct and indirect impacts of EFHIAs conducted on health sector plans?

All the EFHIAs in this research demonstrated some evidence of effectiveness; directly by changing and informing decision-making and implementation, and indirectly by changing understandings of health equity, improving stakeholder engagement and by influencing other activities. Within the interviews that made up much of the data for this research, effectiveness was seen as being much broader in scope than simply changing decisions. Those who had been involved in the EFHIAs valued positive changes to relationships, improved ways of working and enhanced understandings of health equity.

The direct and indirect impacts of EFHIAs conducted on health service plans are summarised in Publication 7 and presented in Figure 5. The refined conceptual framework includes understanding of health equity and individual responses as new elements that were not in the original conceptual framework. The impacts of EFHIAs conducted on health service plans included in this thesis appear to be broadly similar to those of HIAs, with some evidence that these may have had greater impacts on understandings of health equity issues relevant to planning and implementation. This suggests that these indirect impacts may be more apparent, if not more likely, in relation to EFHIAs than they were in the original HIAs on which the conceptual framework was based.

It is important to note that this research has been based on a case study methodology. The contexts for the EFHIA case studies are inextricably linked to the nature of their direct and

indirect impacts. As such care needs to be taken not to generalise the nature of the direct and indirect impacts of EFHIAs observed in this research to all settings.

Does EFHIA improve the consideration of equity in the development and implementation of plans?

This thesis indicates that EFHIA can improve the consideration of health equity in the development and implementation of health service plans. All the EFHIA case studies in Publications 6 and 7 had some degree of impact on the development and implementation of the plans assessed, although the extent of change attributed to the EFHIAs varied markedly.

This research indicates EFHIA may have the ability to improve the consideration of equity in health service planning because of:

- Its greater procedural emphasis on health equity, with explicit reference to health equity at the screening scoping, identification and assessment steps (demonstrated in Publications 6 and 7, but also in the original EFHIA framework itself, Mahoney et al. 2004);
- Its focus on differential impacts and assessment of whether these are fair or avoidable, as distinct from simply recognising the importance of the determinants of health and potential health impacts at an aggregated or undifferentiated level (suggested by the cases in Publications 3 and shown in Publications 6 and 7);
- Its recognition of the role of values in guiding and informing the development and implementation of health service plans, but also in defining target populations and prioritising subsequent activities (shown in Publications 6 and 7);

- The potential for learning as both a part of the EFHIA process and an impact of it, (shown in Publications 5, 6 and 7); and
- Its ability to highlight and potentially change the attitudes and beliefs of individuals involved in the process (as shown in the revised conceptual framework in Publication 7).

These findings are generally consistent with the limited EFHIA literature (Povall et al. 2013, Harris-Roxas et al. 2004), though the emphasis on learning and individuals' attitudes and beliefs have not been previously emphasised. I was a chief investigator on a recent study of HIAs conducted in Australia and New Zealand between 2005 and 2009 that included a detailed review of 11 HIAs (Harris et al. 2013a, pages 29-39). All 11 HIAs included equity as an identified value underpinning the assessment, and equity was integrated into the assessment process to varying extents. The New Zealand HIAs included in the study appeared to more consistently consider health equity throughout the steps of the HIA process than the Australian ones, which emphasises the need to recognise that equity may not be considered in HIA practice in the same way in all settings internationally.

There is nothing that would prevent equity issues being considered in an HIA of health service plans, or even as part of a rigorous planning process. However, by having a clear focus on health equity woven through both the procedural and analytic aspects of the assessment, and even through its name, EFHIA appears to be more likely to ensure health equity issues are better considered in decision-making and implementation than they otherwise would have been.

Further research that compares health service plans where EFHIAs are conducted with health service plans where EFHIAs are not conducted may answer this question more definitively. I

am reluctant to make conclusive claims in relation to this question because this research was all undertaken in a specific context, and the importance of the factors listed above may differ considerably in other health service planning settings. Additionally health equity is a value that underpins health service planning in many countries and jurisdictions, even if the link between this professed value and action is varied (Newman et al. 2006).

How does EFHIA improve the consideration of equity in health planning?

The mechanisms by which EFHIA improves the consideration of health equity in health planning are complex because they vary depending on a broad range of contextual and procedural factors. I was unable in this research to identify any single factor, or simple set of factors, that determined the extent to which EFHIA improved the consideration of health equity in health planning. In large part this seems to be due to the wide array of factors relating to the context and process of EFHIA that can influence its impacts, as described in Publications 5 and 7. Added to this is the variety of types of proposals that the EFHIAs included in this thesis were conducted on, even given that they were restricted to EFHIAs of health service plans. Decision-making contexts vary so markedly that even EFHIAs of proposals that appear superficially similar, i.e. all health service plans, may identify markedly different health equity issues and lead to quite different recommendations, as shown in Publication 7.

As such it is possible that the most important factor that determines EFHIA's ability to improve the consideration of equity in health service planning is its responsiveness and adaptability to a varied array of decision-making contexts. This is consistent with the findings of research that has looked at attitudes and beliefs about the value of HIA (Harris et al. 2012b, O'Reilly et al. 2006, Bekker et al. 2004, Davenport et al. 2006). This research has shown that HIA's

adaptability and ability to develop a shared framework for understanding are its most valued aspects.

This research identified eight major factors that can enhance or limit the impact of EFHIAs on health service planning and implementation⁵. These were EFHIA's focus on informing implementation; its ability to consolidate understandings of equity; its ability to enable discussion of alternatives; clearer articulation values that inform health planning and implementation; time; the role of individuals; conceptualisations of the purpose of EFHIA; and learning. These are each outlined below.

Factor 1: Informing implementation

By seeking to guide and inform implementation, rather than solely providing a technical assessment or set of predictions, EFHIA may be better aligned with requirements of health planning and implementation (discussed in Publications 4, 6 and 7). This factor has not been highlighted in the literature to date, though it may reflect (i) the particular context in which EFHIA's use has evolved in Australia, and (ii) the voluntary, decision-support nature of the EFHIA case studies included in this research (as described in Publication 4).

Factor 2: Consolidating understanding of equity

This may seem intuitive given EFHIA's explicit equity focus, but it seems more pronounced in the EFHIA case studies in Publications 6 and 7 than in the general HIAs, i.e. non-EFHIA, that

⁵ The extent of impact these enhancement factors have seems to vary by case, however, depending on their relevance to the proposal's broader decision-making and governance context.

are described in Publications 3 and 5. It relates to improved understandings of how plans may redress or exacerbate health inequities as well as specific equity issues that may arise in relation to potentially affected populations. The ability of HIA to improve understanding of health equity has been described in the HIA literature (Blau et al. 2006, Hebert et al. 2012, Richardson et al. 2012, Ross et al. 2012, Snyder et al. 2012) but this research suggests this effect may be of particular relevance in relation to EFHIAs of health service plans,

Factor 3: Enabling discussion of alternatives

This refers to EFHIA's ability to develop and assess alternatives to what was originally planned and was chiefly discussed in Publications 1 and 6. This is not unique to EFHIA but may complement the first factor, which is EFHIA's frequent focus on implementation issues. The analysis of alternatives has been extensively described in the general impact assessment literature (Steinemann 2001, Bond et al. 2012) but relatively less so in the HIA literature (Sukkumnoed et al. 2007).

Factor 4: Clearer articulation of the values that inform health planning and implementation

EFHIA's focus on health equity necessarily involves some examination of values; this is what differentiates it from a process that simply describes health inequalities, and is discussed in Publications 4 and 7 in particular. This explicit consideration of how potential impacts are distributed, whether they are avoidable, and whether they are fair often highlights the values that underpinned the development of the proposal being assessed. This was the case with the EFHIA case studies described in Publication 7. This may then lead to a clearer articulation of the values that have informed health planning and implementation. This factor has not been previously identified or articulated in the research done to date, as far as I am aware. This

factor in may be contextually bound, however, as this research was undertaken in a specific health planning context. It needs to be tested and examined in further research.

Factor 5: Time

This has two components: the timing of when the EFHIA is conducted in the process of health planning and implementation (timing); and the amount of time available in which the EFHIA has to be conducted to inform the decision-making process (timeliness). Timing is often dictated by external decision-making factors and should be understood as a broader parameter under which EFHIAs are undertaken. Similarly timeliness is not just the time required to undertake the EFHIA but the timeframes for the broader planning and decision-making processes the EFHIA seeks to inform. Publications 6 and 7 identified both timing and timeliness as factors that influence the impact EFHIAs can have on decision-making, planning and implementation. Publication 5 represents a rather extreme example of the pressure that timing and timeliness can impose on both EFHIAs and health planning in general, given the EFHIA was conducted in a very short timeframe. Part of EFHIA's usefulness within the NSW health planning context may be its ability to respond to timing pressures and accommodate the need for timeliness in its process. Publication 5 shows, however, this is not entirely beneficial as it acts against the interests of some of the other factors described above, such as consideration of alternatives.

Factor 6: The role of individuals

Individual agency was added as part of the process domain in the revised conceptual framework in Publication 7, and individual responses were added as a distal impact. The extent to which people felt that they had a choice to be involved in the EFHIA appeared to be closely related to the extent to which they were receptive to the EFHIA process or its

recommendations. This seemed to be particularly the case when the EFHIA was regarded as someone else's idea or as being imposed on them. The extent of personal choice or volition also appeared to be related to the extent of change in personal attitudes, beliefs or responses that was described in interviews. These responses seemed to take place at an individual level, rather than an organisational or group level. This factor is somewhat speculative, however, and requires further research that is focused on individuals as the unit of analysis, unlike this research in which EFHIA case studies were the unit of analysis.

Factor 7: Conceptualisations of the purpose of EFHIA

There can be a range of expectations about whether EFHIAs should provide technical assessment or whether they should seek to guide implementation, as Publications 6 and 7 show. Disagreement about the purpose of the EFHIA served to limit its impact on subsequent decision-making and implementation in several of the case studies included in this thesis. Conversely, the development of a consensus about the purpose of the EFHIA early in the process seemed to be associated with enhanced proximal and distal impacts. This emphasises the importance of the typology for HIA introduced in Publication 4. Not only does it allow us to categorise EFHIAs and HIAs after they are completed; it may help us to describe the nature and purpose of EFHIAs and HIAs in advance and to develop greater agreement between those involved in the process.

Factor 8: Learning

Learning and the consideration of alternatives emerge as important aspects of every publication in this thesis. Learning is a critical mechanism by which EFHIAs can lead to proximal and distal impacts, as well as being identified as a distal impact in the conceptual framework. Learning also requires involvement. Glasbergen's schema of conceptualising learning as

technical, conceptual or social (Glasbergen 1999, Blowers & Glasbergen 2003, Glasbergen et al. 2007) has been relevant within the context of this thesis and has informed the interpretation of findings throughout.

Learning from the EFHIA process has emerged through this research as a basis for both agreement and disagreement. The case study in Publication 6 showed that differing expectations of the nature of learning that are desirable from an EFHIA can limit the extent of impacts an EFHIA may have and lead to disagreement between those involved in the process. Conversely many of the other cases described illustrate EFHIA's ability to enhance learning and shared understandings.

The HIA literature has not strongly emphasised learning to date, with some notable exceptions (Sukumnoed 2007, Harris et al. 2013a), either in terms of the nature of the learning desired or the extent to which HIA leads to learning. The reasons for this lack of an explicit focus on learning are unclear. It may reflect some of the tensions within the field of HIA about the extent to which HIA is, and should be, regarded as a technical or participatory process, as outlined in Publications 1 and 4 and in parts of the HIA literature (Krieger et al. 2010, Vohra et al. 2010, Thompson 2008, Harris 2005).

Learning may be the most important mechanism by which EFHIA enhances the consideration of health equity in health planning. Further research focused on learning within, and due to, EFHIA and HIA will help us to understand the specific mechanisms, conditions and limitations of its influence.

Implications of these factors

The factors discussed above do not exist in isolation. They can each have both positive and negative influences on the extent to which EFHIAs bring about proximal and distal impacts. They are interdependent and also affected by other factors such as those identified in the revised conceptual framework in Publication 7. The extent to which each factor is important appears to depend on many of the context factors outlined in the contextual framework, namely the decision-making context; the values, purpose and goals; and the parameters under which the EFHIA is undertaken.

The factors discussed above are broadly consistent with the findings of the HIA research that has been reported to date. The major finding of Wismar et al.'s multi-country study (2007), which remains the largest and best-funded research project internationally, was to identify four elements that were important for HIAs to be institutionalised:

- An agency who “owned” HIA;
- Workforce and technical capability to undertake the assessments;
- A direct link between the trigger or idea for HIA’s use and the people who “own” the decision; and
- A link between the HIA and reporting and monitoring.

These elements reflect the study’s focus on institutional use and responses to HIA, and the study has even been critiqued for its instrumental focus (Aldred 2009). These elements are reflected in the conceptual framework presented in Publication 5 and refined in Publication 7, but they are not the focus. They are four factors amongst many. This is because Wismar et al.’s approach was focused on the extent to which institutions in Europe might make use of HIA,

and what changes were required to expand its use. Institutionalisation is in some ways a related but separate issue to the effectiveness of HIA and EFHIA though. It is possible for an individual EFHIA to bring about change without any of Wismar et al.'s four conditions above being met in advance. Institutionalisation may be one of numerous forms of success for EFHIA and HIA, as discussed in Publication 4. While the findings of this research are not inconsistent with Wismar et al. (2007) and other research on the effectiveness of HIA (see Table 7), they do reflect a difference in emphasis and a different conceptualisation of effectiveness; one that seeks to be more encompassing and to be relevant in as wide a range of contexts as possible. This is reflected in the conceptual framework presented in Publication 5 and refined in Publication 7.

Conceptual challenges in evaluating HIAs

This thesis, like all evaluation studies of multiple HIAs that I am aware of to date, involved retrospective case studies (Dannenberg et al. 2008, Wismar et al. 2007, Ward 2006). Almost all the evaluations to date rely in part or wholly on interviews and other retrospective accounts relating to perceived effectiveness, though perceptions are clearly important in any evaluation of an HIA's effectiveness. Amongst the studies evaluating HIAs, one multiple case study of HIAs included detailed observation, though the cases were still presented retrospectively and several were simulated rather than "real world" HIAs (Bekker 2007). A unique study at Otago University on the use of evidence in environmental impact assessment was conducted concurrent with use, i.e. not relying on historical accounts (Schijf 2003). This has yet to be replicated however, and in general almost all evaluations of the effectiveness of impact assessments have adopted a retrospective approach.

This retrospective approach may give rise to a number of conceptual challenges, principally “narrative fallacy” and “creeping determinism”, both described below.

Narrative fallacy

We tell stories to make sense of past events; as Joan Didion famously wrote “we tell ourselves stories so we can live” (Didion 1979:1). But narratives are also necessarily co-created, that is, they are recounted by a narrator for an audience and for a purpose (Labov 1997, Patterson 2008). The way people describe events gives insights into not only what they believe to be important but what they also want others to understand from the events described (Bruner 1991, Williams 2004). If an EFHIA or HIA is successful in influencing decision-making and implementation it is usually described in terms of the factors that are perceived to have led to that success, rather than the things that didn’t work, or the role that uncontrollable factors, or even luck, may have played (Taleb 2010). Factors such as skill, experience and the agency of those involved appear to be important in determining EFHIAs’ effectiveness but so do other factors such as timing, timeliness and “windows of opportunity” (Nilunger Mannheimer et al. 2007).

There is a natural tendency for those involved in an EFHIA or HIA to develop explanatory schemas to explain why it was effective in influencing decisions or not; hypotheses in a sense (Taleb 2010). People tend to look for evidence that confirms these hypotheses, leading to a form of confirmation bias that often discounts the role that other factors may play. The conceptual categories that make up these schemas limit the factors that are regarded as important, in a phenomenon has been referred to as “tunnelling” (Watts 2011). These schemas are important because they guide not only people’s perceptions about an EFHIA and HIA but also how people develop narratives about it. Our schemas determine the orienting

details for our narratives (Patterson 2008); the way in which people want the story of an EFHIA, and what it changed, to be understood. For example, a person that describes an EFHIA by saying “I was involved in an EFHIA that failed terribly” clearly wants the EFHIA to be understood as ineffective. These schemas may be shared within groups but are also constructed at an individual level. As such interviews with people about the same EFHIA may result in narratives that bear little resemblance to each other, which was the case in Publication 6 and to a lesser extent Publication 7 of this thesis.

This reinforces the need for a broad conceptual framework like the one presented in Publications 5 and 7 when considering the factors that influence the effectiveness of EFHIAs, HIAs and other decision-making interventions. It also highlights the inherent problems in relying solely on retrospective or historical accounts of EFHIAs to determine their effectiveness. Explanatory schemas and narratives have already been developed, and these may not reflect any changes to perceptions before, during or after the EFHIA process. Narrative fallacy is an important issue that needs to be addressed in the design of future evaluations of EFHIAs and HIAs that rely on interview data.

Creeping determinism

Creeping determinism is a kind of hindsight bias that has been described in the experimental psychology literature since the 1970s. It refers to the tendency for people to imagine “we knew it all along” or “it was always going to happen that way” and was first described by Fischhoff (1975):

An apt name for this hypothesized tendency to perceive reported outcomes as having been relatively inevitable might be “creeping

determinism" - in contrast with philosophical determinism, which is the conscious belief that whatever happens has to happen.

(Fischhoff 1975:288)

General hindsight bias may be partially overcome by recording what was predicted before the event (Watts 2011). Creeping determinism is more insidious, however, because even if our predictions or uncertainty are recorded they may form part of our subsequent explanation (Nestler et al. 2008, Nestler & Blank 2010). For example, "we may not have known back then that the HIA was going to change the proposal but it did, so it was always bound to do so". This deterministic thinking makes it very difficult to evaluate how perceptions about the purpose of HIAs may change throughout the process, which Publications 5, 6 and 7 of this thesis suggest is an important aspect of evaluating any EFHIA or HIA.

Experimental psychology research has shown that creeping determinism is "effortful", that is, it requires conscious thought and attribution of effects (Nestler et al. 2008). As such it can be regarded as both individually and socially constructed. This is a challenge within the context of evaluating EFHIAs and HIAs because it means that people often revise their perception of the purpose, process and impacts of EFHIAs and HIAs in a way that may justify or explain subsequent events.

Creeping determinism is difficult to account for solely through evaluation design, though clearly comparing descriptions about the purpose and desired outcomes of an EFHIA from before and after it was conducted can be useful.

Strengths and limitations of this thesis

This thesis is contextually specific. All the HIAs and EFHIAs described in this thesis were conducted in a single state in Australia, NSW. The use and practice of HIA and EFHIA in NSW has evolved over time in response to historical, disciplinary and governance factors. As such it may not be reflective of the broader range of approaches to impact assessment, HIA and EFHIA internationally. This research was also conducted in a single Australian state during a time of health system and health planning reform, though periods of system reform are now widespread internationally and ongoing (Keleher 2011, BCA 2009, Braithwaite et al. 2005, Dwyer 2004, Edward 2011).

More generally HIA, and EFHIA specifically, is an evolving area of practice area and practice is evolving and changing. HIA use is becoming more widespread and there are more calls for standardisation of practice (Bhatia et al. 2009). Due to HIA's origins as a practical solution to the problem of ensuring health is better considered in a disparate range of planning and decision-making settings, there are competing understandings of HIA's purpose, as illustrated in Publication 4's typology of HIA. As such there are significant issues relating to HIA theory and practice that remain contested (Krieger et al. 2010, Vohra et al. 2010, Joffe 2008).

A related limitation is that all the case studies included in this thesis were decision-support HIAs and EFHIAs (as described in the typology in Publication 4). As such they were conducted voluntarily, at least notionally. While not everyone involved may have had total freedom to decide to participate in the HIA (which is part of the reason individual agency was identified as an important new factor in Publication 7) the HIAs and EFHIAs themselves were not done to meet a regulatory or statutory requirement, such as those requirements outlined in Publications 1 and 2. This has an impact across a range of factors under both the context and

process domains in the conceptual framework presented in Publications 5 and 7. This similarity, in terms of all the case studies being decision support EFHIAs and HIAs, enabled greater scope for between-case comparison within this research however, which was beneficial. It limits the generalisability of this research's findings to other forms of HIA, however – namely mandated, advocacy and community-led.

This thesis is timely because it makes a conceptual contribution about the forms HIA can take and the factors that can enhance or impair its effectiveness. It also highlights the contribution that EFHIA can make to health service planning. These are issues of increasing significance internationally, as HIA moves beyond a “proof of concept” phase in its evolution where it is still regarded as a novel activity, to become a simultaneously more understood and more contested practice.

A limitation of this thesis is my own history and biases, which have affected my interpretive lens. I have tried to be clear about what this history and views are throughout this thesis, and to address potential biases through a number of measures designed to enhance the validity of this research. My experience and history affords some benefits though. There are only a small group of people internationally who have been working in HIA and EFHIA for as long as I have, or who could have feasibly undertaken this research. As such my experience and resulting views and potential biases are in many ways strengths as well as limitations.

As such, care must be taken to not overstate or over-generalise the findings of this thesis. The conclusions that are supported in the context of this research may not be supported in all settings. Despite this many of the concepts and theoretical constructs presented in this thesis will still have relevance in other settings.

Implications for theory

This thesis has not sought to create a grand theory that can explain the full range of human interactions and social life (Skinner 1990). Rather it has attempted to provide a coherent conceptual framework that might be regarded as a “middle range theory”. Middle range theory is a term that was developed by Merton (1968) to describe theory focused on the general features of specific social phenomena. It represents the “middle range” between description of social phenomena and grand theories that explain society and social processes (Morrow & Muchinsky 1980):

We sociologists can look instead toward progressively
comprehensive sociological theory which, instead of proceeding
from the head of one man, gradually consolidates theories of the
middle range, so that these become special cases of more general
formulations.

(Merton 1949:52)

Middle range theories are not concerned with describing phenomena per se, they try to look at the pathways and processes lead to specific outcomes in specific conditions (Fleetwood 2001). This is similar to the purpose and form of the widely used quality assessment and assurance framework developed by Donabedian (1988), which was influential in developing the conceptual framework for evaluating the impact and effectiveness of HIA presented in Publication 5.

The most significant theoretical contributions of this thesis are the typology of HIA and the conceptual framework for evaluating HIA presented in Publications 4 and 5. Both represent

coherent conceptual models that seek to explain (i) forms of HIA practice and (ii) the factors that influence the impact and effectiveness of HIAs. Both are testable and refinable, as shown in Publication 7, which tested and refined the conceptual framework for use in relation to EFHIA. This is an important step in the development of HIA as a field because HIA arose in response to practical rather than theoretical concerns, as has been noted several times in this thesis.

As such both the typology and conceptual framework should be understood as middle-range descriptive theory. Descriptive theory seeks to describe or classify “specific dimensions by summarizing the commonalities found in discrete observations, or relational theories, which specify relations between dimensions” (Fawcett & Downs 1992:22).

Case study research can generate novel theory by juxtaposing contradictions, as noted by Eisenhardt (Eisenhardt 1989) in her seminal paper on using case study research for theory building. The process of reconciling seeming contradictions in case studies can help us to reframe perceptions into new theories and paradigms. Publication 7 highlights some of the contradictions inherent in EFHIA’s use:

- An EFHIA can be undertaken collaboratively but may not lead to a consensus about its purpose amongst those involved;
- An EFHIA can recommend changes that were not previously considered during planning that are then regarded as obvious; and
- An EFHIA can lead to demonstrable changes to planning and implementation but still be perceived as ineffective.

Building theory from case studies involves examining these contradictions.

One advantage of building theory from case studies is that it is likely to be empirically valid because the theory-building process is so intimately intertwined with evidence that it's likely the resultant theory will be consistent with empirical observation (Eisenhardt 1989). This is hopefully even more accurate within the context of this research due to its paradigmatic basis in interpretive description, which emphasises interpretive authority, disciplinary relevance and contextual awareness based on practice and experience (Thorne 2008, Thorne et al. 2004b).

Theory developed through case study research can yield theory that is over-complicated, which is why the process of testing and refining the conceptual framework in Publication 7 was so important. It allowed me to appraise the factors that were most important and which were limited to the cases that informed its original development.

It is important to emphasise that the conceptual framework for evaluating the impact and effectiveness of HIA is a middle range theory rather than a grand theory. As such it does not seek to encompass a broad range of social phenomena and interactions. As noted by Mario Livio, theories are not facts (2014). They are descriptions of our understanding, and as our understanding is always incomplete theories are always provisional. "Grand theory" requires a large number of both theory-building and theory-testing empirical studies. This thesis is much more modest in scope. It may also be that grand theory is not possible because the total phenomena at play in relation to EFHIA and its impacts are complex adaptive systems that defy linear models and straightforward explanations (MacIntosh et al. 2013). Future research could explore the application of complexity science to this topic (Hazy & Uhl-Bien 2013).

Theorising the effectiveness of HIAs remains an imposing challenge. There are a number of conceptual challenges in evaluating the effectiveness of HIA, as described above, because its impacts are inextricably linked to the perception of individuals and groups. This is not unique

to HIA or EFHIA. Researchers and policy-makers often lack counterfactual examples for many public health interventions, and this also applies to HIA. These are the “what if” examples – what if they hadn’t done the EFHIA or HIA? What if they hadn’t made that recommendation? What if that person had been directly involved in the EFHIA process (meetings, discussions, data collection, etc.), rather than just receiving the report’s recommendations?

Both natural experiments and prospective case studies have been proposed as methodologies to partially overcome some of these limitations (Bitekline 2008, Ali et al. 2008). Whilst natural experiments and multiple case studies do not always provide perfect comparisons they do enable *some* comparisons. Additionally evaluations of EFHIAs and HIAs that take a longitudinal approach, or at the very least a before and after approach to data collection, are required to partly account for the fundamental issues of narrative fallacy and creeping determinism outlined above. This will be important to robustly address underlying theoretical concerns about the effectiveness of HIA as a public health intervention – namely that of causality and attribution (Thompson 2008). Further, this thesis suggests that interpretive description provides a useful paradigm for guiding research on EFHIA and HIA.

HIA remains in many ways an under-theorised field, principally concerned with practical issues and the impacts of decisions (Haigh et al. 2012). Interpretive description has been well suited to framing and guiding research on EFHIA because it involves an actual practice goal, in this case investigating whether EFHIAs influence health service planning and how this might be enhanced; and an understanding of what is known and unknown about a topic on the basis of the available empirical evidence and experience (Thorne 2008).

Implications for practice

Publication 1 on the state of the art in HIA puts forward a framework for regulatory and legislative approaches to promoting the use of HIA and the consideration of health and health equity based on two broad approaches. The first involves requiring, supporting and promoting the use of HIA. The second broad approach involves promotion the consideration of health and health equity within government processes, but not necessarily the use of HIA or EFHIA per se. This framework is used in Publication 2 to describe regulatory and statutory support for HIA's use in Australia. This framework may be useful in other contexts where advocates for HIA's use are thinking about how they might promote HIA's use and advocate for its inclusion in policy development and decision-making processes. By identifying a suite of approaches this allows practitioners or governments to identify ways of supporting HIA's use, beyond simply thinking that a legal requirement will result in HIA's use.

Publication 2 on HIA in Australia also puts forward a series of essential components for quality in relation to HIA reports. Though these components have not been a focus of subsequent theoretical investigations in this thesis, they do have meaningful implications for practice. The components for every HIA report to include are listed in Table 11.

Table 11: Essential components for HIA reports

1	A documented and transparent process that the assessment follows.
2	A clear statement of the HIA's goals and purpose.
3	A rigorous, documented approach to gathering and assessing evidence.
4	Clear predictions of impacts.
5	Recommendations for enhancement and mitigation.
6	Self-identified indicators of how the HIA's effectiveness will be judged, which will vary depending on context.

This table is simple and is not as extensive as other review criteria that have been developed (Fredsgaard et al. 2009). Nevertheless these more extensive criteria have been hard to measure up to in practice (Rhodus et al. 2013). This more modest list of six components may be more practical and achievable for practitioners to use.

This thesis also suggests that there may be value in a renewed emphasis on conducting HIAs and specifically EFHIAs on health sector proposals for three reasons. Firstly, while health sector professionals often assume the health sector is good at addressing population health needs, health service planning is rarely done solely to meet population health objectives rather than to respond to pressing health service needs and historical patterns of resource allocation (Allen & Cunliffe 2007, Alleyne & Casas 2000). This study suggests that EFHIA may play a meaningful role in prompting health sector planning to consider its population-level objectives.

Secondly, HIAs with a focus on equity and differential impacts have been useful in identifying the under-considered effects of health sector planning and decision-making (Barnes & Scott-Samuel 2002, Close 2001, Kearney 2004, Steinemann 2001). Some have suggested that HIAs should not have an equity focus per se, and that all HIAs should consider equity (Kemmer et al. 2004, Parry & Scully 2003, Kearney 2004). It is not reasonable to dispute this ideal, however framing HIAs around equity, differential impacts and vulnerability has proven to be useful in the context of working with health and other sectors (Wells et al. 2007). Additionally an equity focus has helped to ensure that potential health impacts are differentiated between and within population sub-groups rather than treated as homogenous in nature (Harris-Roxas et al. 2004).

Thirdly, the ability of the health sector to promote an intersectoral action for health or Health in All Policies approach (WHO 1997b, Ståhl et al. 2006, Scott-Samuel et al. 2001, WHO & SA Government 2010, Ståhl 2010b, Puska & Ståhl 2010, Koivusalo 2010) will be limited if the need to consider population health impacts is seen to only apply to other sectors and not health itself. Health agencies may need to adopt a Health in *Health* Policies approach as well if they are to be successful in working intersectorally.

Conclusion

While I have been undertaking this thesis research the world has changed. The Global Financial Crisis has radically changed the economic outlooks of many developed countries and altered the life courses and opportunities of their citizens. Social movements like Occupy Wall Street have highlighted growing economic and social inequalities and the need for greater transparency in public policy and improved governance (Milanovic 2010, Calhoun 2013).

In this context the political and administrative appetite for both health equity and the use of HIA and EFHIA has ebbed and flowed. After the early days of enthusiastic adoption of HIA as a novel form of practice, it is now encountering more widespread skepticism and demands to demonstrate its effectiveness, often by people within the health sector itself. EFHIAs and HIAs require an investment of time and resources, and hopefully a willingness to act on the recommendations. These conditions, never guaranteed in the past, are now under even more pressure.

Though this thesis is narrowly-focused on EFHIA in health service planning, it has led me to think that there is value in looking more critically at decision support tools in general; approaches such as cost benefit analysis, multi criteria decision analysis (MCDA), review

checklists, and even other forms of impact assessment. Too often these are assumed to be effective because their use is widespread or because their utility seems self-evident. After conducting this research I'm not convinced. There is value in thinking critically about how research might improve decision support tools to enhance their quality, transparency and impacts in order to ensure they don't become procedural requirement that are not listened to.

Many of the contemporary crises we face globally in terms of governance and the legitimacy of government decision-making can in some ways be linked back to increasing wealth and social inequalities (Stiglitz 2012), which are in turn linked to health inequalities (UCL 2010, Mackenbach 2010, Signal et al. 2007). Decision-support approaches such as EFHIA may make a useful contribution to re-establishing trust in the legitimacy of decision-making and policy-making, as can other forms of impact assessment and other related decision-support tools. Approaches such as the conceptual framework presented in this thesis might be usefully adapted, modified and changed to inform research on these decisions-support tools and thereby enhance their usefulness and perceived legitimacy.

Recent arguments in the literature have suggested that impact assessment has lost its way, with an increasing focus on siloed practice through the proliferation of different forms of impact assessment. Critics assert that this has left the impact assessment field exposed to criticism based on perceptions of inefficiency and duplication (Morrison-Saunders et al. 2014). It's difficult to argue against the goal of more consolidated and integrated impact assessment, though there are practical difficulties in achieving this, as noted in Publication 1 of this thesis on the state of the art in HIA. Cashmere and Morgan (2014) point out that:

There has been a process of trying to bring the public health professionals closer to the main community of IA thinking, and the

International Association for Impact Assessment's HIA section has played an important role therein. But the global HIA community does not map neatly onto 'our' IA community: there is overlap but there will be many practitioners who do not see themselves as sharing a common cause with, or even recognizing, the wider IA community... Integration is not straightforward from a conceptual perspective and raises thorny issues of 'ownership': who has the right to say what constitutes IA in theoretical and practical terms?

(Cashmore & Morgan 2014:e2)

A way forward for the HIA community of practice might be to focus on a more open-minded and respectful learning process in both directions. HIA would not only inform other forms of impact assessment about ways of considering health equity, but also could learn from other forms of impact assessment about how vulnerability and sustainability assessment can be improved and better understood.

This thesis, which is necessarily narrowly-focused on the use of EFHIA in health service planning, will hopefully make a modest contribution to enhancing the practical consideration of health equity in EFHIA, based in what I hope is an open-minded and respectful approach. It may also be helpful to embrace diversity of practice described in the typology of HIA presented in Publication 4. Harmonisation of and integration of IA is appealing but diversity affords us different and creative ways of understanding and responding to emerging and unanticipated issues (Heifetz et al. 2009). The health impacts of climate change will dominate the humanity's future, as I have noted in other publications (Harris-Roxas 2011). Climate change adaptation is currently often thought of as a range of technical interventions and practices (IPCC 2011).

Social and organisational adaptations are required however (Berkhout et al. 2006) and the diverse practice of HIA may have a role to play.

This thesis has suggested that EFHIA cannot be separated from the agency of individuals, interpersonal politics and power dynamics that are inherent in its process. The impact of politics and power may not always be readily apparent or explicitly acknowledged in EFHIAs, nor have they been the focus of this research. The influence of politics and power are far-reaching however, and their impact on how EFHIAs are conducted and how their recommendations are perceived is undeniable. A challenge is that recognising the role of power and politics can also lead to a sense of paralysis. It can lead us to believe that the only way to enhance EFHIA practice is solely by changing political processes and broader power structures. I do not think this is correct. This thesis, in particular Publication 7, suggests that individuals still matter in the EFHIA process. This gives me hope. Individuals' perceptions alter the way EFHIAs are conducted and can magnify or diminish their impact. Rather than leading us to feel that the only way to improve the impact of EFHIAs is by changing everything, it allows us, as individuals, to make a tangible difference.

EFHIA can, and does, enhance the consideration of health equity in the development and implementation of plans within health systems. The extent to which this impact is realised is dependent on a number of factors. HIA researchers and practitioners cannot look at the effectiveness of decision-making interventions like EFHIA separately from people's perceptions. This is because the purpose of the intervention is to alter perceptions and understandings in order to better inform planning and decision-making. The thesis makes two substantive theoretical contributions in the form of the typology for HIAs and the conceptual framework for evaluating the impact and effectiveness of HIAs. Further research should focus on testing if the findings of this thesis and the conceptual framework are applicable to other

settings; comparing the impact of EFHIAs to other interventions, including routine health service planning processes; and before and after studies of how EFHIAs change perceptions.

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Appendix

Appendix 1: List of acronyms

Table 12: Acronyms used in this thesis

ABHI	Australian Better Health Initiative
CPHCE	Centre for Primary Health Care and Equity
EFHIA	Equity focused health impact assessment
EIA	Environmental impact assessment
EqIA	Equality impact assessment
HEIA	Health equity impact assessment
HIA	Health impact assessment
HiAP	Health in All Policies
HIIA	Health inequalities impact assessment
IA	Impact assessment
MCDA	Multi criteria decision analysis
NSW	New South Wales
SEA	Strategic environmental assessment
SIA	Social impact assessment
UK	United Kingdom
UNSW	University of New South Wales
USA	United States of America
WHO	World Health Organization