Essential Readings in Environmental Law
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HEALTH IMPACT ASSESSMENT (HIA)

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OVERVIEW OF KEY SCHOLARSHIPS

Origins of Health Impact Assessment

1. Kemm, J., "Health impact assessment: a tool for healthy public policy" (2001) 16:1 Health Promotion International.
2. Stahl, T., *et al.*, (eds), *Health in All Policies: Prospects and Potentials, European Observatory on Health Systems and Policy* (Helsinki: Finnish Ministry of Social Affairs and Health, 2006).
3. WHO European Centre for Health Policy, *Health impact assessment: main concepts and suggested approach* (Gothenberg Consensus Paper) (Brussels: WHO European Centre for Health Policy, 1999).

Defining and Implementing Health Impact Assessment

4. Birley, M., *Health Impact Assessment: Principles and Practice*(Abingdon: Earthscan/Routledge, 2011).
5. Gottlieb, L., *et. al*., *Health Impact Assessment: A Tool for Promoting Health in All Policies, Issue Brief Series: Exploring the Social Determinants of Health* (Robert Wood Johnson Foundation, 2011).
6. Kemm J., J. Parry and S. Palmer (eds), *Health Impact Assessment: Concepts, Theories, Techniques and Applications* (Oxford: Oxford University Press, 2004).
7. Bhatia, R., *et al., Minimum Elements and Practice Standards for Health Impact Assessment: North American HIA Practice Standards Working Group* (version 2) (Oakland, CA: November 2010).
8. Scott-Samuel, A., M. Birley and K. Ardern, *The Merseyside Guidelines for Health Impact Assessment* (second edition) (Liverpool1: International Health IMPACT Assessment Consortium, 2001).

Challenges Surrounding Health Impact Assessment

9. Steinemann, A., "Rethinking human health impact assessment" (2000) 20 Environmental Impact Assessment Review 627-645.

10. Wismar H. *et al*., (eds) *The Effectiveness of health impact assessment: Scope and limitations of supporting decision-making in Europe* (Brussels: World Health Organization, 2007).
11. Veerman, J. L., J. P. Mackenback and J. J. Barendregt, "Validity of predictions in health impact assessment" (2007) 61 Journal of Epidemiol Community Health 362-366.

Future of Health Impact Assessment

12. Harris-Roxas B., *et. al.*, "Health Impact Assessment: The State of the Art," (2012) 30:1 Impact Assessment and Project Appraisal 43-52.
13. Kemm, J., (ed) *Health Impact Assessment: Past Achievement, Current Understanding, and Future Progress* (Oxford: Oxford University Press, 2013).

Background

The World Health Organization has defined health impact assessment (HIA) as 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." **J. Kemm**, one of the leading scholars on HIA, has defined it simply as "a process which assists in making better decisions by predicting the health consequences of the different options under consideration.[…therefore allowing] you to make better decisions by trading off the positive and negative impacts of each option."

HIA has evolved from environmental impact assessments (EIAs) and in response to the need for a more interdisciplinary approach to health inequities. Historically, EIAs were criticized for failing to take into consideration the effects of projects on health generally, and by the late 1980s, the term environment grew to include social, cultural, and human health considerations. This, in turn, led to the growth of interest in the health outcomes of development projects and other policy and program decisions. In 1999, the World Health Organization produced the *Gothenburg Consensus Paper* which introduced and clearly outlined the concept of HIA and eventually led to the development and implementation of HIA as a method for evaluating the potential effects of changes to the built environment.

HIA is seen as a process aimed at evaluating the positive and negative human health effects of a proposal, development plan or policy, including unintended consequences on overall health, in order to inform the decision-making process. Many HIAs today are currently conducted outside any legislative or regulatory frameworks or legal requirements. Most HIAs are voluntarily undertaken, and any recommendations resulting from an HIA are being adopted, when they are being adopted, under the concept of best practice standards. Although HIAs are relatively new to the United States, many developed countries in Europe and elsewhere have been regularly conducting HIAs and making significant progress in the creation and implementation of HIAs tools and methodologies.

There exists a great deal of diversity in the practices and methods used to perform HIAs, and because of this, there are several problems or concerns that opponents of HIAs have voiced. Many argue that there is a lack of scientific literature on the subject. Others argue that there is insufficient scientific and empiric evidence to prove conclusively the effect of certain health determinants on specific health outcomes. Many argue that unlike an EIA, which is seen as largely quantitative, an HIA is largely qualitative in nature. Practitioners of HIAs have, therefore, attempted to adhere to some minimum standards of good practice to promote and quantify HIA quality. Today, these minimum standards of good practice include six stages typically found in the HIA process: screening; scoping; assessment; reporting; monitoring; and evaluation.

Screening is used to determine the value and purpose of the HIA, focusing on issues of feasibility and the capability of the HIA to add value to the discussions regarding the land use decision. The scoping phase is designed to identify health issues, research methods, and to determine how the population(s) will likely be affected by the health outcomes of the proposed action. Available evidence and existing research should also be evaluated at this point in an attempt to find a wide range of necessary resources. Assessment involves establishing baseline conditions, impacts, alternatives, and mitigation for the proposed action in order to report and evaluate the likely health outcomes, such as unnecessary exposure to air pollution and particulate matter, and their effects, such as increased respiratory disease and asthma, on the targeted population(s). Assessing the available information, research and resources will allow the HIA practitioners to evaluate risks and benefits in light of the specific details of the individual HIA. The assessment should also clearly identify who may be affected and how they will be affected.
During the reporting phase, the findings and recommendations from the HIA should be developed in such a way that health-based recommendations can be made in order to aid the decision-making process with respect to the proposed action. Recommendations should also include a viable plan for implementation. Involvement and input from the various stakeholders in the process is crucial. Finally, the monitoring phase allows for continuing evaluation of the subject of the HIA by engaged stakeholders and others involved in order to track outcomes of a decision and its implementation.

HIA also promotes public health objectives and improves communication between local and national governments and their associated health agencies. Because HIA has its roots in assessments more familiar to planners, such as the environmental impact assessment, HIA tools may have a familiar look and feel for most planners and other key stakeholders involved in national, regional and local development. Furthermore, the participatory and evidence-based approaches and processes of an HIA framework may assist with plan making, project and proposal review, and regulatory ordinances in a manner that will inform, and is informed by, the specific health outcomes for specific policy reform. For example, HIAs are starting to be incorporated into at least three major public policy debates in the United States: oil and gas drilling, gambling and land use decision-making.

Origins of Health Impact Assessment

1. In one of his earlier pieces ***Health impact assessment: a tool for healthy public policy***, **J. Kemm** argues that healthy public policy is one of the keys to promoting positive health action. Because policies often impact human health through multiple and indirect routes whose effects are hard to predict, **J. Kemm** maintains that the need to correctly foresee and evaluate the effects of such policies must be carefully considered. He stresses that the advancement of healthy public policy requires the consideration and careful evaluation of the consequences of such policies, which could be done through the use of HIA based on epidemiological models or sociological disciplines. For **J. Kemm**, the success of HIA depends on an understanding of policy-making process, with the goal of adding value to that process. In order to do so, HIA should provide information in a way that is relevant to policy makers and that fits the administrative structures of those policy makers. He cautions, however, that HIA could be misunderstood as health imperialism (placing health above all other sectors and considerations), and concludes with the belief that HIA shows promise as a tool for healthy public policy but requires further development before its full potential can be realized.

2. The publication by **T. Stahl et al**., ***Health in All Policies: Prospects and Potentials, European Observatory on Health Systems and Policy*** is a book that begins with the assumption that better health and well-being can contribute to a rise in the productivity and length of human life. To that end, the book explores prospects and potential of the European Union's Health in All Policies (HiAP) to improve population health. The work was produced as part of a project entitled "Europe for Health and Wealth", and was supported by funding from the European Union Public Health Programme, with contributions from a wide range of scholars throughout the European Union that research on issues of health, environment and economics. The book is divided into several sections, including one section that evaluates HiAP in a wider context by examining theories, concepts and challenges to HiAP, and a second section that is devoted to HIA and its role in realizing the principles of HiAP. The section on HIA includes a chapter that focuses on the rationale and theory behind HIA and then provides several chapters presenting results from various studies of the use of HIA in Europe, concluding with a case study where HIA was used to evaluate a local welfare strategy. The entire book provides a broad overview of concepts of better health and well-being as factors that impact human health overall, as well as the importance of evaluating and predicting human health impacts through the use of HIA.

3. Also known as the Gothenberg Consensus Paper, the **World Health Organization**'s ***Health impact assessment: main concepts and suggested approach*** followed up on the introduction to HIA provided by **Alex Scott-Samuel** in his work ***Health Impact Assessment: An Idea Whose Time Has Come*** (1996). As one of the earliest works to do

so, the Consensus Paper clearly outlined the concept of HIA and eventually led to the development and implementation of HIA as a method for evaluating the potential effects of changes to the built environment. The goal of the Consensus Paper was to create a common understanding of HIA and to clarify its main concepts while suggesting a possible method for conducting HIAs at the international, national and local levels. Although primarily created for policymakers, the Consensus Paper provided a solid foundation as well as common language for the discussion, improvement, and further development of HIA globally.

Defining and Implementing Health Impact Assessment

4. **M. Birley**'s book, ***Health Impact Assessment: Principles and Practice***, is designed to provide the reader with a workable definition of HIA and enable the reader to identify the components of an HIA and participate in the assessment of the success of HIAs. The book does a good job of describing HIAs using plain language, in both general and specific contexts, using examples from the planning and development sectors, the extractive industry, and housing and transportation sectors. **M. Birley** reiterates that HIA is primarily concerned with the future consequences of plans, proposals and policies on the health of communities and can be seen as a rapidly growing complement to EIA. In the work, **M. Birley** discusses guidelines that have been produced by many national and international organizations to promote the use of HIA, and points out that HIA is being introduced in a number of undergraduate or postgraduate university curricula. **M. Birley** maintains that, until publication of this book, there had been no broad-based introductory text of international scope to the subject, suitable for both these courses and for professional training, and this book attempts to fill that gap.

5. ***Health Impact Assessment: A Tool for Promoting Health in All Policies***, ***Issue Brief Series: Exploring the Social Determinants of Health pu***blished by **L. Gottlieb et. al.** is one in a series of 12 issue briefs exploring the social determinants of health. The series began as a product of the Robert Wood Johnson Foundation's Commission to Build a Healthier America. The work focuses on the collaborative nature of HIA and discusses the importance of engaging the stakeholders who will be affected by the decisions being considered. The authors, however, point out that despite growing awareness that social factors such as education, income and living conditions have powerful impacts on health, many decisions about policies and programs are often made without considering their potential health consequences. The work provides a solid foundation for the examination of HIA in the U.S. and indicates that recognition of the failure to consider human health impacts has increased interest in HIA, which is defined in the work as the systematic assessment of the health effects of implementing policies outside of the health sector.

6. Health effects are often overlooked in the planning of projects and changes to policies or programs, the benefit of employing an HIA to assess the health effects, positive or

negative, of a project, program, or policy. Hence, this is the focus of **K. Kemm, J. Parry** and **S. Palmer's *Health Impact Assessment: Concepts, Theories, Techniques and Applications***. As the title indicates, this book provides a comprehensive overview of the concepts, theory, techniques, and applications of HIA to aid all those preparing projects or carrying out assessments. **K. Kemm, J. Parry, S. Palmer** and the other contributors provide examples and thinking from many different disciplines and many parts of the world. The book attempts to help map a confused field and provides guidance on possible directions for future progress. The articles are designed to demonstrate that HIA is intended to help decision makers in all areas that foresee the consequences of their decisions, to ensure the consequences are considered and reduce the risk of population health being damaged through some direct and unintended consequence of a decision. The intended audience for this book ranges from epidemiologists, environmentalists, health economists, and public health specialists, to policy makers, decision makers, and planners at all levels.

7. ***Minimum Elements and Practice Standards for Health Impact Assessment: North American HIA Practice Standards Working Group*** by **R. Bhatia, *et al***. represents a revision of version one of Practice Standards for Health Impact Assessment (HIA) published by the North American HIA Practice Standards Working Group in April 2009. Participants at the first North American Conference on Health Impact Assessment held in Oakland, California in September 2008 identified the development of standards as a priority need for the field. Subsequent to the 2008 conference, participants collectively developed the first version of these practice standards. This document reflects the second version of those standards, and has been revised to include a set of "minimum elements" of HIA practice. This work was created in order to answer the question of what essential elements constitute an HIA, which are distinct from Practice Standards, answering the question of how to best conduct an HIA. Because there is considerable diversity in the practice and products of HIA due to the variety of decisions assessed, diverse practice settings, and the nascent evolution of the field, this document attempts to translate the values underlying HIA along with key lessons from HIA practice into specific "standards for practice" for each phase of the HIA process. These Minimum Elements apply to HIA whether conducted independently or integrated within an environmental, social or strategic impact assessment.

8. ***The Merseyside Guidelines for Health Impact Assessment***, edited by **A. Scott-Samuel**, **M. Arden** and **K. Birley**, have been written for those who wish to commission or to carry out a HIA. As described in the work, the guidelines are designed to be of use to those working in government, the health sector, the community, and other sectors whose work influences (or is influenced by) public policy. Similar to the Minimum Standards created by North American HIA Practice Standards Working Group, the Guidelines

outline methods for undertaking HIA and provide a comprehensive bibliography listing relevant publication by authors and reports from the Liverpool Public Health Observatory's HIA Program.

Challenges Surrounding Health Impact Assessment

9. **A. Steinemann**'s ***Rethinking human health impact assessment*** argues that while most EIA programs around the world require the consideration of human health impacts, relatively few EIA documents adequately address those impacts. Her article, therefore, examines to what extent health impacts are analyzed in EIAs in the United States. The work contains an empirical study of 42 EIAs and highlights that more than half of those EIAs contained no mention of health impacts whatsoever, while the remaining studies analyzed the health impacts narrowly, overlooking other factors such as significant morbidity and mortality risks, cumulative and intergenerational effects, and the broader determinants of health. **A. Steinemann**'s work investigates these problems and provides recommendations to improve human health impact assessment, using strategic EIAs, qualitative health data, health outcomes, and a precautionary approach to risk.

10. ***The Effectiveness of Health Impact Assessment: Scope and Limitations of Supporting Decision Making in Europe*** by **H. Wismar *et al***. provides a detailed discussion of the use of HIA across a wide range of sectors. This includes transportation, environment, urban planning, and agriculture, while providing information on HIAs at the national, regional and local levels. The book is based on a European research project funded under the European Union Public Health Work Programme. The research was led by the European Observatory on Health Systems and Policies and included research teams from 19 countries. The editors selected contributions that reviewed both the implementation and institutionalization of HIA, and explored HIA's effectiveness through an analysis of 17 case studies using a common analytical approach. The research identified several factors that contribute to the effectiveness of HIA and demonstrated that HIA can be used as a support tool for decision-making. The authors, through their research, demonstrate that HIA can be effective, but also highlight the uneven development and incomplete institutionalization of HIA across Europe.

11. As **L. Veerman, J. Mackenback** and **J. Barendregt** highlight in their article, ***Validity of Predictions in Health Impact Assessment***, an essential component of HIA is that it seeks to predict possible future consequences of decisions on human health. These predictions have to be valid, but as the authors point out, it is sometimes unclear how validity should be defined in HIA. This article attempts, therefore, to examine the philosophical basis for predictions and the relevance of different forms of validity to HIA. The article also proposes a checklist to establish the validity of predictions in HIA. Importantly, the article draws attention to the fact that there are various definitions of HIA as well as a wide variety of activities that have been termed HIA which can complicate validity

determinations. The authors are clear, however, that they are in agreement with the noted HIA scholar **J. Kemm** in that HIA seeks to predict the future consequences of possible decisions while informing policy decisions on the basis of those predictions. Following a detailed discussion of what constitutes an HIA, the authors structure the article in order to present the conceptual basis for predictions in HIA, interweaving analysis of the concepts of validity. The importance of this work stems from its logical attempts to construct a checklist to establish the validity of predictions in HIA and to critically discuss issues in assessing such validity.

Future of Health Impact Assessment

12. In ***Health Impact Assessment: The State of the Art*** **Ben Harris-Roxas, *et. al***. contend that HIA has matured over the last two decades as a form of impact assessment and now provides a method and approach to analyzing the human health impacts of changes in project, policies and programs. The article provides an important addition to current HIA literature because it closely examines the rapidly expanding field of HIA. In highlighting the fact that HIA has now been used in both the public and private sector and in a growing number of countries around the world, the authors detail the strengths and weaknesses of HIA as well as the opportunities and challenges to its continued use and practice. The article draws on the historical and international developments in HIA over the last several decades as detailed in HIA literature and also relies upon five workshops on 'Current issues in HIA practice' held at International Association for Impact Assessment (IAIA) conferences between 2006 and 2011.

13. **J. Kemm**'s ***Health Impact Assessment: Past Achievement, Current Understanding, and Future Progress*** explores the past development of HIA, its current practice and possible future. The first section provides an overview, describing the various ways in which an HIA can be done. Highly practical in emphasis, it describes how HIA can be applied in different contexts to meet the needs of different decision makers and answer a variety of questions. It deals not only with the many good reasons for using HIA but also critically examines the weaknesses of current practice. The second part consists of chapters written by various authors practicing HIA from different countries throughout the world, demonstrating the various pressures and legislative frameworks that have shaped the evolution of HIA. These chapters illustrate the range of views about the reasons for doing HIA and how HIAs should be done, revealing how the practice of HIA has been adapted to suit different cultures and help decision making in varying situations. Of note, the chapters on HIA in Australia (**B**. **Harris-Roxas *et. al.*** Health impact assessment in Australia) and Thailand (**S. Chandanachulaka** Health impact assessment in Thailand) provide strong examples of the evolving concepts in HIA, covering health equity, social justice, and full-scale national government involvement.

Representative Scholarly and Other Literature

1. Bhatia, R., *Health Impact Assessment: A Guide for Practice* (Oakland, CA: Human Impact Partners, 2011).
2. Bhatia, R., Wernham, A., "Integrating Human Health into Environmental Impact Assessment: An Unrealized Opportunity for Environmental Health and Justice" (2008) 116:8 Environmental Health Perspectives 991-1000.
3. Cole B. L. and J. E. Fielding, "Health impact assessment: a tool to help policy makers understand health beyond health care" (2007) 28 Annual Review of Public Health 393-412.
4. Cole B. *et al.*, "Prospects for health impact assessment in the United States: New and improved environmental impact assessment of something different?" (2004) 29 Journal of Health Politics, Policy and Law 1153–1186.
5. Collins, J., and J. P. Koplan, "Health impact assessment: A step toward health in all policies" (2009) 302 Journal of the American Medical Association 315–7.
6. Dannenberg, A., *et al.*, "Growing the Field of Health Impact Assessment in the United States: An Agenda for Research and Practice" (2006) 96:2 American Journal of Public Health 19–27.
7. Dannenberg, A., *et. al*., "Use of Health Impact Assessment in the U.S. 27 Case Studies, 1999-2007 (2008) 34:3 American Journal of Preventive Medicine, 241-256.
8. Harris, P., *et. al.*, "Human Health and wellbeing in environmental impact assessment in New South Wales, Australia: Auditing health impacts within environmental assessments of major projects" (2009) 29 Environmental Impact Assessment Review 310-318.
9. Harris-Roxas B., and E. Harris, "Differing forms, differing purposes: A typology of health impact assessment" (2011) 31 Environmental Impact Assessment Review 396–403.
10. International Association for Impact Assessment. Health Impact Assessment International Best Practice Principles; Special Publication Series no. 5. Fargo, ND; 2006.
11. Joffe M., J. Mindell, "A framework for the evidence base to support health impact assessment" (2002) 56 J Epidemiol Community Health 132–138.
12. Kemm J., "Can Health Impact Assessment fulfil the expectations it raises?" (2000) 114 Public Health 431-433.
13. Kemm, J., "Health impact assessment: a tool for healthy public policy" (2001) 16:1 Health Promot Int 79-85.
14. Ko, P., and P. Salkin, "What Every Land Use Lawyer Should Know about the Emerging Use of Health Impact Assessment and Land Use Decision Making" (2011) 13:6 New York Zoning Law and Practice Report 1-10.
15. Krieger N, M. Northridge, S. Gruskin, M. Quinn, D. Kriebel, D. Smith G, *et al.*, Assessing health impact assessment: multidisciplinary and international perspectives. J Epidemiol Community Health 2003 57(9):659-662.
16. Mindell J., *et al.*, "Enhancing the evidence base for HIA" (2004) 58 J Epidemiol Community Health 546–551.

17. Mindell J, M. Joffe, K. Lock, S. Curtis, A. Boaz, and J. Biddulph, Improving the use of evidence in health impact assessment. Bulletin of the World Health Organization 2010; 88:543–550.
18. Mindell J., A. Hansell, D. Morrison, M. Douglas, and M. Joffe, What do we need for robust, quantitative health impact assessment? Journal of Public Health Medicine 2001; 23: 173-178.
19. Morgan, R., Health and impact assessment: Are we seeing closer integration?, Environmental Impact Assessment Review, 31 (2011) 404-411.
20. National Research Council, Improving Health in the United States: The Role of Health Impact Assessment (Washington, DC, The National Academies Press 2011), available at: http://www.nap.edu/catalog.php?record_id=13229.
21. Parry J., and J. Kemm, "Criteria for use in the evaluation of health impact assessments" (2005) 119 Public Health 1122-1129.
22. Parry J. and A. Stevens, "Prospective health impact assessment: pitfalls, problems and possible ways forward" (2001) 323 British Medical Journal 1177-1182.
23. Salkin, P. and P. Ko, "The Effective Use of Health Impact Assessment in Land-Use Decision Making" (2011) Zoning Practice, Issue 10; American Planning Association, October.
24. Wernham, A., "Health Impact Assessments Are Needed In Decision Making About Environmental and Land-Use Policy (2011) 30:5 Health Affairs 947-956.
25. Wernham, A., Health impact assessments: A decision making tool to enhance social justice. In: American Public Health Association Conference, November 9-11, 2010. Denver, Colorado; 2010.
26. Wernham A., "Inupiat health and proposed Alaskan oil development: Results of the first integrated health impact assessment/environmental impact statement for proposed oil development on Alaska's north slope" (2007) 4 EcoHealth 500–513.
27. Wismar M., *et. al*., "Implementing and institutionalizing health impact assessment in Europe", Health in Stahl, Wismar and Ollila Lahtinen Leppo (eds) *All Policies: Prospects and Potentials* (Finland: Ministry of Social Affairs and Health, 2006).

Examples of HIAs

1. The UCLA Health Impact Assessment Clearinghouse Learning and Information Center has a complete list of HIAs conducted (or being conducted) in the United States with links to HIAs, proposed legislation for HIA and other valuable resources. The clearinghouse website is available at http://www.hiaguide.org/
2. Atlanta Beltline Health Impact Assessment. Georgia Tech - Center for Quality Growth and Regional Development, Atlanta, Georgia: May 2007. Available at http://www.hiaguide.org/hia/atlanta-beltline
3. HIA Report: Zoning for a Healthy Baltimore: A Health Impact Assessment of the Transform Baltimore Comprehensive Zoning Code Rewrite. Johns Hopkins University -

Center for Child & Community Health Research, Baltimore, Maryland: August 2010. Available at http://www.hiaguide.org/hia/transform-baltimore-health-impact-assessment

4. Battlement Mesa Health Impact Assessment. Colorado School of Public Health, University of Colorado Denver, Aurora, Colorado: September 2010. Available at http://www.hiaguide.org/hia/battlement-mesa-health-impact-assessment
5. The HIA Gateway provides access to resources and information on Health Impact Assessment in the United Kingdom for those new to HIA, practitioners of HIA and those wishing to commission HIAs. The website is available at http://www.apho.org.uk/default.aspx?QN=P_HIA
6. Minerals Local Development Plan Health Impact Assessment. South Lanarkshire Council and Enterprise Resources, Scotland: April 2010. Available at http://www.apho.org.uk/resource/item.aspx?RID=90345
7. Rapid Health Impact Assessment of the Proposed London Olympic Games and Their Legacy. The London Health Commission and the London Development Agency, London: November 2004. Available at www.apho.org.uk/resource/view.aspx?RID=61057