The role of Health Impact Assessment in promoting population health and health equity

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Introduction

The inequitable distribution of health within and between populations has been widely described. So, too, have the determinants of this distribution.[5] There is, now, a vast body of evidence confirming that people and populations who have fewer opportunities to participate in social decision-making, who are less well-networked in their local and national societies, and who have fewer material resources to draw upon, almost always die younger and live with greater levels of morbidity than their more advantaged counterparts. This evidence suggests that the achievement of equitable life expectancy and morbidity across and between populations depends, in turn, on the distribution of the social determinants of health.[6] However, it has proven to be very difficult to translate this evidence of the need for the redistribution of society's resources (material and information/knowledge) into powerful action by the range of sectors through whose policies and programs/services much of this inequitable distribution is created.[7]

Health promotion, as a discipline and field of public health action, has grappled with this for some time. This paper outlines the contribution of health promotion to promoting the health of populations and proposes reasons that the discipline has, in practice, found it difficult to influence the distribution of the determinants of health inequity. The paper goes on to describe Health Impact Assessment (HIA) as an approach to address some of these obstacles to the development and implementation of healthy public policy, and to the achievement of health equity within and between populations. Using examples of HIAs conducted in Australia the paper describes positive effects that the approach has had on social and political decision making.

Abstract

Within the discipline of health promotion there has been long-standing understanding of the social determinants of health and life expectancy.[1-3] There is also long-standing evidence of the unfair, unjust distribution of these resources within and among societies. It has proven difficult to translate this evidence of the need for the fairer distribution of socially-distributed resources into powerful action by the range of sectors through whose policies and programs/services much of this inequitable distribution is created.[4]

Health promotion has proven effective in contributing to significant improvements in the health of populations. It is, now, based on well-developed theory and a comprehensive body of evidence. However, health promotion in particular and the health sector in general have found it difficult to work with other sectors to influence public policy to create the social, economic, environmental and cultural conditions necessary for health equity. Health Impact Assessment (HIA) is outlined as an approach that offers the health sector a structured, transparent method and process to work with other sectors to predict the impact of policy proposals on the health of populations (and on the determinants of health), and to predict the distribution of these impacts in advance of adoption and implementation of the policy. Based on Australian experience of conducting HIAs, the paper outlines contributions that HIA can make to formulating and implementing of healthy public policy. It describes the steps in HIA and illustrates the use of these in practice.

Key words: Health promotion, health impact assessment, equity.

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So What

Arguably, the greatest challenge for contemporary health promotion is to close the equity gap within and between societies. HIA offers a practical approach that has been shown to engage sectors other than health effectively in taking action that is predicted to increase positive health impacts and to reduce negative health impacts. Its transparency, flexibility, use of variety of evidence, and ability to engage stakeholders actively in decision making have been shown to lead to the formulation of public policy that is more likely to result in equitable health outcomes.

Health promotion and equity

Within the discipline of health promotion there has been long-standing understanding that socially determined access to material resources and information determines individuals' and populations' life expectancy and health status.[1,3] Health promotion has developed a proven theoretical base and methodology that identifies and prioritises population health problems, analyses their causes and determinants, decides on and implements complex interventions over time, and assesses the proximal impact and distal outcomes.[8,9] The formulation and implementation of public policy to create conditions for health and equity is an increasingly important component of health promotion intervention. This has added weight to recognition that effective health promotion requires all groups in society to have a voice in decision-making on which of a society's problems are addressed by governments and their agencies, about policy solutions, investment and assessment of outcomes. As a corollary, there is recognition that active deliberation is necessary to ensure that the diverse values and goals that are represented in all societies about all issues are considered when developing policies and programs to promote, protect and sustain the health of populations.[10,11]

Australia is one of the countries in which action to promote health is widely regarded as having been most successful. The combination of interventions to change organisational and physical environments, policies, social norms and population health literacy, together with health service interventions – high-quality primary, secondary and tertiary health care that is accessible (physically and in terms of cost and cultural safety) – has proven to be highly effective in improving the health of the population. There has been a significant increase in average life expectancy among Australians in the past decade alone[12] and there have been significant decreases in the prevalence of some (although not all) behavioural and biological risks to health. However, there has been very little progress in reducing the unfair health burden that some groups carry compared to others. The gaps in average life expectancy between groups of high and low socio-economic status, and between Indigenous and non-Indigenous Australians have been remarkably persistent for decades.[12,13]

The experience of promoting the health of the population over the past 30 years in Australia (and globally) has demonstrated that it is possible to improve the health of populations when:

- the multiple factors that create or exacerbate a given population health problem are addressed;[14,15]
- health sector leadership is combined with political commitment over time;[16]
- resources (including human resources) are invested in a comprehensive range of activities over time;[17,18] and
- there is a high level of community awareness of and political and community support for the actions being taken – although this sometimes takes time to build.[19]

However, although there have been some encouraging indications that the gap in mortality between, for example, Indigenous Australians (in three states) and non-Indigenous Australians is decreasing, the size of the gap is still very large.[20] The gap in life expectancy between population groups of high and low socio-economic status persists.[21] Recognition of the need to influence public policy to redistribute public goods and services and environmental protection, and to ensure social cohesion, although widely accepted as necessary to achieve health equity, has not yet been translated into effective policy responses.

Why is this so?

There is limited empirical evidence of the reasons that health sectors and/or governments have found it so difficult to work with other sectors to create social, economic, physical, and cultural environmental conditions that provide all citizens with equal opportunities to achieve and maintain good health. However, it is plausible to propose that there are several reasons for the limited progress.

Despite the successes in promoting the health of the Australian population that have been led and implemented by the health sector, the mandate of the sector and the population's perceptions of its primary role continue to focus on the diagnosis, treatment, and care for people who are already symptomatic or ill.[22,23] More than 97% of Australia's public health spending continues to be invested in the provision of health care services.[24] There is, therefore, limited demand for actions to prevent ill health or, more positively, to create conditions for health and equity – particularly when this requires the health sector to work with other sectors. Although there is at least one example of leadership by the health sector in working with other sectors over time to increase the positive impact of their policies and programs on health and to mitigate harm,[25] there are few other such examples. Working in partnership with other sectors has proven to be challenging for the health sector.

Within the health sector, there has been limited, although increasing, focus on leading action to increase health equity.[26] Among other sectors, there has been some progress toward a more equitable distribution of the social and economic benefits arising from their policies and programs.[21] But there is little evidence that other sectors pay attention to the health effects of their policy initiatives. There is little demand by society (and our governments) for all sectors to contribute

to improving the health of populations (or at least doing no harm); the lack access of other sectors to specific evidence to inform them of the health effects of their intended actions; and, the belief on the part of other sectors that the health sector will pick up the residual problems that their actions create or exacerbate.[27] For example, the tobacco and alcohol industries have been unwilling (or very slow) to accept responsibility for their contributions to health problems arising from their products. The agriculture industry has argued that farmers' incomes from tobacco crops should be considered to be more important than the health impact of tobacco on populations. The advertising industry has argued that it is contributing to people's rights to make informed choices about whether or not to smoke tobacco and that it is not contributing to young people taking up smoking.

The experience of the past two decades in health promotion has demonstrated the need for alternative approaches to influencing public policy.

Health Impact Assessment

Health Impact Assessment (HIA) is an approach that demonstrates the potential to address some of these difficulties. This paper is based on the reflections of the authors on their professional experience derived from having been involved in more than 35 HIAs over the past decade in Australia. Expanding on the concept of Environmental Impact Assessment (and other related approaches), HIA is a structured approach to assessing a draft policy or program proposed by the health or other sectors with a view to predicting the impacts of the policy on population health and/or its determinants. As well, HIA assists in predicting the potential distribution of these effects. In addition to a structured process for gathering and assessing evidence of the potential impacts of a proposal on the health of a population, the power of HIA lies in its engagement of all stakeholders in the processes that are involved in each step.[28] By predicting effects on health it is possible to amend the policy or proposal to reduce potentially negative impacts and enhance potentially positive health impacts.

The steps in conducting an HIA

Although different jurisdictions use different terms for the steps involved, the steps and tasks within each are similar.[29-31] Each step is discussed here, following the process adopted in our work.[28] (see Figure 1).

The screening step determines whether an HIA is likely to add value to a proposed policy or program and its outcomes. If it is decided to proceed, the scoping step sets the terms of reference, identifies stakeholders, defines the resources available and necessary (particularly time) and clarifies stakeholder values concerning definitions of health and use of evidence. Critically, this step decides on the areas of impact – i.e. factors that are likely to have an impact on human health – and selects the specific indicators that will be used to assess and predict the potential policy/program health outcomes. The third step profiles the population to be affected by the proposed policy or program, and gathers the information/evidence necessary to predict the impacts of the policy or program on the health of the population (and/or on the determinants of health). The fourth step draws together

Figure 1: Overview of the steps of HIA.

Step	Purpose	Tasks
Screening	Determine whether HIA is appropriate and required	• Pre-screening tasks • Conduct a screening meeting • Make screening recommendations
Scoping	Set out the parameters of the HIA	• Set up a steering committee • Choose the appropriate level of depth of HIA that needs to be undertaken • Set the scope of gathering the evidence • Design a project plan
Identification	Develop a community / population profile and collect information to identify potential health impacts	• Develop a community/population profile • Collect primary and secondary, qualitative and quantitative information
Assessment	Synthesise and critically assess the information in order to prioritise health impacts	• Assess the information on the impacts collected from the different sources • Deliberate on the impacts to assess their significance and prioritise them
Decision making and recommendations	Make decisions to reach a set of final recommendations for acting on the HIA's findings	• Develop a draft set of concise and action-oriented recommendations • Write a final recommendations report for implementation and action
Evaluation and follow-up	Evaluate the processes involved in the HIA and its impact, and follow up on implementation through monitoring and a health impact management plan	• Conduct process and impact evaluation • Set up monitoring impacts • Develop a health impact management plan

the parties with a stake in the design and implementation of a policy or program to deliberate upon and assess the evidence to predict its impacts on the health of the population. Recommended actions are then formulated to enhance potentially positive impacts and to reduce potentially negative impacts. The stakeholders decide (by consensus or by voting or by decree) on the specific recommendations for action. The final step evaluates the process and impact of the HIA; and includes the development of a monitoring framework and plan for managing negative impacts if these eventuate.

How does HIA contribute to formulating healthy public policy?

HIA is recognised as a means by which the health sector can engage with other sectors to formulate public policy that promotes, protects, and maintains good health in populations, and that contributes to the achievement of health equity.[32-35]

Using a structured, transparent method, HIA draws together evidence of the potential impact of policies on health and its determinants, and on equity and its determinants, before policies are implemented, and, through deliberation among stakeholders, recommends actions to strengthen positive health impacts and reduce negative health impacts. HIA can also facilitate the implementation of 'joined-up' government – that is, of multiple sectors working together to solve complex problems.[36]

As a process and a method to assist policy makers in all sectors to predict the health impact of their policy proposals

An essential aspect of HIA is to make the pathway between the inputs proposed in a draft policy or program and potential health outcomes transparent to all stakeholders. For example, a recent 'Sydney Metro Strategy'[37] proposed new development on undeveloped land in western Sydney. The HIA, having identified food production as one of the determinants of health, exposed the fact that these so-called undeveloped areas were, actually, market gardens supplying a significant amount of fruit and vegetables to the Sydney region. The HIA predicted that the proposed strategy would be likely to lead to loss of livelihood for market gardeners (and stress-related health problems) and elevated food costs for the Sydney region (linked with poor nutrition among low income groups), and, subsequently, to potentially negative health impacts, particularly among low socio-economic groups.

As a tool to enable communities to participate actively in policy agenda setting and formulation

Although HIA has been used, primarily, to support policy-makers to assess the potential impact of policies or programs on the health of populations (and of the distribution of the impacts), HIA has also been used as a powerful mechanism for communities to participate in decisions about actions to address population health problems. There has been long-standing recognition in health promotion of the need for community participation in developing and delivering interventions. However, this understanding has evolved to be interpreted as the participation of communities (particularly, disadvantaged or vulnerable communities) in decisions and action around their own health in their own communities. Though such participation is central to all health promotion, it leaves the greatest burden for advocacy and mobilisation to groups that have the least capacity to carry it. Even when local community participation has contributed significantly to positive changes in health or its determinants at local levels, it is often insufficient to influence changes in macro-economic and social policies to distribute public resources and goods more equitably.[10]

As a method to increase the capacity of the health sector to work with other sectors effectively

A framework[38] developed by Harris, Wise et al. identified necessary steps in creating and maintaining effective intersectoral partnerships for health. Of these steps, identifying the need and opportunities to work together, are the two most critical to success. Sectors (or organisations) work together most effectively when it is possible to identify shared goals and benefits. For example, healthy children learn better than unhealthy children (educational goals achieved), while children who are well-integrated into their school societies and cultures and who learn well are also healthier (health goals achieved).[39] Or, people who are not exposed to interpersonal violence (justice/police sector goals) do not need health care for physical or psychological injuries (health sector goals).

The fact that the HIA is conducted, most effectively, on an existing policy or program proposal means that the health sector can engage the proponents (often from other sectors) on their own ground because they have identified an issue or problem they are already committed to act upon independently. Agreement by sectors other than health (or even by different disciplines or organisations within the health sector) to commit to an HIA is, in part, agreement to explore ways to increase the likely effectiveness of their own proposal in meeting their own sectoral goals.[35] This overcomes the need for the health sector to persuade other sectors of the need to act jointly to address issues that are critical to the health of populations, and overcomes the need to use moral or statistical arguments to encourage collaboration. Some officers within local governments that have undertaken HIAs commented that the process and the findings enhanced

their ability to progress policies and programs within their own Councils to achieve Councils' goals that would, in turn, contribute to improving the health of the population.[40]

Opportunities to work together arise most readily when the health sector is able to identify proposals from other sectors to which the health sector can add weight to action to achieve goals that are of benefit to both sectors. Health in All Policies (HiAP)[35] is one example of a planned approach on the part of the health sector to the identification of opportunities where the application of an HIA (or equivalent) would add value to both. HiAP seeks to influence policy agendas and policy development early in the cycle – to contribute to deciding on which policy issues are given attention by government (through any of its sectors), and to policy formulation.

HIA, on the other hand, works most effectively when policies or programs have been proposed or drafted, often, independently of the health sector. HIA has been shown to contribute by making the overlapping goals of sectors (including the health sector) transparent to all, and by creating the opportunity to speak across sectors about potential benefits to both (or all). The structured steps and processes used in HIA work together to create dialogue and shared meaning around specific proposals, thereby adding to the power of the health sector to influence decision-making upstream and pre-emptively, exposing opportunities to redress unfair inequalities that may have otherwise occurred in the distribution of the effects of a policy or program. Further, HIA is a prospective activity to influence real proposals, and the actual proposers (or their representatives) are in the room to consider the evidence and to negotiate and decide on recommendations.

As a method to include a range of evidence in a transparent process to assist policy-makers to formulate policy

The evidence on which an HIA is conducted is derived from multiple sources based on research using a variety of methods. The indicators used to measure health are not confined to causes of mortality and morbidity but include the determinants of health.[41] This, too, makes transparent, for all stakeholders, the relationships between the policies and practices of each of the sectors involved and the health of the population. For example, being engaged in an HIA on a proposal to regenerate an inner Sydney suburb led the Department of Housing to recognise the housing regeneration activities as a central determinant of health. This was achieved primarily through the HIA using a variety of sources of evidence to link the proposed regeneration activities to the health of the local community.[42] This recognition has since led to an ongoing collaboration across different projects between the housing and health sectors in a major metropolitan region of New South Wales.

Evidence from both (or all) sectors with a stake in a given proposal or plan is used in the conduct of the HIA – including the anticipated social, economic or environmental outcomes and the effects on the health of the affected population. In addition, the likely distributional effects of the proposed initiative are described. These are often unanticipated or invisible. For example, an HIA of a local government population plan for the economic and social future of a rural town found that the needs of young children aged 0-5 and their parents had not been considered in the original plan. The plan had been derived from community consultation in which members of this group had not been represented and hence, had not been heard.[43]

As a process and a method to detect unfair differences in impact on health and modify before the differences occur

HIA conducted before the adoption or implementation of a policy or program creates an opportunity to explore the potential differential impacts of policy and to either eliminate or, at least reduce these and/or, to take additional steps to mitigate harm. An important corollary of this is that the recommendations, for the most part, result from negotiated agreement between the sponsoring agency or sector and the health sector, improving the likelihood of their adoption. If the recommendations are adopted into a revised policy or program they become the responsibility of the 'host' sector within its ongoing ambit – requiring a much less intense (and lengthy) partnership between that sector and the health sector in the future. Each of the sectors is free to return to focusing on its own core business.

HIA also contributes to improving the likelihood of creating public policy that promotes health by creating the conditions for health and health equity, because it draws sectors together to gather, discuss, and reach consensus on the evidence, on its meaning, and on recommended options for improvement. For example, an HIA on a regional land-use development plan enabled the core agencies responsible for that plan to discuss and reach consensus concerning the implications of that plan in relation to health vulnerability.[44] The negotiations led to one site proposed for development being abandoned on the grounds that it could not be guaranteed that residents would have equitable access to the resources necessary for good health.

Challenges

Experience to date has identified several challenges that must be met if HIA is, in fact, to be useful in achieving health equity within and between populations, and in creating the social, economic, environmental and political conditions for health for all.

Although it is possible for HIA to be carried out by independent consultants working on behalf of a stakeholder group, HIA is most powerful when the stakeholders are actively engaged in its conduct so that evidence of the impacts on health and equity are considered jointly, and recommendations are negotiated as they are being formulated. HIA is a means to find a balance between evidence-based solutions and politics – the need to negotiate among competing interests to find acceptable solutions.

In every case, those responsible for the conduct of HIA need to decide on the evidence needed and its sources. Some HIAs require only research-derived evidence that has been verified through peer review and publication; others require a much heavier emphasis on evidence gathered, directly, from affected populations/communities/stakeholders – evidence derived from experience and from thought. The HIA process makes this decision (about which evidence to use) transparent and negotiable. For example, an HIA on a local foreshore development project placed primacy on community profiles for evidence on the use of the foreshore, and community consultations for evidence on the perceived appropriateness of proposed changes to the foreshore.[45]

Conclusions

HIA is not a panacea to the problems that have been encountered over the past two or three decades by those people/organisations attempting to close the health equity gap (or the gap in distribution of material resources, information, or political power in societies or communities). However, HIA offers the health sector (in particular) an approach to contribute effectively to influence public policy and practice across sectors, based on the best available evidence, and to contribute to the redistribution of benefits and rewards resulting from the implementation of the policies and practices.

Its contributions to promoting the health of populations (and/or in creating the social and environmental conditions for health) lie in several areas:

- It is located within real (rather than hypothetical or planned) policy and practice[28] – it applies when a proposal has reached the policy agenda of a government, an organisation, or a community with the intention of its being adopted and implemented.
- It uses evidence from all sectors/stakeholder interests with a role in the particular policy formulation and implementation[28] – evidence that would be available, most commonly, to the health sector, and, in particular, from people and communities who are often voiceless in the formulation of policy and programs.
- HIA is open to the participation of all those who have a stake in any given proposal, including communities.[46] Although there are always limits, the HIA process enables the active participation of large numbers of people and organisations in gathering and assessing the evidence, and in the negotiation of recommendations.
- HIA's processes, logic, assessment of evidence and recommendations are open to public scrutiny.
- HIA offers opportunities to work upstream – to influence public policies and programs before they are implemented.[28,33,35,47]
- Its structure and processes offer opportunities to understand and methods to elicit the relationships between complex social problems and complex solutions.[48]
- It contributes to the formulation of public policy that creates social, economic, and environmental conditions for health for all.[5,35]

HIA is an emerging field of theory, research and practice. Evidence of its effectiveness is promising and there is a growing recognition on the part of international agencies, in particular, of the contributions that HIA (and other relevant assessments) can make to achieving equitable, positive solutions to many of the world's difficult, complex problems.[49-51]

Developing and implementing public policy to address contemporary population health problems is a complex and demanding task. Democracy (here meant in its role as a method for encouraging public scrutiny of decisions affecting citizens) is a useful filter to ensure that governments and organisations are informed of the needs and demands of citizens and are accountable to them for the policies and programs that are implemented, and for the outcomes achieved. Research-derived evidence too, has been seen as a means to assist governments and organisations to improve policy making and program design – to achieve more positive results and to reduce unintended consequences.

However, the complex causes of many population health problems – in particular, problems resulting from the unequal distribution of societies' resources – require complex responses. It is demanding to work across sectors and organisations, with multiple people and sources of evidence in an attempt to reach solutions that are realistic and positive for all. It is difficult, to address problems that have multiple determinants, and to develop realistic, sustainable responses that address 'causes' and not symptoms. Little wonder that it has proven to be so difficult to turn understanding of the relationships between issues such as poverty, homelessness, powerlessness, and low literacy and health outcomes into understanding of the 'causes' of

each and into actions that change these to deliver positive, equitable outcomes.

HIA assists in such demanding situations by offering a structured approach that brings together the stakeholders to consider problems and solutions from multiple perspectives and, at least as importantly, to consider and decide on feasible actions that can be taken by all. It is in these ways that HIA has a major role in promoting, protecting and maintaining the health of populations and, particularly, in closing the equity gap.

References

1. Black D. *Inequalities in Health: Report of a Research Working Group*. London (UK): Department of Health and Social Services; 1980.
2. Jones CP. Levels of racism: a theoretic framework and a gardener's tale. *Am J Public Health*. 2000;90:1212-5.
3. Wilkinson R, Marmot M. *Social Determinants of Health: The Solid Facts*. 2nd ed. Copenhagen (DNK): WHO Regional Office for Europe; 2003.
4. Raphael D, Curry-Stevens A, Bryant T. Barriers to addressing the social determinants of health: insights from the Canadian experience. *Health Policy*. 2008;88:222-35.
5. Word Health Organization Commission on Social Determinants of Health. *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health* [final report]. Geneva (CHE): Commission on Social Determinants of Health, WHO; 2008.
6. Whitehead M. *The Concepts and Principles of Equity and Health*. Copenhagen (DNK): World Health Organization, Regional Office for Europe; 1990.
7. Navarro V. What we mean by social determinants of health. *Int J Health Serv*. 2009;39:423-41.
8. Green LW, Kreuter M. *Health Promotion Planning: An Educational and Ecological Approach*. 3rd ed. Mountain View (CA): Mayfield; 1999.
9. Nutbeam D, Harris E. *Theory in a Nutshell: A Practical Guide to Health Promotion Theories*. 2nd ed. Sydney (AUST): McGraw-Hill Australia; 2004.
10. Minkler M. Community organizing among the elderly poor in San Francisco's Tenderloin district. In: Minkler M, editor. *Community Organizing and Community Building for Health*. New Brunswick (NJ): Rutgers University Press; 1997. p. 244-58.
11. Seedhouse D. *Health Promotion: Philosophy, Prejudice and Practice*. 2nd ed. Chichester (UK): Wiley; 2003.
12. Australian Institute of Health and Welfare. *Australia's Health 2008*. Canberra (AUST): AIHW; 2008. AIHW Catalogue No.: AUS 99.
13. Steering Committee for the Review of Government Service Provision. *Overcoming Indigenous Disadvantage: Key Indicators 2009*. Canberra (AUST): Productivity Commission; 2009.
14. Leeder S. Celebrating the past; awakening the future: the NSW Public Health Forum highlights public health successes in NSW. *NSW Public Health Bull*. 2003;14:41-3.
15. Powles J. Public health policy in developed countries. In: Detels R, Beaglehole R, Lansang MA, Gulliford M, editors. *Oxford Textbook of Public Health Volume 3: The Practice of Public Health*. 5th ed. Oxford (UK): Oxford University Press; 2009.
16. National Health and Medical Research Council. *Promoting the Health of Australians: Case Studies of Achievements in Improving the Health of the Population*. Canberra (AUST): NHMRC; 1996.
17. National Health and Medical Research Council. *Promoting the Health of Australians: Final Report: A Review of Infrastructure Support for National Health Advancement*. Canberra (AUST): NHMRC; 1996.
18. Nutbeam D, Wise M. Section 12.9, Structures and strategies for public health intervention. In: Detels R, Beaglehole R, Lansang MA, Gulliford M, editorss. *Oxford Textbook of Public Health Volume 3: The Practice of Public Health*. 5th ed. Oxford (UK): Oxford University Press; 2009. p. 1653-67.
19. Wallerstein N. *What is the Evidence on Effectiveness of Empowerment to Improve Health?* Health Evidence Network Report. Copenhagen (DNK): WHO Regional Office for Europe; 2006.
20. Australian Bureau of Statistics, Australian Institute of Health Welfare. *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2008*. Canberra (AUST): ABS; 2008. ABS Catalogue No.: 4704.0.
21. Australian Bureau of Statistics. *Measures of Australia's Progress: Summary Indicators, 2009* Canberra (AUST): ABS; 2009. ABS Catalogue No.:1383.0.55.001.
22. Australia Department of Health and Ageing. *Building a 21st Century Primary Health Care System: A Draft of Australia's First National Primary Health Care Strategy*. Canberra (AUST): Commonwealth of Australia; 2009.
23. National Health and Hospitals Reform Commission. *A Healthier Future For All Australians: Final Report*. Canberra (AUST): Commonwealth of Australia; 2009.
24. Australian Institute of Health and Welfare. *Health Expenditure Australia, 2007-08*. Canberra (AUST): AIHW; 2009. Health and Welfare Expenditure Series No.: 37.
25. National Drug Strategy. Canberra (AUST): Commonwealth of Australia; 2009 [cited 2009 Sept 30]. *Ministerial Council on Drug Strategy*. Available from: http://www.health.gov.au/internet/drugstrategy/publishing.nsf/Content/mcds-lp
26. NSW Health. *NSW Health and Equity Statement: In All Fairness: Increasing Equity in Health across NSW*. Sydney (AUST): New South Wales Government Department of Health; 2004.
27. Harris-Roxas B, Harris PJ. Learning by doing: the value of case studies of health impact assessment. *N S W Public Health Bull*. 2007;18:161-3.
28. Harris P, Harris-Roxas B, Harris E, Kemp L. *Health Impact Assessment: A Practical Guide*. Sydney (AUST): Centre for Health Equity Training Research and Evaluation, University of NSW; 2007.
29. Dannenberg AL, Bhatia R, Cole BL, Heaton SK, Feldman JD, Rutt CD. Use of health impact assessment in the U.S.: 27 case studies, 1999-2007. *Am J Prev Med*. 2008;34:241-56.
30. Quigley R, den Broeder L, Furu P, Bond A, Cave B, Bos R. *Health Impact Assessment International Best Practice Principles*. Fargo (ND): International Association for Impact Assessment; 2006. Special Publication Series No.: 5.
31. Scott-Samuel A, Birley M, Ardern K. *The Merseyside Guidelines for Health Impact Assessment*. 2nd ed. London (UK): International Health Impact Assessment Consortium; 2001.
32. Kemm JR. Can health impact assessment fulfil the expectations it raises? *Public Health*. 2000;114:431-3.
33. Banken R. *Strategies for institutionalizing HIA*. Brussels (BEL): European Centre for Health Policy; 2001. ECHP Health Impact Assessment Discussion Papers No.: 1.
34. Davenport C, Mathers J, Parry J. Use of health impact assessment in incorporating health considerations in decision making. *J Epidemiol Community Health*. 2006;60:196-201.
35. Ståhl T, Wismar M, Ollila E, Lahtinen E, Leppo K, editors. *Health in All Policies: Prospects and Potentials*. Helsinki (FIN): Ministry of Health and Social Affairs; 2006.
36. Kemm J, Parry J, Palmer S, editors. *Health Impact Assessment: Concepts, Theory, Techniques and Applications*. Oxford (UK): Oxford University Press; 2004.
37. Western Sydney Regional Organisation of Councils. *The Greater Western Sydney Urban Development Health Impact Assessment* [final report]. Sydney (AUST): WSROC Ltd; 2007.
38. Harris E, Wise M, Hawe P, Finlay P, Nutbeam D. *Working Together: Intersectoral Action for Health*. Canberra (AUST): AGPS; 1995.
39. Jones A, Harris-Roxas B. *The Impact of School Retention and Educational Outcomes on the Health and Wellbeing of Indigenous Students: A Literature Review*. Sydney (AUST): Centre for Health Equity Training Research and Evaluation, University of New South Wales Research Centre for Primary Health Care and Equity; 2009.
40. Mathias KR, Harris-Roxas B. Process and impact evaluation of the Greater Christchurch Urban Development Strategy Health Impact Assessment. *BMC Public Health*. 2009;9:97.
41. McQueen D. Evidence and theory: continuing debates on evidence and effectiveness. In: McQueen D, Jones C, editors. *Global Perspectives on Health Promotion Effectiveness*. New York (NY: Springer; 2007. p. 281-303.
42. NSW Health. *Health Impact Assessment Report: Greater Granville Regeneration Strategy: Stage 1 Consultants Report*. Sydney (AUST): Sydney West Area Health Service; 2006.
43. NSW Health. *Lithgow City Council Strategic Plan 2007: Health Impact Assessment Report: Summary Document*. Sydney (AUST): Sydney West Area Health Service; 2008.

44. Wells VL, Gillham KE, Licata M, Kempton AM. An equity-focussed social impact assessment of the Lower Hunter Regional Strategy. *N S W Public Health Bull*. 2007;18:166-8.
45. Neville L, Furber S, Thackway S, Gray E, Mayne D. A health impact assessment of an environmental management plan: the impacts on physical activity and social cohesion. *Health Promot J Aust*. 2005;16:194-200.
46. Parry JM, Kemm JR, Evaluation of Health Impact Assessment W. Criteria for use in the evaluation of health impact assessments. *Public Health*. 2005;119:1122-9.
47. Kemm J. Health impact assessment: a tool for healthy public policy. *Health Promot Int*. 2001;16:79-85.
48. Kemm J. Health Impact Assessment and Health in All Policies. In: Ståhl T, Wismar M, Ollila E, Lahtinen E, Leppo K, editors. *Health in All Policies: Prospects and Potentials*. Helsinki (FIN): Ministry of Health and Social Affairs; 2006. p. 189-207.
49. International Finance Corporation. *Performance Standards on Social and Environmental Sustainability*. Washington (DC): IFC; 2006.
50. Equator Principles. *The Equator Principles: A Financial Industry Benchmark for Determining, Assessing and Managing Social & Environmental Risk in Project Financing*. Washington (DC): Equator Principles Financial Institutions; 2006.
51. World Health Organization. *The World Health Report 2008: Primary Health Care Now More Than Ever*. Geneva (CHE): WHO; 2008.

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