

# **An Analysis of State Health Impact Assessment Legislation**

By  
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NATIONAL CONFERENCE *of* STATE LEGISLATURES

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Preface and Acknowledgments

## PREFACE AND ACKNOWLEDGMENTS

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## NCSL's Health Impact Assessment Project

The National Conference of State Legislatures (NCSL) in collaboration with the Health Impact Project<sup>1</sup> examined how states are turning to health impact assessments (HIAs) to identify and address possible health implications of decisions made in non-health sectors, such as transportation, education or social policies.

HIAs follow a structured process that brings together public health expertise, scientific data, and stakeholder input to (1) identify potential health effects of a proposed policy, project, or plan, and (2) offer recommendations based on any possible risks or benefits identified in the study. HIAs have been used by legislators, public agency officials, academics, nongovernmental organizations, and industry to objectively evaluate a project or policy before it is built or implemented so that policy changes, design modifications, or other measures can be taken to optimize the health effects and mitigate health risks.

Through this project, NCSL examined state legislation and state statutes identifying and addressing health impact assessments. Most states did not seek to implement a comprehensive Health Impact Assessment program, but many aspects of HIAs have been adopted by state governments.

NCSL, in consultation with the Health Impact Project, reviewed state statutes, policies and legislation as far back as 2007 to identify how state policymakers perceived the concept, how the concept was being addressed in state legislation and policy, and what results have occurred from the adoption of such legislation and policy. NCSL conducted personal interviews with state legislators who sponsored HIAs, with state legislative staff providing legislative and fiscal analysis, and with state agency personnel responsible for implementing HIA policy, to gain insight into the variety of approaches and impressions of HIAs.

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<sup>1</sup> The Health Impact Project, a collaboration of the [Robert Wood Johnson Foundation](#) and [The Pew Charitable Trusts](#), is a national initiative designed to promote and support the use of health impact assessments as a decision-making tool for policymakers.

## ABOUT THE AUTHOR

Doug Farquhar has authored or co-authored several publications on environmental health and has testified before more than 45 legislative bodies on various issues. Before he came to NCSL, Mr. Farquhar worked in the Texas House of Representatives and on Capitol Hill in Washington, D.C. He received his Juris Doctor from the University of Denver and his bachelor's degree from the University of Texas at Austin. He currently is an adjunct professor for the University of Denver's Environmental Policy and Management graduate program and the Colorado School of Public Health.

## Executive Summary

A Health Impact Assessment (HIA) is:

“a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects.”<sup>1</sup>

### State Legislatures and HIAs

Use of HIAs as a decision-making tool in the United States is a growing practice. State legislators are exploring how to incorporate HIAs into state laws and policies. The Massachusetts state legislature included HIAs in its transportation modernization act. The California and Maryland legislatures considered integrating HIAs into land-use planning. The Washington legislature required an HIA for a specific project, the rebuilding of the Lake Washington Bridge. In Alaska, HIA legislation was introduced but not enacted; instead the Alaska Department of Health and Social Services, as part of the state’s multi-agency permitting process, uses HIAs to inform the state and local community of potential health effects during the planning of large projects. Alaska’s HIAs are integrated into state permitting activities and federal studies for oil and gas and mining projects.

Legislatures have discussed using HIAs to determine the impact a hospital closure will have on a community, how expanding an airport will affect the surrounding neighborhoods and the impacts of pending legislation on health disparities in vulnerable populations. Some states have explored combining health impacts with environmental impacts via their environmental laws or policies.

HIAs follow a structured process that brings together public health expertise, scientific data, and stakeholder input to (1) identify potential health effects of a proposed policy, project, or plan, and (2) offer recommendations based on any possible risks or benefits identified in the study. HIAs have been used by legislators, public agency officials, academics, nongovernmental organizations, and industry to objectively evaluate a project or policy before it is built or implemented so that policy changes, design modifications, or other measures can be taken to optimize the health effects and mitigate health risks.

In utilizing an HIA, there are certain issues states can consider up front to ensure the maximum benefit from HIAs:

- What criteria to use when determining if an HIA should be done;
- How to determine the scope of health issues that will be included;
- Whether to create mandates or incentives for using HIAs; and
- How the studies will be funded.

### ***When has an HIA been useful?***

HIAs can provide valuable insight into how a project or policy will affect the public's health, but an HIA is not always warranted. For certain topics, an HIA will provide scant new information, or the health concerns may have been addressed in another study. Considerations that may be important in determining when an HIA would be helpful include:

- The decision has the potential to affect important health risks or benefits;
- These health effects would not otherwise be clearly identified and addressed by another study that is already planned or underway; and
- There are adequate resources and time to conduct the HIA within the timeline for the decision at hand.

### **Health Effects Studied**

An HIA determines the scope of health effects that will be considered through a systematic consideration of all potential health factors associated with the proposed action. Prioritizing the study to focus on health effects limits the analysis, which saves both time and resources.

### **Mandatory or Voluntary HIAs**

Legislators have proposed that HIAs either be mandated (required for a specific project or situation) or encouraged through incentives (providing funding or technical assistance to communities for an HIA).

### **Funding of HIAs**

Identifying funding for an HIA project can be challenging. Unless funding is specified within a project's budget, the state must identify other resources to support the HIA. The availability of funds affects an agency's ability to conduct HIAs when required, and the quality of the analysis. For certain projects, the HIA is incorporated into the project budget. For other projects, funds are solicited from federal agencies or private foundations to perform the HIA and are separate from the project's budget. In other instances, if a community requests an HIA, funding to support the effort comes from state agency sources dedicated to HIAs.

In at least one case, legislators have included a screening provision to allow the implementing agency to consider whether adequate staff and resources are available in reaching a decision regarding whether or not to conduct an HIA. However, this approach might result in decisions not to conduct an HIA even where the information would be valuable to policymakers.

### **The Future of HIAs**

Decision makers at all levels in the United States are using the fast-growing field of HIA to take health into account when making decisions in a broad range of sectors. Given that health care consumes a substantial percentage of many state budgets, HIAs offer a data-based approach to addressing pressing health issues and leveraging investments in other areas of policy that affect health, such as transportation and urban planning, natural resource management, housing and social policies.



HIAs provide a cost-efficient method to ascertain the health-related implications of proposed policy and planning decisions, and to make recommendations that ameliorate community concerns, mitigate potential problems, and stave off unintended consequences.<sup>2</sup>

## Introduction

### **Making health a priority in public decisions**

*“We study economic impacts and environmental impacts; we should be looking at the health impacts.”*

West Virginia Senator Dan Foster, 2005

The intent of an HIA is to provide the public health data for policymaking. It is rare for HIAs to put forward an overall judgment regarding whether a proposal is good or bad for health, or to make recommendations for or against a proposal. Rather, the purpose of an HIA is to: (1) provide decision makers with clear, transparent information so they may balance health effects with other considerations; and (2) identify practical, feasible measures that can both mitigate adverse health effects and maximize potential benefits.

HIAs are conducted within the timeframe of the decision-making processes at hand. Rather than requiring extensive new data collection, most HIAs primarily rely on existing data. The complexity of HIAs and the time and resources required to carry them out vary considerably. Smaller-scale assessments—often described as rapid HIAs—can be accomplished in weeks.

More in-depth, comprehensive HIAs may take longer than one year. Costs range from less than \$10,000 to more than \$150,000 for a comprehensive HIA that involves new data collection and informs a large scale, complex decision.<sup>3</sup> (See Figure 1.)

#### **Figure 1: Types of HIAs: A spectrum from rapid to comprehensive studies**

To function as a practical tool, HIAs must be flexible. When data are needed quickly—for example, to inform a legislative vote anticipated to take place in a matter of weeks—the HIA will, by necessity, be a less detailed assessment. In other cases that are not time sensitive, such as a multi-year planning process for a major new highway, a comprehensive assessment may be more appropriate for planners and decision makers involved.

Various types of HIA analysis include:

- Rapid HIAs may involve no direct stakeholder engagement, or they may involve circumscribed efforts to engage stakeholders through, for example, a single community meeting, a limited number of focus groups, or participation on an advisory committee. The analysis may be simpler—often involving a brief summary of available published literature, but without more complex modeling or analytic methods. The scope of health effects considered may be narrower and focus on the effects that the authors judge to be the most important. Intermediate HIAs in general, will involve more robust analysis and greater engagement of stakeholders. In most cases, these HIAs rely on existing data sources rather than undertaking extensive new data collection.
- Comprehensive HIAs tend to include a broader range of health effects, in-depth engagement of stakeholders at every step of the study, and the collection of new data to inform the analysis.

*Sources:*

World Health Organization, The HIA Procedure, Health Impact Assessment (HIA) <http://www.who.int/hia/tools/process/en/index1.html>, Accessed July 16, 2012; National Research Council, Committee on Health Impact Assessment. 2011. *Improving Health in the United States: The Role of Health Impact Assessment*. Washington, D.C.: National Academies Press.

Many legislators are familiar with a “health risk assessment”—a tool used for environmental projects. These studies, however, have historically focused on narrowly defined issues, such as the cancer risk associated with a single pollutant. By comparison, an HIA systematically examines the physical, economic, social and cultural attributes of a proposed project or policy to identify factors that could affect both the public’s health overall and the risk of specific illnesses. For a given decision or plan, HIAs also can identify vulnerable populations—children, the elderly, low-income residents and people with chronic conditions—and propose measures to ensure that these groups are not adversely affected.

In the United States, HIA practice is relatively new but rapidly growing. In 2007, a study by the Centers for Disease Control and Prevention (CDC) identified 27 completed HIAs nationally. By 2013, that number had grown to nearly 200 completed HIAs and more than 50 additional ones in progress.<sup>4</sup> No federal laws require HIAs to be conducted, though several require the systematic consideration of health effects, which can be accomplished by conducting an HIA.<sup>5</sup>

#### **HIA in practice: Experiences around the World**

The use of HIAs is a common practice internationally. Governments—including the European Union, Thailand, Australia and Canada—have adopted a range of laws that require or support the use of HIA in specific settings.

Over the last decade, HIAs have become a part of the evaluation standards that many banks apply to large development loans: project proponents seeking funds now frequently conduct integrated studies known as “environmental, social and health impact assessments.” Government agencies will perform an HIA prior to the implementation of a policy to ensure that any potential risks are identified, as well as to capitalize on opportunities to improve the health of their constituents.

The oil industry and gas and mining companies have developed internal corporate standards for using HIAs during project planning as a way to protect the health of affected communities, control business costs, and build public trust by prioritizing health concerns.<sup>6</sup> Both the International Association of Oil and Gas Producers and the International Council on Metals and Mining have developed guidance for their members on applying HIAs.<sup>7</sup>

Most HIAs in the United States are undertaken outside of any formal statutory or regulatory requirement by a range of actors, including health officials; planning, transportation, housing, and environmental agencies; local community groups; universities; and health advocates.<sup>8</sup> Many HIAs are conducted voluntarily as a way to proactively identify and mitigate potential risks, address community concerns, and focus on high-priority community health issues. To date, the most common uses of HIAs have been in land use and transportation planning. Both planners and public health

professionals have carried out HIAs on a range of comprehensive plans, rezoning, development permitting, transportation corridor planning, and road and public transit.

HIAs have also been used for policy and legislative decisions. Topics include legislation for paid sick days (California, Maine, Massachusetts, New Jersey, New Hampshire, Milwaukee, and Denver), the purchase of farm products for school lunches (Oregon), and casino development (Kansas), as well as policies concerning rental housing inspection programs (Ohio) and the implementation of “smart electrical metering” technology (Chicago).

State, tribal, and federal agencies also have turned to HIAs as part of their environmental impact statements for natural resource development projects (oil, gas, and mining) and transportation planning. In Alaska, the Department of Natural Resources and the Department of Public Health undertake HIAs for all environmental impact statements related to large projects, whether public or private, such as new roads, oil development, or large mine permits.

According to Pew’s tracking of the field, many HIAs in the United States have been financed by the conducting organization or by grants from private foundations. It is less common for HIA work to be funded as part of an existing state or local permitting process.<sup>9</sup>

### **Developing HIA in six steps**

There are six major steps involved in the HIA process—screening, scoping, assessing, recommending, reporting, and monitoring and evaluation. (See Figure 2)

### Figure 2: The Six Basic Steps of Health Impact Assessments

- **Screening:** Determine whether health effects are likely, whether an HIA can be conducted within the timeline and resources available, and whether it is likely to add valuable new information that will improve the decision.
- **Scoping:** Consult with stakeholders and develop a plan for the HIA that answers the questions:
  - What are the likely health impacts, and which need further assessment?
  - Who are the stakeholders in the decision? How will they be engaged?
  - Who will conduct the HIA?
  - Who is responsible for making the decision?
- **Assessing:** Describe the baseline health of affected communities and assess the potential impacts of the proposed action and any alternatives under consideration.
- **Developing recommendations:** Develop practical solutions that can be implemented within the political, economic, or technical limitations of the project or policy being assessed.
- **Reporting:** Disseminate the findings to decision-makers, affected communities, and other stakeholders.
- **Monitoring and evaluating:** Track the changes in health or health risk factors and evaluate the effectiveness of the measures that are implemented and the HIA process as a whole.

*Sources:* National Research Council, Committee on Health Impact Assessment. 2011. *Improving Health in the United States: The Role of Health Impact Assessment*. Washington, D.C.: National Academies Press; Health Impact Project, “Health Impact Assessment: Bringing Public Health Data to Decision Making,” Washington, DC: Pew 2010 <http://www.healthimpactproject.org/resources/policy/file/health-impact-assessment->

## Screening

An HIA is not needed for every public decision. Screening determines whether an HIA would be useful and minimizes the risk of performing unnecessary, costly, or redundant assessments by answering pertinent questions such as:

- Are there likely to be important health effects impacted by the public decision?
- Will an HIA add valuable information to the decision-making process?
- Are potential health effects being adequately addressed in other studies? Is this study necessary?

There are no uniformly accepted criteria for when to conduct an HIA. Because there are no government requirements for conducting HIAs, most have been done on an ad hoc basis when an agency, community organization, university, health department or other institution determines that a given decision would benefit from the systematic consideration of health effects. Based upon an analysis of HIA practice, factors to consider in determining whether an HIA is beneficial or necessary include:

- The potential for substantial adverse or beneficial health effects and the potential to make changes in the proposal that could result in an improved health risk-benefit profile.
- The potential for HIA-based information to alter a decision or help a decision-maker discriminate among decision options.
- The potential for a decision to have irreversible or catastrophic effects (including effects of which there is a low likelihood).
- The potential for health effects of a decision to disproportionately burden or substantially benefit vulnerable populations.
- A high level of public concern or controversy regarding health effects of the proposed decision.
- The opportunity to bring health information into a decision-making process that may otherwise not include this information.
- The potential for the HIA to be completed in the time allotted and with the resources available.<sup>10</sup>

Some organizations have taken a different approach to screening, by simply determining that a specific project or type of project would require an HIA. In Washington, for example, the state Legislature determined that the health effects from the Lake Washington Bridge Project in Seattle should be studied using HIA. On the other hand, in Alaska the state uses a screening process to determine the value of performing an HIA for a particular project.

### **Scoping**

Scoping sets the boundaries and framework for an HIA by identifying the range of potential health impacts that are significant enough to require detailed study. Scoping also determines:

- The geographic boundaries of the study area;
- The communities, organizations, agencies, and individuals who have a stake in the outcome; and
- The methods for including these stakeholders in the HIA process.

Based on these considerations, a work plan and timeline is established.

During this stage of an HIA, stakeholders' roles and influence are considered: Who can help to define the most important issues to address and provide contextual information from the affected community about prevailing health-related challenges and needs, as well as concerns and about hopes regarding the potential effects of the proposed policy or project. This information, as along with economic and business considerations, will ensure that the analysis is accurate and relevant to those most likely to be affected.

A key feature that differentiates health *impact* assessments from the health *risk* assessments (often used for environmental projects) is that HIA scoping begins with a broad, systematic consideration of all features of a proposed project, policy or plan that

might affect health, rather than focusing on the risk of a single type of exposure. This big-picture approach ensures that less obvious risks and benefits are identified and addressed. Scoping eliminates minor issues, yielding a prioritized set of points that warrant full analysis based on their significance to health and the level of concern among stakeholders.

### **Assessing risks and benefits**

The stage at which risks and benefits are assessed involves two steps. The first uses available data to describe the baseline health status of the affected community. This analysis examines the rates of illnesses in the affected area and describes how prevailing social, economic or environmental conditions may contribute to those illnesses. Since road projects often increase traffic and air emissions in an area, an HIA might study rates of asthma and respiratory factors that may affect the risk for these conditions. Other health factors involving a road project could include the health benefits of adding sidewalks and bike lanes, which facilitates exercise.

The second step analyzes the potential health risks and benefits of the proposed policy, plan, or project. The evaluation relies on a range of existing data sources, including published literature, public health resources such as disease registries, and data regarding influences on health along the lines of air quality, water quality, and traffic flow. Less commonly, an HIA may involve the collection of new data.

Input from stakeholders—including members of affected communities, developers, and officials from agencies involved in the decision—is also considered. These data may be gathered by the HIA team through focus groups, key stakeholder interviews or community meetings. Or, if the study is being conducted in conjunction with another planning process such as an environmental impact assessment, the public meetings and comment periods used in that study may be the source of this information for the HIA.

The U.S. National Research Council, in their study of HIAs, emphasizes that these analyses should be done pragmatically and in a manner that reflects a balance between scientific rigor and professional judgment.<sup>11</sup> The HIA process does not require that time and resources be spent gathering new data when existing information—even if incomplete—is adequate for informing the decision at hand. The council's guidance stresses, however, that HIAs must be explicit regarding the sources, strength of evidence, assumptions, and uncertainty in predictions based on the data.

### **Developing recommendations**

Based on the health effects identified, an HIA provides recommendations for measures that can be taken to minimize or mitigate health risks and maximize health benefits.

HIAs are not intended as a binding authority on whether a policy should be enacted or a project should be permitted to move forward—that role rests with the decision-makers. HIAs rarely include recommendations on whether a proposal should be accepted or

rejected. Instead, recommendations typically put forth specific and practical modifications to the proposed project or policy that could be taken to minimize health risks and optimize health benefits. These pragmatic suggestions also identify health-related performance indicators (for example, rates of traffic injury after a road improvement) that can be monitored as the final decision is implemented.

Successful HIAs craft recommendations with attention to practical constraints. Economic, technical, political, or legal factors may limit the decision-makers' ability to adopt and put in place an otherwise effective public health measure. These recommendations can be implemented by parties other than the decision maker, such as private-sector stakeholders who elect to take voluntary actions (such as adding additional pollution controls to a new power plant or choosing to operate machinery in a manner that does not create dust or particulates.)

As with the earlier steps in the HIA process, obtaining input from community members can ensure that the recommended measures effectively address their concerns. And the involvement of decision-makers and other public and private sector stakeholders makes certain that issues such as technical feasibility, fiscal impacts, and other factors are adequately addressed.

## **Reporting**

During the reporting stage of an HIA, the results are presented to the affected communities, decision makers, and other stakeholders. Reporting includes the production of a written HIA report followed up with outreach dissemination of the information. The latter task often involves public meetings, online forums and other avenues to reach critical constituencies. Audience-specific communication strategies that take into consideration education level and languages spoken by stakeholders are essential to effective dissemination.

The report produced by the HIA process contains an executive summary, key findings, recommendations, detailed analysis, and an explanation of the methodologies used and their underlying assumptions. Also included are lists of the organizations involved, the groups represented, the community's demographic information, the resources used, and the literature review.

## **Evaluating and monitoring**

The final stage of the HIA process involves evaluating the success of the assessment and monitoring the results. The evaluation examines the quality of the assessment relative to accepted standards of practice in the field, and any challenges or barriers that occurred while it was being conducted. Also considered are the value of the HIA to the decision-making process in terms of implementation of specific recommendations or other short-term goals, such as whether the risks and benefits were accurately conveyed to stakeholders or if the process enhanced collaboration between government agencies. HIA recommendations also establish a framework so that over the longer term, the effects of

implementing the proposed action (changes in air quality or rates of exercise in a neighborhood after construction of a new walking path, for example) can be monitored by the appropriate organization or agency.

### **The Effectiveness of HIAs**

Based on case examples of completed HIAs and published literature, HIAs can benefit decision makers and their communities in three general ways.

First, HIAs often result in the adoption of specific recommendations intended to create safer conditions or address specific health impacts. Assessments have resulted in implementation of recommendations such as:

- Modifications to planned housing developments to reduce indoor noise levels and improve indoor air quality.<sup>12</sup>
- Changes in land use plans to facilitate physical exercise and enhance access to healthy foods.<sup>13</sup>
- Adoption of new monitoring programs that ensure the sustainability of fish and game consumption by an Alaskan tribal community near oil and gas development.<sup>14</sup>

Second, HIAs facilitate interagency collaboration. With growing awareness of the role that factors such as housing, transportation and social policies play in illness rates and health care costs, some states are beginning to search for ways to ensure better collaboration between health officials and governmental agencies on projects and policies that may affect health. Collaboration on an HIA provides an opportunity for health officials and their colleagues in other policy areas to develop a framework for enduring collaboration. In California, Alaska, and Massachusetts, the use of HIAs has led to more routine consultation and collaboration between the departments of health, transportation, environmental conservation, and planning.<sup>15</sup>

Finally, HIAs have been used to develop more streamlined frameworks for integrating sector-specific health considerations. In Ingham County, Mich., the health department worked with local planners to develop an HIA checklist tool to guide local development, urban planning, and transportation decisions. The simple checklist<sup>16</sup> speeds up and simplifies the health-oriented design of new projects in the region and has been successfully utilized by private developers, the county planning department, and the regional metropolitan planning organization.<sup>17</sup>

HIA is the most promising tool to address public health and related costs because of its “broad applicability, its focus on adverse and beneficial health effects, its ability to incorporate various types of evidence, and its emphasis on stakeholder participation.” The National Research Council panel also emphasized that an “HIA is valuable even with a lack of perfect forecasting data and tools because it is better to consider potential health risks and benefits than to ignore them routinely.”<sup>18</sup>

## Health in Environmental Impact Statements

The environmental impact assessment process<sup>2</sup> has become commonplace in public decision-making since the passage of the National Environmental Policy Act of 1969 (NEPA), with one of its goals being “to promote efforts which will . . . stimulate the health and welfare of man.”<sup>19</sup> Some form of the environmental impact process is required for most federal agency decisions. Major federal actions significantly affecting the “human environment,”<sup>20</sup> defined as the “natural and physical environment and the relationship of people with that environment”<sup>21</sup> require the preparation of an environmental impact statement (EIS), requiring involvement by other federal, tribal, state, and local agencies and the public; other actions require briefer forms of analysis. Federal agencies must “use all practicable means, consistent with other essential considerations of national policy” to “assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings.”<sup>22</sup> Seventeen states, two territories, and the District of Columbia have adopted environmental impact assessment statutes similar to those originally established by NEPA.<sup>23</sup>

NEPA and many state statutes modeled after NEPA explicitly define the health and welfare of the citizenry as central concerns, and often specifically require a consideration of the potential health effects. Yet, until the few recent instances in which HIAs were integrated into environmental impact assessments, public health was often not directly or systematically addressed in these studies.<sup>24</sup> Many decisions informed by the environmental impact process have the potential to impact human health, but health experts and officials are rarely consulted or proactively participate. An environmental impact assessment document sometimes includes analysis of a single health issue, such as traffic-related injuries, and may indirectly consider health effects within the sections that address the pollution standards established by regulatory laws such as the Clean Air and Clean Water Acts. But to date, the more systematic consideration of a full range of direct and indirect health risks and benefits has been rare in environmental impact statements, environmental assessments, environmental impact reports, or other documents prepared under these types of laws.

Several reasons lie behind the lack of attention to health in environmental impact assessments. First, many of the federal agencies at the forefront of NEPA practice (for example, the U.S. Army Corps of Engineers, the Department of the Interior, the U.S. Forest Service, and the Federal Highway Administration) have traditionally lacked staff

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<sup>2</sup> The environmental impact assessment process is a general term that describes a comprehensive assessment of the potential effects of a proposed action, such as a permit for a large mine, a proposed regulation setting water rates for a government-sponsored water irrigation project, or a proposal for a new highway. Documents prepared under these laws have different technical names in various statutes. For example, the National Environmental Policy Act of 1969 (NEPA) defines two types of environmental impact assessments: an environmental assessment, which is meant to be a rapid, less comprehensive assessment used to inform smaller-scale decisions; and an environmental impact statement, which is a more comprehensive study intended to be used for major decisions that might impact the human environment. Actions that typically have no individual or cumulative impacts are “categorically excluded” from documentation requirements unless, in a particular instance, extraordinary circumstances require written analysis. State statutes use other terms to describe EIAs, such as “environmental impact report” under California’s state equivalent of NEPA.

expertise in public health and only recently sought to collaborate with health agencies.<sup>25</sup> Second, the implementation of the federal law has been largely driven by litigation that focused on what has traditionally been thought of as environmental concerns such as impacts on air and water, rather than carrying that analysis through to, as NEPA says, “the human environment,” to include a full panoply of health issues. Finally, the Council on Environmental Quality, the agency that oversees the NEPA process for the federal government, and its state office equivalents have not explicitly described what types of public health effects should be examined or offered guidance on the appropriate scope, standards, or methods for analyzing health effects.<sup>26</sup>

Over the last five years, HIAs are increasingly being used at the state and federal level to integrate health considerations into the environmental impact assessment process. HIAs have been completed as part of or in tandem with their environmental counterparts for oil and gas leasing, mine permitting, transit corridors, and major road projects. These assessments have been conducted by federal agencies independently or in collaboration with state, local, and tribal agencies through formal “cooperating agency” relationships, as well as by public health agencies or non-governmental organizations such as public health institutes.<sup>27</sup>

## **State Legislatures and HIA Policy**

State legislators have proposed or adopted a number of bills that include certain elements of an HIA. Fifty-six bills in 17 states have been introduced since 2009, with 13 of these bills incorporating comprehensive HIAs into a state agency. Eight states have introduced legislation supporting the use of full-fledged HIAs as defined by current guidance and practice standards in the field. These proposed laws would create a mandate for some consideration of health effects in making decisions on proposed policies, plans, or projects, although many of these mandated analyses would not fit the strict definition of an HIA. This section will consider five examples of these required analyses and include an examination of recent bills that propose the use of more formal HIAs.

### **Legislation to require the consideration of the health effects of proposed health care policies**

Most HIAs target decisions that would not otherwise focus on health—decisions on transportation projects, land use, environmental permitting, educational policies, or other social and economic policies. While legislation regarding health care policies inherently includes some degree of attention to the health effects, the following bills created a more explicit mandate for proactive consideration of health effects.

#### **Mandate to consider the health impacts of hospital conversions: New Jersey S.B. 375 (2010-2011 Sess.) and A.B. 949 (2010-2011 Sess.); S.B. 777 (2012 Sess.)**

In New Jersey, identical bills were introduced in 2010 and 2012 that would provide an opportunity for non-profit hospitals to convert into for-profit ventures. The bills concerned the statutory process by which such conversions would be executed. According to these bills, before a hospital could undergo a conversion, it would be required to perform a study on the potential health impacts of such a change to determine the positive and/or negative effects for the community it serves.

The bills provided for additional public participation and would have required the completion of a study by an outside consultant on the health impacts of any proposed conversion before permission from the state to proceed would be granted. The study would include reviews of health insurance markets, providers' contracts, networks, compensation, and claims processing and payment. In addition, information and testimony presented at any public hearings conducted and otherwise obtained by the consultant would be included in the report. The New Jersey Health Commissioner would use the study in making the final decision on the plan of conversion. While not referred to in the legislation as an HIA, the study would be consistent with the HIA model in that it was not intended to constitute a positive or negative ruling on a proposal to convert.

The bills passed the Senate, but were not adopted by the full Legislature.

### **Health impacts of an environmental policy or project**

Major federal or state environmental decisions—such as the placement of a new highway, allowable uses of public lands, or permitting of large industrial facilities—generally require an extensive list of studies, including assessments of air quality, investigations of impacts on endangered species, and studies on the impacts on historical, cultural, and economic resources. These bills would add health impacts to that list.

### **Mandate to consider the environmental health effects of a future airport expansion: Illinois Adverse Impacts of Chicago O’Hare International Airport H.B. 1729 (2011 Sess.); H.B. 1729 (2012 Sess.); Illinois Environmental Protection Act S.B. 2054 (2009 Sess.)**

Chicago’s O’Hare International Airport incorporated health assessment tools into the environmental studies conducted to guide future airport expansions. Residents near this airport, one of the world’s busiest, are affected by the pollutants released by the planes flying in and out of the airport.

Illinois state legislators representing these residents’ communities introduced two bills seeking to amend the Illinois Environmental Protection Act by requiring the Illinois Environmental Protection Agency and the state’s Department of Public Health to conduct an assessment on the adverse environmental and human health impacts caused by runways and air traffic at O’Hare before expanding, modifying, or altering the uses and activities at the airport. The mandated study would be different from an HIA in that it would focus on the impacts of airport-related factors (for example, air pollution and the emission of gases and fluids by aircraft) rather than systematically identifying additional less direct factors (such as changes in local traffic patterns, noise levels, and economic opportunities).

The results would then be reported to the legislature, which would use the findings to determine whether to proceed with the project.

As part of the federal EPA’s National Integrated Urban Air Toxics Strategy, the state environmental protection agency had previously measured levels of airborne contaminants near O’Hare and at other locations in Chicago in 2000. The sponsors of these bills sought to take advantage of EPA’s research to inform state decisions regarding the proposed airport expansion, but the legislation did not survive.

### **Mandate to assess the health impacts of air and water rules: West Virginia S.B. 12 (2011 Sess.); S.B. 25 (2012 Sess.); H.B. 3089 (2013 Sess.)**

The sponsor of this bill, state Senator Dan Foster, a physician, sought to have health assessments performed on all new or revised environmental rules proposed in the state legislature, arguing that such assessments would help leverage state standards for air emissions and water releases to protect the environment and the health of West Virginians.

When he first came to the Senate, Foster was curious about why bills included fiscal analyses and environmental impact statements but no health studies.<sup>28</sup> Even though he was not familiar with the formal HIA model, he believed that the health impacts of a policy should be known prior to laws being adopted. From 2006 to 2012, Sen. Foster introduced a bill each session that would require an HIA, or aspects of an HIA, to be conducted for certain legislation.<sup>29</sup>

For the 2011 legislative session, Foster introduced S.B. 12 that would require the commissioner of public health to conduct a “public health impact statement” based on an assessment of the health effects of any new or modified rule regarding air or water pollution proposed by the state Department of Environmental Protection. The law would direct the department to incorporate the findings into the proposed rule and, if necessary, modify the rule to address the impacts.

Some legislators raised concerns that the bill would place an additional and burdensome mandate onto the agency since it has no capacity to assess with independent medical or scientific evidence. Moreover, the state has little flexibility to alter air and water rules because they must be consistent with federal standards, and legislators were concerned that the HIA would not be of value if its recommendations could not be implemented.<sup>30</sup>

An estimated 73 air and water rules would be subject to the provisions of this bill, and the Department of Health and Human Resources feared that performing full and independent HIAs on each of these rules would be cost-prohibitive. The department also raised concerns about their capacity and the cost and time that might be required, suspecting that certain studies could take more than a year to complete.<sup>31</sup>

After the 2011 bill failed, Foster reintroduced a modified version in the 2012 session, and in 2013 Health Committee Chair Don Perdue introduced House Bill 3089; however, these bills also failed.

### **HIA in Environmental Impact Assessments—Alaska’s experience with HIA and H.B. 399 (2010 Sess.)**

In Alaska, beginning in 2005, a local health department (the North Slope Borough) and tribal organizations (Alaska Native Tribal Health Consortium and the Alaska Inter-Tribal Council) began using HIAs to integrate health concerns into environmental impact statements for oil, gas, and mining proposals. Ultimately, this effort led to ongoing efforts on the part of state, tribal, and federal health and regulatory agencies to implement HIAs more broadly for natural resource development proposals in the state.

North Slope communities historically have supported oil and gas development because of its importance to the local economy. Nevertheless, public testimony on prior environmental impact statements indicated a range of concerns about potential public health impacts, including air and water pollution, effects on the wildlife populations upon which the local communities depend for food, and the potential for social change and strain resulting from the rapid influx of nonresident workers to the region.

The North Slope Borough took advantage of the provision in NEPA that allows local or state governments to become “cooperating agencies” in the preparation of an environmental impact statement. In collaboration with the lead federal agencies, the borough conducted HIAs for three different environmental impact statements. Based on the success of these initial efforts, another tribal health organization—the Maniilaq Association—undertook an HIA on another environmental impact statement lead by the EPA for a proposed mine expansion in northwest Alaska. The state health department assisted in this assessment.

These early efforts led to considerable interest in HIAs among state, tribal, and federal agencies as well as Alaska’s legislature. In 2008, the state health department, the Alaska Native Tribal Health Consortium, and CDC held a three-day HIA workshop and subsequently formed a working group charged with developing a consistent and coordinated approach to the tool’s application in Alaska.

In 2010, the Department of Health and Social Services’ established an HIA office in 2010, the first of its kind in the nation, with support from the state’s Department of Health and Social Services and Department of Natural Resources. The agency hired a medical epidemiologist to coordinate HIAs for the three departments as part of the state’s large project-permitting team. Under this program, the state health department is now integrated into Alaska’s large project permitting process and will undertake an HIA for any major project that requires an environmental impact statement. In some cases, the state will also carry out an HIA for projects that only require a state permit but lie close to a population center and have generated substantial public concern regarding health. The Department of Health and Social Services does not have the authority to stop a project or to impose new regulatory requirements on industry. Instead, its HIAs will identify health risks, provide recommendations, and facilitate efforts among the appropriate agencies, communities, and industry to find practical solutions. Alaska does not require a government agency entity or private industry to perform an HIA before it initiates a project. Rather, the state agencies responsible for large project permitting view conducting HIAs voluntarily as a valuable best practice approach to responsible development.<sup>32</sup>

In 2010, the Alaska State Legislature also explored a bill to establish a comprehensive HIA program in the state Department of Health and Social Services. House Bill 399 (2010 Sess.) sought to integrate HIAs into state environmental policy, requiring analysis of human health impacts for any project that requires an environmental assessment or environmental impact statement and is located within a mile of a vulnerable community.

The bill was referred to the House Health and Social Services Committee but did not advance. The author, Representative Sharon Cissna, stated that the bill raised a number of questions. The health department feared that the legislature would impose additional work without providing resources, and other legislators were concerned that there was not enough clarity regarding how the HIA program would be implemented by the agency.<sup>33</sup>

## **Health Impacts on Disadvantaged Communities**

Achieving health equity by eliminating health disparities—dissimilar rates of disease and mortality that are often observed among ethnic, social, and economic groups—is a top policy priority for many states. Many health disparities result from adverse social and environmental conditions. Asthma rates, for example, depend on outdoor air quality as well as housing conditions, such as the presence of mold or pests. Obesity rates can vary according to neighborhood access to safe places to exercise.

Because HIAs focus on the social, economic and environmental antecedents of health disparities, they are a powerful tool for addressing such inequalities. Community engagement during an HIA ensures that policymakers hear from members of a disadvantaged community regarding policies that directly affect them, providing a realistic look into the local living conditions and social and environmental factors that affect the community's health. Some proposed HIA legislation focuses explicitly on improving health disparities.

### **Minority Health Impact Assessments; Maryland H.B. 341 (2010 Sess.)**

House Bill 341 would require a minority health impact assessment that any bill relating to the prevention of and screening for a disease include a legislative fiscal note on the impact the bill would have on the health of minority populations, such as any costs saved and avoided by the prevention of and screening for a disease, illness, or injury. This measure was intended to highlight the potential effects on health disparities in disadvantaged populations.

HB 341 related to legislation adopted in 2004 that created an office within the Department of Health and Mental Hygiene tasked with developing a statewide plan to systematically address minority health disparities.<sup>34</sup> Although the 2004 law does not specifically mandate an HIA, it does require the state to determine health measures that would help reveal and reduce health care gaps and to identify and review health promotion and disease prevention strategies related to the leading causes of death and disability among minority populations.

The proposed bill did not move far during the short Maryland legislative session, but it did highlight an important issue regarding health disparities in the state. In addition, the bill highlighted the need for HIAs as a tool to help predict the effect of policies on disadvantaged populations, a benefit that can assist the state in serving its minority communities.

### **HIAs that address Transportation Decisions**

Washington State was the first in the nation to adopt legislation that included HIA requirements in its transportation planning. The bill, Senate Bill 6099 (2007 Sess.),<sup>35</sup> addressed the rebuilding of a bridge across Lake Washington and required the department of transportation to perform an HIA to inform planning efforts on the project. In 2009, Massachusetts was second to formally enter this arena, incorporating HIA requirements

into “An Act Modernizing the Transportation Systems of the Commonwealth of Massachusetts.”

Transportation projects (roads, highways, bridges, rail lines, and pedestrian and bicycle accommodations) can affect a range of factors important to health, such as community cohesiveness which can impact crime rates, and access to goods and services (such as via grocery stores and clinics) and infrastructure that facilitates physical activity (such as bike lanes, sidewalks, parks, and trails). State government efforts to build or rebuild transportation infrastructure offer a prime opportunity to leverage such investments into minimizing potential health risks and maximizing potential health benefits of a well-planned transportation project.

Even without a legislative mandate, health departments, universities, and health-based community organizations have frequently used HIAs to identify changes to transportation projects that would promote public health—for example, adding a bike path, relocating a crosswalk, or addressing indoor air quality near a congested roadway. Furthermore, because HIAs engage community stakeholders and proactively attend to issues that can figure prominently in public opposition, HIAs have the potential to help secure broader consensus and support for a well-planned alternative.

**Washington State Route 520 Bridge Project; Washington S.B. 6099 (2007 Sess.); 2007 Wash. Laws, Chap. 517.<sup>36</sup>**

Built in 1963, the state Route 520 bridge across Lake Washington needed to be replaced. Because federal transportation funds would be used for this work, the state was required to prepare an environmental impact statement. Among other concerns, the legislature feared the interests of and health impacts to the residents adjacent to the bridge (which includes the University of Washington) were not adequately addressed in the EIS. Recognizing the difficulty in planning a route and project design that would be acceptable to all stakeholders, the legislature passed a bill that created a mediation group and outlined a process for developing acceptable options (S.B. 6099, 2007 Sess.).<sup>37</sup>

The law, enacted in 2007, requires that the Puget Sound Clean Air Agency and the King County Health Department conduct an HIA to identify the project's impact on “air quality, carbon emissions, and other public health issues,” and requires the mediation group incorporate the recommendations of this assessment.<sup>38</sup> The legislature also required that both the assessment and community outreach efforts be conducted by the Puget Sound Clean Air Agency and King County Office of Public Health.<sup>39</sup>

The HIA was completed in 2008 and offered a series of recommendations related to pollution control, traffic-related injuries, noise, and transit and pedestrian infrastructure that provides opportunities for walking and cycling. In 2010, the Washington Department of Transportation issued a white paper updating progress on the project and focused on the implementation of the HIA recommendations. At that time, the agency noted that the final preferred alternative had been developed based in part on recommendations from the HIA. The final plan included many of the design elements and other measures

recommended by the HIA and noted that “as the project adds design details and definitions, these details should follow the intent of the issues outlined in the HIA.”<sup>40</sup>

**An Act Modernizing The Transportation Systems Of The Commonwealth of Massachusetts H.B. 4047 (2009 Sess.) and An Act Modernizing The Transportation Systems Of The Commonwealth of Massachusetts S.B. 2024; S.B. 2087 (2009 Sess.). Enacted as S.B. 2087; Chap. No. 25 (2009).**

These bills were designed to modernize the state’s transportation systems. The author of the bills, Representative Denise Provost, has been a major advocate for the use of HIAs, mostly because constituents pressed her into looking at transportation-related health impacts. The legislation establishes a requirement for using HIAs to “determine the effect of transportation projects on public health and vulnerable populations.”<sup>41</sup>

Several agencies are involved in implementing the new HIA requirements, including the Department of Transportation, the Department of Public Health, and the Department of Environmental Protection. At present, these agencies are working together to determine what criteria should be used to trigger an HIA. They are looking at environmental factors such as noise, air pollution, and dust caused by transportation projects, as well as ways in which such projects might increase or decrease risks for chronic diseases. In addition, the act requires these agencies perform outreach to identify community concerns before making decisions on transportation projects.

The act does have some implementation challenges, most notably a lack of dedicated funding. To perform the assessments, the agencies will have to identify funding sources, which may include a fee on transportation projects to pay for the work or including an HIA in the request for proposals when the state solicits project bids.

**General use of HIAs for Policy Proposals**

In four states, legislators sought to adopt HIAs as a more expansive lens through which to view policy decisions. During the 2007-2008 legislative sessions, two states—California and Maryland—introduced legislation that would integrate HIAs into public decision making for a wide range of policies. The state of Washington also explored including HIAs into state law in 2006. In New Mexico, legislation was introduced in 2009, 2010, 2011 and 2014 to provide for HIAs.

**The California Healthy Places Act**

The California Healthy Places Act<sup>42</sup> (A.B. 1472 (2007-2008 Sess.)) proposed that the state Department of Public Health would provide guidance, technical assistance, and grants to local public health agencies and community organizations to ensure that transportation and land-use planning decisions considered health concerns via HIAs. Since many city and regional planning agencies do not systematically identify and address health impacts in their decisions, this legislation would have provided them with the guidance and support necessary to consider potential health effects of decisions about growth and development.

Grants to local governments for HIAs provided for by the act would have amounted to \$1.6 million annually. The Department of Public Health would create an HIA program with guidelines for planners working on land use, housing, and transportation policies. In addition, the agency would assist state and local agencies with implementation, build a database of HIAs undertaken in the state, and evaluate the effectiveness of the studies. The bill did not create a legal requirement for HIA, but called for grants to fund HIAs and to provide technical assistance to eligible communities.

The bill passed the state Assembly but did not pass out of the Senate Appropriations Committee.

### **The Maryland Healthy Places Act**

In 2007, Maryland introduced the Healthy Places Act, (H.B. 1034 (2007 Sess.)<sup>43</sup> which would have funded a pilot program within the Department of Health and Mental Hygiene to facilitate local health officials' involvement in community planning and land-use decisions through the use of HIAs. The bill directed the Secretary of Health and Mental Hygiene, in coordinating other state agencies such as the Departments of Environment, Transportation, and Planning, to establish a pilot program that would include capacity-building grants to eligible local entities, HIA training and technical assistance, and guidance and regulations for conducting HIAs. The bill also provided for an investigation of any health concerns identified in an environmental impact statement.

Although the bill passed both chambers, the legislature adjourned before the bill could be finalized and sent to the governor for signing.

### **Washington State Health Impact Reviews**

In 2006, the Washington State Legislature created the governor's interagency coordinating council on health disparities and charged the council with creating an "action plan and statewide policy to include health impact reviews that measure and address other social determinants of health that lead to disparities as well as the contributing factors of health that can have broad impacts on improving status, health literacy, physical activity, and nutrition."<sup>44</sup> The enacted law specifies that "any state legislator or the governor may request a review of any proposal for a state legislative or budgetary change." Furthermore, the reviews must include "the best available empirical information and professional assumptions available," must consider "the direct impacts on health disparities as well as changes in the social determinants of health," and must be completed by the state board of health within ten days for requests submitted during a legislative session.

To ensure that unreasonable demands were not placed upon the board of health, the legislation gave the agency the authority to limit the number of reviews it produces in the interests of quality and resource management.

The board of health conducted health impact reviews between 2007 and 2009, but in 2009 funding was suspended. It no longer has a health impact analyst on staff, although it will attempt to continue to conduct reviews upon request.<sup>45</sup>

**What effects must be considered in a Washington State health impact review?**

"Social determinants of health" means those elements of social structure most closely shown to affect health and illness, including at a minimum: early learning, education, socioeconomic standing, safe housing, gender, incidence of violence, convenient and affordable access to safe opportunities for physical activity, healthy diet, and appropriate health care services.<sup>1</sup>

**New Mexico Health Impact Reports: New Mexico S.B. 256 (2009 Sess.), S.B. 71 (2010 Sess.), S.B. 98 (2011 Sess.), and S.B. 48 (2014 Sess.)**

Between 2009 and 2014, New Mexico Senator Timothy M. Keller sponsored four bills that would require a health impact report on pending legislation determined by the legislative finance committee to have an impact on community health.

For the 2009 legislative session, Keller introduced S.B. 256 that would require the legislative finance committee to identify if pending legislation would impact community health, broadly defined.<sup>46</sup> For legislation determined to have an impact on community health, the committee would be required to include community health impact information as part of its analysis of fiscal impacts. The community health impact information would be developed in collaboration with organizations and individuals with expertise in community health, such as the New Mexico Health Policy Commission, the department of health, the human services department, and the Office of the Governor. Action on this bill was postponed indefinitely.<sup>47</sup>

In the 2010 legislative session, Keller introduced a modified bill, S.B. 71, which would require the legislative finance committee to request a health impact report from the department of health if the committee identified that pending legislation would have an impact on community health.<sup>48</sup> The department of health would be responsible for directing a "health policy institute" to prepare the health impact report.<sup>49</sup> These health policy institutes could include a division of the department of health, a health policy institute at a state college or university, or public health experts under contract with the department of health. Under the bill, health policy institutes could also request a health impact report for pending legislation. The bill detailed the specific, required components of a health impact report, including a monitoring plan to track the effects of the legislation on community health over time.

In addition, S.B. 71 would establish a health impact reporting fund and collect an annual fee from health insurers in New Mexico to pay for the cost of preparing these health impact reports. The bill specified that the total annual fees collected from health insurers in the state could not exceed \$100,000.<sup>50</sup> Although the 2010 bill also failed, Keller reintroduced the bill in the 2011 session (S.B. 98); however, this bill also failed.<sup>51</sup>

The 2014 version (Senate Bill 48) would establish the health impact assessment program in the state Department of Environment (NMED). It also sought to promote healthy communities, eliminate health disparities and protect the ‘human environment,’ like the earlier version, but placed the administration of HIAs in NMED.

Senate Bill 48 would require the public be notified of government actions that may impact their health and would provide them an opportunity to appeal to the Health Impact Assessment Program Advisory Committee which reviews these appeals and makes recommendations. This novel approach was considered duplicative, although legislative research acknowledged that much is unknown about this concept.<sup>52</sup> This bill failed.

## **Analysis**

### **Key considerations in framing HIA legislation**

Based on this review, multiple considerations warrant particular attention for legislators interested in drafting HIA legislation to help overcome obstacles encountered in previously proposed bills:

1. Would an HIA be useful?
2. If so, which health effects should be studied?
3. Should the HIA be required by the state or encouraged with incentives?
4. How will HIAs be funded?

### **Would an HIA be useful?**

Not every decision has important health effects, and in some cases, health may be addressed by other planned studies. A thoughtful approach when determining the circumstances for undertaking an HIA will ensure that they are of value to decision-makers, thereby avoiding investments in costly, time-consuming, or duplicative studies that may add little important information.

The National Research Council emphasizes that HIAs should be conducted when:

1. The decision has the potential to affect important health risks or benefits;
2. These health effects would not otherwise be clearly identified and addressed by another study that is already planned or underway; and
3. There are adequate resources and time to conduct the HIA within the timeline for the decision at hand.<sup>53</sup>

Most legislation reviewed in this report linked HIA requirements to specific topics or sectors. Some bills addressed a specific decision—such as Washington Senate Bill 6099, which requires an HIA for a single transportation project, or Illinois Senate Bill 2054, which calls for a study of the health effects of airport emissions to inform future airport expansion proposals.

More often, HIA bills focus on a sector, but do not specify a single topic or proposed project. West Virginia Senate Bill 12 would mandate HIAs for new or changed air or water pollution rules; Massachusetts Senate Bill 2087 requires their use in transportation planning in general, but does not create specific criteria or thresholds for its use; in Alaska, House Bill 399 focused on the permitting process for natural resource development projects. The California and Maryland Healthy Places Acts would have funded HIAs that addressed built-environment decisions (usually land use, zoning, housing and transportation planning and projects).

Another approach is to conduct HIAs upon request. Washington state law specifies that assessments could apply to any proposed legislative or budgetary change, but would only be done upon request by the governor or a legislator. Alaska House Bill 399 allowed for the possibility that HIAs could be triggered by community request.

In some cases, the state health department or other agency charged with implementing HIAs have developed criteria for determining when an assessment is necessary. In Alaska's HIA program, the Department of Public Health and the Department of Natural Resources determined that every environmental impact statement for a large project proposal would undergo an HIA, but for smaller projects, the agencies will apply screening criteria to determine whether an HIA is warranted.

In drafting HIA legislation, the careful description of the criteria and circumstances that merit an HIA helps to avoid unnecessary and duplicative studies. Legislation that does not include such specifications can still ensure the selective and appropriate use of HIAs by setting out clear screening procedures and criteria and by establishing a framework and authority for screening decisions.

### **Which health effects should be studied?**

HIAs differ from other types of health-related assessments because the format systematically identifies all potential health effects of a proposal, rather than a narrow, predetermined set of issues. An HIA makes a “systematic consideration of all factors associated with the proposed action that have a potential to influence health, and it narrows the scope to effects that are judged most important for health.”<sup>54</sup> Scoping ensures that important but less obvious effects are not missed; prioritization streamlines the study and reduces the time and resources needed to complete the analysis.

Bills reviewed in this report took several approaches to refining the areas to be evaluated. Illinois H.B. 1729 and S.B. 2054 and New Jersey S.B. 375 and A.B. 949 proposed that specific health effects be studied, such as those related to air pollution, but did not consider the broad range of health effects that defines an HIA. Others, such as the Maryland and California Healthy Places Acts (see Figure 3) and Alaska H.B. 399, took a broader view and specified a detailed list of links between the built environment and health that must be included in the analysis. The Massachusetts transportation modernization act briefly alluded to public health issues in general without delineating a list of effects. Other bills reviewed did not specify a list of health considerations but used a standard definition of HIA or included language implying that an expansive consideration of health effects should be addressed.

**Figure 3: California Healthy Places Act: Determining the scope of health effects to be considered**

Effects on health analyzed in a health impact assessment may be the direct result of the activity or mediated indirectly via effects on any environmental or social health determinants. At this time, known environmental and social determinants of health include all of the following:

- (A) The quality of air, water, and soil.
- (B) The quality, accessibility, and affordability of housing.
- (C) The quality and accessibility of public plazas, parks, and natural spaces.
- (D) The availability of transportation choices.
- (E) Environmental noise.
- (F) The quality and accessibility of public services, such as libraries.
- (G) The quality and accessibility of public educational facilities.
- (H) Cultural and historical institutions.
- (I) Community cohesion.
- (J) Social networks.
- (K) Diversity and security of income and employment.
- (L) Access to fresh fruits and vegetables and the proximity of residents to businesses that sell nutritious foods.
- (M) The use of tobacco, alcohol, and controlled substances.

**Requiring or Encouraging HIAs**

Many of the legislative proposals reviewed required that an HIA be conducted under specific circumstances. Washington S.B. 6099 required an HIA for only a single proposed transportation project, but in Massachusetts, S.B. 2087 provides a broad mandate for the Departments of Health and Transportation to implement HIAs for all new transportation projects. In other states, such as Alaska and West Virginia, legislation would have required an HIA when environmental review requirements were triggered by a proposal.

Other bills instead encouraged HIAs by providing incentives such as funding and technical assistance. The Healthy Places bills proposed in California and Maryland used this method to incentivize eligible local communities interested in using the studies to improve land use decisions.

Each approach—both the carrot and the stick—has potential advantages and disadvantages. Requiring HIAs for specific decisions secures the consideration of public health in the deliberative process. In the case of Washington State’s SR 520 the HIA ensured that important issues for stakeholders were incorporated in the final design of the plan.<sup>55</sup> Broader mandates—such as those proposed under the Massachusetts Transportation Compact and in West Virginia and Alaska—can be used to guarantee that HIAs inform those decisions deemed by legislators to be particularly likely to affect health.

On the other hand, incentives can encourage the use of HIA as a best practice without creating new procedural requirements. Legislators considering Alaska H.B. 399 and West Virginia S.B. 12 expressed concerns that requiring HIAs would add to government costs.

### **Funding of HIAs**

Many of the bills reviewed did not specify a funding mechanism or make clear the costs of implementing the proposed policy.<sup>56</sup> Because the nature and extent of an HIA varies greatly, so too can the cost and time requirements, from fairly nominal costs and a few weeks of time for a rapid HIA to more than \$100,000 and a year or more for a large-scale effort.

One of the recommended screening criteria for deciding whether an assessment should be conducted is the availability of adequate staff and resources. Including this provision in legislation on HIA screening would limit the potential that a new HIA requirement would result in excessive budgetary costs. On the other hand, this approach might result in the decision not to conduct an assessment if resources are not available even for cases in which the information would be valuable.

Based on the available information regarding the costs of HIAs, it appears that they are often being conducted at a lower cost than many other types of environmental studies and health risk assessments.<sup>57</sup> If judiciously applied to those decisions that are most likely to have important health implications and to circumstances in which conducting an HIA is likely to yield important new, actionable recommendations, HIAs have the potential to deliver health-related cost savings as well.

## **Future of HIAs in States**

The practice of using HIAs in decision making is at an early stage of development nationally. This report provided a brief overview of state legislation that aims to consider the health implications of policy decisions. Further research is needed to address important questions that stem from the legislative summaries provided, including: (1) Why do most of the bills examined fail? (2) Who opposes these bills and on what grounds? and (3) Why are only a small number of states considering such legislation?

Given that health care consumes a substantial percentage of many state budgets, HIAs offer a data-based approach to addressing pressing health issues and leveraging investments in other areas of policy, such as transportation and urban planning, natural resource management, housing, and social policies, to prevent illness and improve Americans' health.

Legislators in a growing number of states are considering how to look through a health lens at policy decisions that might not otherwise seem to address important health effects. HIAs offer a systematic, practical method to ascertain the health-related implications of proposed policies, projects, programs, or plans, and to develop pragmatic recommendations that ameliorate community concerns, mitigate potential problems, and stave off unintended consequences.

## Appendix A. Major Steps in Performing and HIA

In performing an HIA, six major steps are undertaken:

- **Screening** (identify projects or policies for which an HIA would be useful)
- **Scoping**
  - What the proposals are at stake?
  - What are the likely health impacts, and which need further assessment?
  - Who are involved with the policymaking (legislators, agency officials, researchers)?
- **Assessing risks and benefits** (identify which people may be affected and how),
- **Developing recommendations** (suggest changes to proposal to promote positive or mitigate adverse health effects),
- **Reporting** (present the results to decision makers),
- **Evaluating and monitoring** (determine the affect of the HIA on the decision process).<sup>58</sup>

Figure 8: Health Impact Assessment

### The Steps of an HIA

The HIA process encourages public input at each step.

| 1. Screening   | 2. Scoping   | 3. Assessment   | 4. Recommendations   | 5. Reporting  | 6. Monitoring and Evaluation   |
|--|--|---|--|---|--|
| Determine whether an HIA is needed and likely to be useful | In consultation with stakeholders, develop a plan for the HIA, including the identification of potential health risks and benefits | Describe the baseline health of affected communities and assess the potential impacts of the decision | Develop practical solutions that can be implemented within the political, economic, or technical limitations of the project or policy being assessed | Disseminate the findings to decision-makers, affected communities, and other stakeholders | Monitor the changes in health or health risk factors and evaluate the efficacy of the measures that are implemented and the HIA process as a whole |

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Source: Health Impact Project, [www.healthimpactproject.org](http://www.healthimpactproject.org)

## **Additional Resources**

Centers for Disease Control and Prevention (CDC) Health Places  
CDCs site dedicated to HIAs, provides basic information on HIAs, and links to other resources.

[www.cdc.gov/healthyplaces/hia.htm](http://www.cdc.gov/healthyplaces/hia.htm)

### **Health Impact Project**

This project, supported by the Robert Wood Johnson Foundation and Pew Trusts, provides information, guidance and resources related to HIAs

[www.healthimpactproject.org](http://www.healthimpactproject.org)

Health Impact Assessment Clearinghouse Learning and Information Center (HIA-CLIC)  
Summarizes and provides links to several HIAs that have been conducted in the U.S., along with other links to HIA resources.

[www.hiaguide.org](http://www.hiaguide.org)

World Health Organization (WHO), Health Impact Assessment  
WHOs web site on international activities on HIAs.

[www.who.int/hia.en/](http://www.who.int/hia.en/)

## Endnotes

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<sup>1</sup> National Research Council, Committee on Health Impact Assessment, *Improving Health in the United States: The Role of Health Impact Assessment* (Washington, DC: National Academies Press, 2011).

<sup>2</sup> Ibid.

<sup>3</sup> Health Impact Project, *Health Impact Assessment: Bringing Public Health Data to Decision Making* (Washington, DC: The Pew Charitable Trusts, 2010), <http://www.healthimpactproject.org/resources/policy/file/health-impact-assessment-bringing-public-health-data-to-decision-making.pdf>; ‘FAQ about HIA,’ Human Impact Partners, accessed June 30, 2013, <http://www.humanimpact.org/faq#howmuch>; U.K. Department of Health, *Cost Benefit Analysis of Health Impact Assessment* (York: The University of York, 2006), [http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/documents/digitalasset/dh\\_063158.pdf](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_063158.pdf).

<sup>4</sup> ‘HIA in the United States,’ Health Impact Project, accessed March 15, 2013, [www.healthimpactproject.org/hia/us](http://www.healthimpactproject.org/hia/us).

<sup>5</sup> Health Impact Project and Arizona State University Sandra Day O’Connor College of Law. *Legal Review Concerning the Use of Health Impact Assessments in Non-Health Sectors* (Washington, DC: 2012). [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Health\\_impact\\_project/HIP%20Legal%20Review.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Health_impact_project/HIP%20Legal%20Review.pdf).

<sup>6</sup> International Finance Corporation, *Introduction to Health Impact Assessment* (Washington, DC: IFC, 2009); International Petroleum Industry Environmental Conservation Association and International Association of Oil & Gas Producers, *A Guide to Health Impact Assessments in the Oil and Gas Industry* (London: IPIECA & OGP, 2005); International Council on Mining & Metals, *Good Practice Guidance on Health Impact Assessment* (London: ICMM, 2010).

<sup>7</sup> International Petroleum Industry Environmental Conservation Association and International Association of Oil & Gas Producers, *A Guide to Health Impact Assessments in the Oil and Gas Industry*, International Association of Oil & Gas Producers (London: IPIECA & OGP, 2005); International Council on Mining and Metals, *Health Impact Assessments: Summary of the Good Practice Guidance* (London: ICMM, 2011).

<sup>8</sup> ‘HIA in the United States,’ Health Impact Project, accessed May 20, 2012, <http://www.healthimpactproject.org/hia/us>; Health Impact Project and Arizona State University Sandra Day O’Connor College of Law. *Legal Review Concerning the Use of Health Impact Assessments in Non-Health Sectors* (Washington, DC: 2012). [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Health\\_impact\\_project/HIP%20Legal%20Review.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Health_impact_project/HIP%20Legal%20Review.pdf).

<sup>9</sup> Health Impact Project, *Health Impact Assessment: Bringing Public Health Data to Decision Making* (Washington, DC: The Pew Charitable Trusts, 2010), <http://www.healthimpactproject.org/resources/policy/file/health-impact-assessment-bringing-public-health-data-to-decision-making.pdf>; ‘FAQ about HIA,’ Human Impact Partners, accessed June 30, 2013, <http://www.humanimpact.org/faq#howmuch>; U.K. Department of Health, *Cost Benefit Analysis of Health Impact Assessment* (York: The University of York, 2006), [http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/documents/digitalasset/dh\\_063158.pdf](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_063158.pdf).

<sup>10</sup> National Research Council, Committee on Health Impact Assessment, *Improving Health in the United States*, 51-52 (Washington, DC: National Academies Press, 2011). Additional screening tools are discussed in the Appendix.

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<sup>11</sup> National Research Council, Committee on Health Impact Assessment, *Improving Health in the United States*, (Washington, DC: National Academies Press, 2011).

<sup>12</sup> See, for example, EnviroHealth Consulting, *Health Impact Assessment: South Lincoln Homes, Denver CO* (Seattle: Mithun, 2009) and Human Impact Partners, *Jack London Gateway Rapid Health Impact Assessment: A Case Study* (Oakland: Human Impact Partners, 2007).

<sup>13</sup> See, for example, Center for Quality Growth and Regional Development, *Atlanta BeltLine: Health Impact Assessment* (Atlanta: CQGRD Georgia Institute of Technology, 2007); Health Impact Project, *Case Study: Atlanta's BeltLine*, <http://www.healthimpactproject.org/resources/case-study-atlantas-beltline>; Health Impact Project, *Case Study: East Bay Greenway*, <http://www.healthimpactproject.org/resources/case-study-east-bay-greenway>; and Minneapolis Health Department, *Above the Falls Health Impact Assessment: Ensuring Health Equity in Decision-Making* (Minneapolis: Minneapolis Health Department, 2013).

<sup>14</sup> See Health Impact Project, *Case Study: Oil Development of Alaska's North Slope*, <http://www.healthimpactproject.org/resources/case-study-oil-development-of-alaskas-north-slope>; and U.S. Department of the Interior, *Northeast National Petroleum Reserve-Alaska: Final Supplemental Integrated Activity Plan/Environmental Impact Statement* (Anchorage: U.S. Department of the Interior, 2008).

<sup>15</sup> Wernham, A., "Health Impact Assessments Are Needed In Decision Making About Environmental and Land Use Policy." *Health Affairs* 30 (2011): 947-956; 'Case Studies,' Health Impact Project, accessed July 16, 2012, <http://www.healthimpactproject.org/hia/case-studies>.

<sup>16</sup> Charter Township of Meridian, Health Impact Assessment Checklist, accessed December 16, 2013, <http://advance.captus.com/planning/hia2/pdf/Module2/Ingham%20County%20Meridan%20Township%20Checklist.pdf>.

<sup>17</sup> Roof, K. and R. Glandon, "Tool Created to Assess Health Impacts of Development Decisions in Ingham County, Michigan." *Journal of Environmental Health* 71 (July/August 2008): 35-38, [http://www.neha.org/pdf/land\\_use\\_planning/JEH\\_JulAug\\_08\\_Michigan.pdf](http://www.neha.org/pdf/land_use_planning/JEH_JulAug_08_Michigan.pdf).

<sup>18</sup> National Research Council, Committee on Health Impact Assessment, *Improving Health in the United States*, 13, 33.

<sup>19</sup> *National Environmental Policy Act of 1969 (NEPA)*, 42 U.S.C. § 4321 et seq. (1970).

<sup>20</sup> *National Environmental Policy Act of 1969 (NEPA)*, 42 U.S.C. § 4332 (1970).

<sup>21</sup> 'Regulations for Implementing NEPA,' Council on Environmental Quality, accessed July 21, 2011, [http://ceq.hss.doe.gov/nepa/regs/ceq/toc\\_ceq.htm](http://ceq.hss.doe.gov/nepa/regs/ceq/toc_ceq.htm); 40 C.F.R. §§1500-1508 (2013).

<sup>22</sup> *National Environmental Policy Act of 1969 (NEPA)*, 42 U.S.C. § 4331 (1970).

<sup>23</sup> The current versions of the statutes for these jurisdictions are as follows: California, *see* California Environmental Policy Act, CAL. PUB. RES. CODE 21000-21176 (Deering 1976 & Supp. 1982); Connecticut, *see* Connecticut Environmental Policy Act of 1973, CONN. GEN. STAT. ANN. §22a-1 to -1i ; Georgia, *see* GA. CODE ANN. §§ 12-16-1 to 8 (2004); Hawaii, *see* Governor's Executive Order of August 21, 1974, *as supplemented by* HAWAII REV. STAT. § 343-1 to -8 (Supp. 1980); Indiana, *see* IND. CODE §13-12-4-1 to -10; Maryland, *see* Maryland Environmental Policy Act of 1973, MD. NAT. RESOURCE CODE ANN. §1-301 to -305 (1974 & Supp. 1981); Massachusetts, *see* Massachusetts Environmental Policy Act, MASS. ANN. LAWS ch. 30, §61-62H (Michie Law Coop. 1973 & Supp. 1981); Minnesota, *see* Minnesota Environmental Policy Act of 1973, MINN. STAT. ANN. §116D.01-.11 (; Montana, *see* MONT. REV. CODE ANN. §75-1-101 to -324 (1981); New York, *see* N.Y. ENVTL. CONSERV. §§ 8-0101-0117; North Carolina, *see* North Carolina Environmental Policy Act of 1971, N.C. GEN. STAT. §113A-1 to -13; South Dakota, *see* South Dakota Environmental Policy Act, S.D. CODIFIED LAWS §34A-9-1 to -13; Virginia, *see* Virginia Environmental Quality Act, VA. CODE ANN. §§10.1-1188 to -1192, Washington, *see*



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State Environmental Policy Act of 1971, WASH. REV. CODE ANN. §§43.21C.010 to .914, Wisconsin, see Wisconsin Environmental Policy Act of 1971, WIS. STAT. ANN. § 1.11 (Supp. 1981-1982); District of Columbia, see D.C. STAT. §§8-109.01 to 109.11, Guam, see Governor's Executive Order of October 28, 1996, No. 96-26; Puerto Rico, see Public Policy Environmental Act, P.R. STAT. ANN. tit. 12, 58 1121-1142 (1978 & Supp. 1980). Nevada limits its act to the Tahoe area (NEV. REV. STAT. 277.220) and New Jersey has an executive order (Exec. Order No. 215).

<sup>24</sup> Language in the National Environmental Policy Act of 1969 (NEPA) requires the federal government to stimulate the health and welfare of man, to assure a healthful environment and to "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety." 42 U.S.C. § 4321, §4331(1970). Additionally, the regulations promulgated by the Council on Environmental Quality to implement the procedural provisions of NEPA for all federal agencies in the executive branch require analysis of health impacts in environmental impact statements and environmental assessments. 40 C.F.R. § 1508.8.

<sup>25</sup> National Research Council, Committee on Health Impact Assessment, *Improving Health in the United States: The Role of Health Impact Assessment*. (Washington, DC: National Academies Press, 2011).

<sup>26</sup> Bhatia, R., and A. Wernham, "Integrating Human Health into Environmental Impact Assessment: An Unrealized Opportunity for Environmental Health and Justice," *Environmental Health Perspectives* 116 (2008): 991-1000.

<sup>27</sup> 'HIA in the United States,' Health Impact Project, keyword search: environmental impact statement, accessed July 16, 2012, [www.healthimpactproject.org/hia/us](http://www.healthimpactproject.org/hia/us).

<sup>28</sup> Foster, Dan. Phone interview by author.

<sup>29</sup> Foster, Dan. Phone interview by author.

<sup>30</sup> Senate Health Committee Clerk. Phone interview by author.

<sup>31</sup> Martha White, West Virginia Legislative Committee Clerk. Phone interview by author. May 2013.

<sup>32</sup> Anderson, Paul, "Alaska's Health Impact Assessment Program," *State of Alaska Epidemiology Bulletin* 19 (2011).

<sup>33</sup> Anderson, Paul, director of Alaska's HIA program. Phone interview with author. February 2013.

<sup>34</sup> Maryland Laws Chap. No. 319, H.B. 86 and Chap No. 443, S.B. 177, 2004 Session. (2004).

<sup>35</sup> Washington Senate Bill 6099, E.S.S.B. 6099.SL, Laws of 2007, Chap. No. 517, 60<sup>th</sup> Legislature, 2007 Regular Session. (2007).

<sup>36</sup> 2007 Washington Laws, Chap. No. 517: Health Impact Project and Arizona State University, 'Legal Review Concerning the Use of Health Impact Assessments in Non-Health Sectors,' (Washington, DC: 2012), accessed December 16, 2013,  
<http://www.healthimpactproject.org/resources/body/Legal-Review.pdf>.

<sup>37</sup> Washington State Department of Transportation, *SR 520 Bridge Replacement and HOV Program*, Winter 2009, <http://www.wsdot.wa.gov/NR/rdonlyres/E9CE2B3A-598D-45DF-827F-ABB59437B51C/0/MediationFactsheet.pdf>.

<sup>38</sup> 2007 Washington Laws, Chap. No. 517, p.4.

<sup>39</sup> Washington State Department of Transportation, *SR 520 Bridge Replacement and HOV Program*, Winter 2009, <http://www.wsdot.wa.gov/NR/rdonlyres/E9CE2B3A-598D-45DF-827F-ABB59437B51C/0/MediationFactsheet.pdf>.

<sup>40</sup> Washington State Department of Transportation, *ESSB 6392: Design Refinements and Transit Connections Workgroup-Health Impact Assessment*, October 2010, <http://www.wsdot.wa.gov/NR/rdonlyres/CFFB3637-B6A1-400C-982B-F7BE3C7CFDE0/0/HealthImpactAssessment.pdf>.



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- <sup>41</sup> Condon, Suzanne. Phone interview with author. February 2013.
- <sup>42</sup> California Healthy Places Act of 2008, A.B. 1472, 2007-2008 Session. (2008).
- <sup>43</sup> Maryland Healthy Places Act of 2007, H.B. 1034, 2007 Session. (2007).
- <sup>44</sup> Governor's interagency coordinating council on health disparities – Action plan – Statewide policy, RCW 43.20.270, <http://apps.leg.wa.gov/rcw/default.aspx?cite=43.20.270>; Health impact reviews – obtaining and allocating federal or private funding to implement chapter, RCW 43.20.285, <http://apps.leg.wa.gov/rcw/default.aspx?cite=43.20.285>; Requiring health impact assessments, Washington Second Substitute Senate Bill 6195, House Bill 3097, 59<sup>th</sup> Legislature, 2006 Session. (2006) <http://apps.leg.wa.gov/documents/billdocs/2005-06/Pdf/Bills/Senate%20Bills/6195-S2.pdf>; An act relating to the creation of the governor's interagency coordinating council on health disparities, Washington Second Substitute Senate Bill 6197, House Bill 3096, <http://apps.leg.wa.gov/documents/billdocs/2005-06/Pdf/Bills/Senate%20Passed%20Legislature/6197-S2.PL.pdf>.
- <sup>45</sup> Wash. Rev. Code 43.20.025; <http://apps.leg.wa.gov/rcw/default.aspx?cite=43.20.025>.
- <sup>46</sup> New Mexico Senate Bill 256, 29<sup>th</sup> Legislature, First Session 2009 (2009), <http://www.nmlegis.gov/Sessions/09%20Regular/bills/senate/SB0256.html>.
- <sup>47</sup> New Mexico Legislature Bill Finder Senate Bill 256, 2009 Regular Session, <http://www.nmlegis.gov/lcs/legislation.aspx?Chamber=S&LegType=B&LegNo=256&year=09>.
- <sup>48</sup> New Mexico Senate Bill 71, 49<sup>th</sup> Legislature, Second Session 2010 (2010), <http://www.nmlegis.gov/Sessions/10%20Regular/bills/senate/SB0071.html>.
- <sup>49</sup> Ibid.
- <sup>50</sup> Ibid.
- <sup>51</sup> New Mexico Legislature Bill Finder Senate Bill 71, 2010 Regular Session, <http://www.nmlegis.gov/lcs/legislation.aspx?Chamber=S&LegType=B&LegNo=71&year=10>; New Mexico; Senate Bill 98, 50<sup>th</sup> Legislature, First Session 2011 (2011) <http://www.nmlegis.gov/Sessions/11%20Regular/bills/senate/SB0098.html>; New Mexico Legislature Bill Finder SB 98, 2011 Regular Session, <http://www.nmlegis.gov/lcs/legislation.aspx?Chamber=S&LegType=B&LegNo=98&year=11>.
- <sup>52</sup> New Mexico Legislative Finance Committee. *Fiscal Impact Report Health Impact Assessment Program SB 48*, January 23, 2014.
- <sup>53</sup> National Research Council, Committee on Health Impact Assessment, *Improving Health in the United States: The Role of Health Impact Assessment*. (Washington, DC: National Academies Press, 2011).
- <sup>54</sup> Ibid.
- <sup>55</sup> Washington State Department of Transportation, *ESSB 6392: Design Refinements and Transit Connections Workgroup-Health Impact Assessment*, October 2010, <http://www.wsdot.wa.gov/NR/rdonlyres/CFFB3637-B6A1-400C-982B-F7BE3C7CFDE0/0/HealthImpactAssessment.pdf>.
- <sup>56</sup> New Mexico S.B. 71 and S.B. 98 would have established a health impact reporting fund that would collect an annual fee from health insurers in New Mexico to pay for the cost of health impact reports.
- <sup>57</sup> Health Impact Project, *Health Impact Assessment: Bringing Public Health Data to Decision Making* (Washington, DC: The Pew Charitable Trusts, 2010), <http://www.healthimpactproject.org/resources/policy/file/health-impact-assessment-bringing-public-health-data-to-decision-making.pdf>; ‘FAQ about HIA,’ Human Impact Partners, accessed June 30, 2013, <http://www.humanimpact.org/faq#howmuch>; U.K. Department of Health, *Cost Benefit Analysis of Health Impact Assessment* (York: The University of York, 2006),

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<sup>58</sup> Centers for Disease Control and Prevention, "Health impact assessment," [http://www.cdc.gov/healthy places/hia.htm](http://www.cdc.gov/healthyplaces/hia.htm).