

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

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Executive Summary

Health Impact Assessment (HIA) is a combination of methods to systematically examine the potential health effects of proposed policies, programs, and projects. HIA provides decision-makers and stakeholders with information on potential health benefits and harms, disparities in the distribution of impacts, and alternatives for improving the ratio of benefit to harm. As a result, HIA enables more informed policymaking and implementation, with the aim of improving population health, equity, and sustainability. It is particularly useful for highlighting the health impacts of proposed policies outside the health sector, where potential health impacts may be under-recognized or poorly understood.

Despite the advantages of HIA, it has been slow to take hold in this country. In recent years, however, there has been increased interest in utilizing HIA, especially for local planning projects. But HIA has great potential to be used on a national scale, especially because of its potential to alert policymakers to the health implications of endeavors typically viewed as outside the range of health, such as transportation, agriculture and economic policies. For this reason, as a starting point, HIAs can be incorporated into Environmental Impact Assessments. But it is important to note that only using HIAs in this way would be under-utilization of a powerful tool

To encourage greater use of HIAs in policymaking, the authors recommend that Congress take the following steps:

1. Establish a national, quasi-governmental National Center for HIA;
2. Promulgate legislation to clarify and enable the consideration of impacts on human health within existing NEPA mandates;
3. Provide funds for interagency (e.g., NIEHS+USDA+Commerce) research grants to build state and local capacity to conduct and utilize HIAs; and
4. Establish a task force, which includes the GAO, CRS and the National Center for HIA, to assess opportunities, value, and mechanisms for HIA in federal government.

By implementing these steps, policymakers will go a long way toward providing the nation with a much-needed way to guide decision-making about health-related issues. While HIA cannot take the place of sound, deliberative decision-making, it can serve as a valuable asset for providing decision-makers with more complete information on possible courses of action and their potential consequences for the health and well-being of the public and future generations.

Note: The views expressed in this paper are those of the authors. They do not necessarily represent the views of Partnership for Prevention.

Introduction: Rationale for Utilizing Health Impact Assessment (HIA)

Key Points

1. HIA is a combination of methods to systematically examine the potential health effects of proposed policies, programs, and projects. By providing information on potential health benefits and harm, disparities in the distribution of impacts, and alternatives for improving the ratio of benefit to harm, HIA can enable more informed policymaking and implementation, with the aim of improving population health, equity, and sustainability.
2. Many of the determinants of health lie outside health care and even preventive health services. Not taking advantage of policy opportunities to address these non-medical determinants of health is a missed opportunity, resulting in significant costs to the health care system, federal finances, and the health and well-being of Americans.
3. Without realizing it, Congress is being asked to make health decisions as part of its formulation of agriculture, economic, education, transportation, and other policies.
4. HIA can provide Congress and other policymakers with a more informed basis for policy decisions.
5. HIA is feasible and not very costly if applied judiciously for those policy decisions in which there are likely to be positive and/or negative effects on the public's health.
6. Similar prospective approaches across sectors (transportation infrastructure, taxes, energy, agriculture, and housing, for example) have been used for analyzing the environmental and economic effects of proposed policies. These efforts can provide guidance for developing HIA capacity in the health arena that is responsive, efficient, and useful for Congress and other government decision-makers.

Health impact assessment (HIA) is a combination of methods to systematically examine the potential health effects of proposed policies, programs, and projects, providing decision-makers with information on potential health benefits and harms, disparities in the distribution of impacts, and alternatives for improving the ratio of benefit to harm. By providing a tool for guiding policymaking and implementation, HIA aims to improve the public's health, equity, and sustainability.¹ It is particularly useful for highlighting the health impacts of proposed policies outside the health sector, where potential health impacts may be under-recognized or poorly understood.

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

HIA has been used to support government policy decisions for well over a decade in Europe, Australia, New Zealand, and Canada. Adoption of HIA in the U.S. has been slower but has increased substantially in the past two to three years.² While most HIAs to date in the U.S. have focused on local projects and planning decisions, some have focused on state and federal policies in a variety of sectors. Health impact assessments of federal policies and programs are particularly important since the number of people affected by these policies and programs tends to be large.

At beginning of the 21st century, human health concerns are rising in prominence as a public priority among Americans.³ Health care expenditures currently make up 16% of our gross domestic product (GDP).⁴ This high level of spending drains government budgets, erodes the competitiveness of American companies,⁵ and takes a toll on the financial well-being of American households. Unmanageable health care costs are a leading cause of personal bankruptcy⁶ and have also been linked to housing insecurity.⁷

What is the result of this huge investment in resources? Although we spend more per capita on health care than any other country, by many measures our population remains in poorer health than that of most other developed countries^{8,9} According to the World Health Organization (WHO), life expectancy in the U.S. in 2006 was ranked 31st worldwide, tied with life expectancy in Chile, Costa Rica, Cuba, Kuwait, United Arab Emirates, and Slovenia.¹⁰ The epidemic of obesity, and consequences such as increased rates of diabetes, heart disease, and some cancers, threatens to reverse historical trends of increasing longevity and quality of life in the United States.^{11,12,13} The number of Americans of working age living with a chronic health condition has increased 25% over the past decade.¹⁴ Substance abuse remains a major health burden, with methamphetamine the newest scourge.¹⁵ The incidence of new HIV infections and other sexually transmitted infections remains high, despite substantial prevention efforts.¹⁶ Domestic violence and child abuse persist at unacceptable levels.¹⁷ Terrorism, global warming, and disease pandemics affecting humans and food supplies are a few of the pressing concerns of today that were “off the radar screen” even a decade ago.

Clearly we need to rethink our approach to promoting the health of Americans. Reform of our nation’s health care system alone cannot greatly improve our collective health or greatly reduce the large disparities in the burden of poor health and health risks. Coordinated policy efforts across a wide array of sectors are needed to reduce the human, social, and financial burden of ill health in our society.^{18, 19}

When Congress, executive branch agencies, and policymakers in state and local governments make decisions affecting transportation infrastructure, taxes, energy, agriculture, housing, and other “non-health” policies, they may not realize that they are making important health decisions. These decisions shape the underlying determinants of the public’s health and well-being. While the provision and financing of health care and public health services are vital for protecting and improving the public’s health, many of the most important decisions on health are made in other sectors. Policymakers are generally well aware of how environmental policies affect the public’s health, but less aware that decisions in other sectors often have large, under-recognized health impacts as

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

well. For example, a crop subsidy program could affect obesity rates.²⁰ Transportation investments could facilitate urban sprawl, air pollution, and physical inactivity.²¹⁻²⁴ Home foreclosures and associated financial strain resulting from insufficiently regulated home mortgage loans could affect individuals' mental health and erode the social fabric of communities experiencing high rates of home foreclosures.²⁵⁻²⁸

Public policies may result in both harmful and beneficial health effects. In addition, the balance of harm and benefit may be distributed differently among different sub-segments of the population. For these reasons, the processes of crafting and implementing public policies present many unrealized opportunities to improve the public's health overall and reduce health disparities. Conversely, failure to anticipate and plan for potential health effects represents a missed opportunity to reduce the burden of ill health and health disparities prevalent in America.

Since the late 1970s, there has been widespread recognition in the field of public health that non-health policy plays a critical role in shaping the health of a population,^{29,30} but translating this recognition into action has often been problematic, particularly in large, insular bureaucracies. Internationally, HIA has been shown to be a practical mechanism for facilitating collaboration among sectors to improve health.^{31,1} Support for HIA grew most rapidly in Canada,³² Europe,^{33,34} Australia,³⁵ and New Zealand.³⁶

Some of the earliest work on HIA was done at the World Bank, where decision-makers wanted to understand potential health impacts of investments in development projects and incorporate effective mitigation measures into plans. Their goal was to minimize negative health consequences of projects that would otherwise erode the economic benefits of planned investments.³⁷ Formal HIA efforts in the U.S. began around 2000, with a rapid growth in the number of HIAs in the last two years.²

HIA is not so much a new methodology as it is a new application and consolidation of existing analytic, decision-support, and communication tools. Its methodology comes from epidemiology, environmental impact analysis, risk analysis, cost/benefit and cost-effectiveness research, systematic reviews, and community and transportation planning. It draws its content from these fields and others, depending on the nature of the policy or project being examined and the particular health effects of concern.

By casting such a broad net, applications of HIA can encompass everything from efforts to solicit neighborhood residents' opinions on a proposed street-widening project to highly technical computer modeling projects to estimates of health outcomes associated with changes in the federal tax code over a 20-year period of time. While HIA has taken on a variety of shapes in different locales and different situations, there are several common elements to all health impact assessment, including the following:

- A focus on public policy decisions and population health outcomes;
- Utilization of a multidisciplinary process;
- Consideration of a wide range of quantitative and qualitative evidence;

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

- A structured framework for analysis; and
- A foundation based on a broad model of health.

Within these parameters, different situations demand different types of HIA, each with its own standards. As the field of health impact assessment develops and is institutionalized, the different types of HIA will become more defined and the boundaries between them will become clearer. A similar crystallization of the field has been observed in other countries through the institutionalization process.³⁸ Such development and organization of the field as a consequence of institutionalization also has been seen in this country with analogous tools, such as environmental impact statements (EISs),³⁹ risk analysis, and economic analysis.⁴⁰

Since environmental impact assessment (EIA)¹ has been mentioned here as an analog to HIA, it is important to clarify that HIA is not just a component or variant of EIA. Environmental impact assessments mandated by the National Environmental Policy Act (NEPA) and most state equivalents offer some circumscribed opportunities for examining potential effects on human health.⁴¹⁻⁴³ Some integration of HIA into EIAs already seems to be occurring as EIA practice evolves to address community health concerns.⁴³ Such integration could be strengthened with enabling statutes or executive orders similar to those that have defined the scope of federal environmental assessment beyond the general guidelines provided by NEPA itself.⁴⁴ An example of such an order is Executive Order 12898 (Code of Federal Regulations, 3, 859, 1995), which called for an assessment of effects on environmental justice and the Federal Clean Air Act.

Despite the potential value of integrating HIA into the federally mandated EIA, limiting HIA to the realm of EIA would miss many valuable opportunities for using HIA, since the vast majority of public policy actions fall outside the scope of NEPA² and its state-level equivalents. Environmental impact assessments are triggered when the action of a federal executive branch agency is deemed to have a direct and potentially significant effect on the physical environment. Congressional actions, such as the Federal Farm Bill, are outside the scope of NEPA, as are a substantial portion of federal rule-making. Since the direct effects of these rules are on people, not the physical environment, federal rules such as those governing employee overtime, home mortgage lending, and eligibility for school lunch subsidies are all outside the scope of NEPA. Nonetheless, each of these is likely to have significant effects on the health of large

¹ We will generally use the generic term “environmental impact assessment” (EIA), which refers to both the assessment process and product and encompasses both federal and state environmental assessments. The terms “environmental assessment” (EA) and “environmental impact statement” (EIS) will refer exclusively to those specific NEPA-mandated documents.

² NEPA-mandated EIA is not required if the proposed action does not entail a significant change to the physical environment.(CFR 40 §1508.14) For this and other reasons, NEPA and state-level equivalent analysis are usually limited to the analysis of place-based projects, not programs or broad, population-based policies (Council on Environmental Quality, 1997).

swaths of the population. A second limitation of NEPA vis-à-vis HIA is that NEPA is primarily focused on preventing harm, while HIA considers opportunities to both reduce harm and to maximize health benefits. In the next section, we outline the value of HIA and specific actions Congress can take to take full advantage of the benefits of HIA and to help build effective HIA capacity for federal, state, and local government agencies.

Value of HIA

Key Points

1. HIA can facilitate policy action among sectors on non-medical factors that determine the public's health, including factors that underlie health disparities between population subgroups.
2. Information from HIA about the potential health impacts of a specific policy proposal can help identify strategies for maximizing health benefits and minimizing harm early in the policy development process.
3. HIAs do more than simply convey already known information. Analysis of specific policy proposals can reveal counterintuitive effects and important trade-offs between different health effects and their distribution among different segments of the population.
4. Over time, cumulative exposure to information from HIAs can help policymakers understand and anticipate the ways in which policies in many sectors influence the public's health, both positively and negatively.
5. HIA can provide a means of building more effective working relationships among agencies and sectors.

The general tenet underlying HIA is that by bringing consideration of health issues into decision-making in other sectors, HIA can provide a practical means for facilitating action among sectors to improve health.¹ The greatest value of HIA lies in its ability to identify and communicate potentially significant health impacts, both positive and negative. Often these effects are under-recognized or unexpected. For example, government agencies are not accustomed to addressing the potential health effects of policies such as agricultural subsidies, wage laws, education programs, and urban redevelopment projects. But decisions made in these areas can have an impact on health. That said, the goal of health impact assessment is not to prescribe action or to make all other policy priorities subordinate to public health goals. Rather, the idea is to enable more informed policymaking that anticipates potential downsides, takes advantage of opportunities, and balances priorities, resulting in more sound, sustainable public policy.

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

HIA can add value to public decision-making in several ways. First, it provides a means for “bringing the public’s health to the table” by adding health information to considerations of specific proposals in other sectors. In the case of planning a new highway, for example, it could raise questions such as the following:

- How likely is it that the highway will increase asthma rates for those living near its route?
- Will it affect walking or biking routes to school and within neighborhoods?
- What is the potential health impact of increased vehicular noise?

Health impact assessment also can highlight counterintuitive and differential impacts, such as how a specific approach for funding after-school programs, which are generally thought of as benefitting health, might actually adversely effect the health of some low-income children.⁴⁵ In addition, an HIA could show how a plan to relocate a school from a town center to an outlying area to allow for expansion of facilities for physical education and school athletics might actually decrease physical activity levels among the most sedentary children and low-income families with the least access to places for physical activity.⁴⁶

Second, HIA facilitates the input of multiple points of view. Technical experts from various fields and potentially affected groups are typically consulted during the HIA scoping process to help determine what the HIA will examine and how. After an assessment is completed, the explicit description of the methods and assumptions used by an HIA provides a transparent “audit” trail for technical experts and the public to use to evaluate the quality of an analysis or even redo it with different assumptions.

Third, if carefully performed, HIA provides a reasonable projection of health effects over time that publicly accountable decision-makers can use to communicate their decision-making process with constituents. It can, for example, quantify the health benefits to future generations by making such changes as improving walkability of neighborhoods or requiring motorcyclists to wear helmet as a way to reduce the injury accident rate.

The value of HIA goes beyond bringing sound, credible information to bear on specific policy decisions. Perhaps even more important is HIA’s broader, more diffuse effects on how agencies function. Each HIA incrementally contributes to the evolution of agency practices by deepening an appreciation of the “upstream determinants of health” among officials in non-health agencies, elected officials overseeing those agencies, and public stakeholders,^{46,47,48} just as EIA has increased awareness of environmental issues across sectors and helped agencies anticipate and plan for potential environmental effects earlier, more effectively, and more efficiently.^{49,50} Finally, HIA also can help build working relationships and alliances for health promotion among stakeholders and across sectors that persist even after completion of work on a particular policy or project.^{46,47}

Current state of HIA in the U.S.

Key Points

1. Widespread adoption of HIA in the U.S. has been slower than in most other developed countries. However a marked increase in demand for HIA (primarily at the local level) in the past several years suggests increased recognition of its value in the U.S.
2. As with HIAs worldwide, the scope and methodologies of HIAs in the U.S. are highly varied. While many HIAs in the U.S. have examined the potential impacts of “bricks and mortar” projects and local-level planning decisions, the body of HIA work in the U.S. includes examples of project and policy decisions at all levels of government in a wide array of sectors.
3. To date, most HIAs in the U.S. have been conducted on a voluntary basis. But some efforts at different levels of government are underway to institutionalize HIA into government decision-making, often incorporating it into existing environmental assessment and planning processes.

Although interest in HIA in the United States has developed slowly, it is now gaining momentum. A recently published review found that from 1999 through 2007 at least 27 HIAs have been completed in the U.S.² They have been conducted by a number of groups across the United States and have examined the potential health impacts of projects and policies ranging from local land-use plans and wage ordinances to state funding for after-school policies and federal agriculture subsidies (see Appendix 1).

Several pieces of legislation requiring or allocating resources for HIA also have been introduced. In the past two years, bills requiring or supporting HIA have been introduced in California,⁵¹ Maryland,⁵² Massachusetts,⁵³ Washington State,⁵⁴ and West Virginia,⁵⁵ with passage of two bills in Washington State. At the federal level, HIA was included as an element of the proposed 2006 Healthy Places Act introduced in Congress by Senator Obama and Congresswoman Solis,⁵⁶ but this bill did not pass. In 2008, Senate Bill 3571, introduced by Senator Menendez, also included an HIA.

The growing interest in HIA in the United States is driven by a combination of factors, including the following:

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

1. Increased attention given to health and its underlying determinants as topics of public concern.
2. Growing recognition of the influences of other sectors on public health, coupled with a clearer recognition of the limits of traditional public health practice for promoting population health.
3. Increased recognition that public policies can either narrow or widen the large gaps in health seen between different social groups, communities, and regions by addressing differences in the physical and social environments that underlie these gaps.
4. Interest in bringing the results of systematic reviews of research on the effectiveness and strength of evidence of different interventions to improve the public's health, such as the Community Guide for Preventive Community Services (<http://www.thecommunityguide.org>), to bear on specific policy decisions.
5. Emerging realization by interest groups in other sectors, such as home builders and housing advocates groups, that findings from HIA can be used to support their proposals. For instance, a developer may believe that demonstration of public health benefits associated with certain amenities contained in his/her proposal may facilitate approval by a local planning commission.

Learning from Existing Policy and Impact Analysis Efforts

Key Points

1. While HIA is not just a variant or extension of environmental impact analysis (EIA), it can learn valuable lessons from agencies' experience with EIAs.
2. Mechanisms already used by executive branch and Congressional agencies that support similar prospective policy analysis among sectors suggest procedures for effective institutionalization of HIA as part of federal policymaking. Such mechanisms include the Council of Economic Advisors, the Congressional Research Service, and the Office of Technology Assessment, and quasi-governmental organizations such as the National Academies of Science and the National Bureau of Economic Research.

Recognizing that the advancement of national goals often requires the coordinated effort of numerous federal agencies acting with a broad vision that extends beyond narrow priorities of individual sectors, Congress has supported some kinds of policy analysis across sectors. Two notable examples are the National Environmental Policy Act (NEPA) and the Employment Act of 1946. Like HIA, the type of policy analysis enabled

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

by these statutes examines the potential effects of policy actions beyond the usual purview of agencies proposing or implementing these policies.

The Congressional architects of NEPA recognized that a single agency charged with environmental protection could not reverse decades of environmental degradation and prevent future harm if other agencies continued to perpetuate or facilitate such harm.³⁹ The EIA mechanism mandated by NEPA, which includes but is not limited to environmental impact statements, made the recognition and minimization of adverse environmental impacts part of the normal operating practice of every federal executive branch agency.^{39,57}

While the type of institutionalized intersectoral policy analysis called for by NEPA was largely without precedent in the federal government, the core concept was modeled in part after The Employment Act of 1946, which established the Council of Economic Advisors (CEA).³⁹ The CEA is charged with looking beyond agency boundaries and parochial priorities to provide well-regarded economic policy advice to the executive branch. While the CEA has focused more on analyzing broad trends and leading indicators, from time to time it also examines the economic effects of specific programs and policies.⁵⁸

In the legislative branch, the General Accounting Agency (GAO), the Congressional Research Service (CRS), and the disbanded Office of Technology Assessment (OTA) all share common elements with HIA. The evaluative role of the GAO, which is tasked with evaluating the performance and accountability of already implemented programs, differs from the role of an HIA, which attempts to anticipate potential effects of policies. Nonetheless, the broad scope and quality of the GAO's work, the coordination of diverse experts, and its utilization of standardized analytic tools (e.g., cost-effectiveness analysis)⁵⁹ suggest standards and protocols that might serve as models for a federal-level HIA.

The CRS typically conducts reviews of issues conducted in response to Congressional inquiries.⁶⁰ It may conduct some in-house analysis, but compared to the GAO, reports from the CRS tend to be based on a synthesis of existing research. Its responsiveness to policymakers and focus on pending policy decisions are similar to good HIA practice, but a CRS report does not become public until a member of Congress releases it.⁶¹ Most proponents of HIA see it as a resource for all stakeholders—government officials and the public alike.

For many years, the OTA provided Congress, other federal officials, and the public with the type of high-quality, non-partisan, in-depth analysis that is the aim of HIA. The politics of the OTA's demise, however, illustrate the dangers of insufficient integration in decision-making processes and the importance of demonstrating value.⁶² None of these Congressional agencies have a unifying topical mandate, as NEPA does for environmental protection or the Council of Economic Advisors, for sound economic policy.

While the close links of these Congressional agencies to the policymaking process are valuable, their status as Congressional agencies imposes certain limits, as demonstrated by the demise of the OTA and limited public access to CRS reports. Another model that demonstrates effective institutionalized policy analysis, which can serve as a model for HIA, is the practice of quasi-public and private organizations, such as the National Academies and the National Bureau of Economic Research (NBER).

The National Academies, which include the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council, bring together leading experts to examine and make recommendations on current issues, such as childhood obesity, traffic safety, and military funding. Most of the reports issued by the National Academies take more of a general, inductive approach, compared to the more deductive approach of HIA. Where an HIA might estimate the effects of a home-heating subsidy on the health of children in a specific locale, a report from the National Academies would more likely contain a synthesis of research on the linkages between housing and health. Comprehensive ad hoc collaborations like typical National Academy Projects may help set agendas and frame issues, but they are unlikely to get timely information to legislators at critical mid- and late points in the policy cycle. An exception to this, however, is a mechanism facilitated by the Academies' Office of Congressional and Government Affairs (OCGA) through which Congress may request analysis of both existing and pending legislation.⁶³ Some of these analyses, such as a recent analysis of the nutritional implications of biofuels production,⁶⁴ are very similar to what would be done in health impact assessment. In addition to their analyses of specific policy proposals, the National Academies' approach of convening panels of experts could be utilized for developing strategies, such as funding priorities, establishment of standards, and filling in research gaps, which would advance high-quality HIA work.

The National Bureau of Economic Research (NBER) is a private, nonprofit organization founded in 1920 with the goal of promoting a greater understanding of how the economy works. Among their different areas of research, the NBER conducts analyses of the potential effects of alternative policy proposals,⁶⁵ which is analogous to the types of analyses conducted in HIA. A particularly compelling characteristic of the NBER is the composition of its board of directors, which includes representatives nominated by leading U.S. research universities and major national economics organizations.⁶⁶ Including a board of directors structured like that of NBER for an HIA center is included in Action Step 1 in the next section.

Charting a Path Forward: Congressional Actions that Could Build Capacity for Sound, Effective, and Efficient HIA

Key Points

To shape policies that more effectively protect and promote the public's health and well-being, Congress can provide leadership and guidance for building HIA into government decision-making. Beginning with several relatively modest actions requiring relatively small investments can provide a significant impetus for advancing sound, effective HIA.

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

These actions include the following:

1. Establish a national, quasi-governmental National Center for HIA. Such a center could provide credible, nonpartisan policy analysis on demand to Federal policymakers, as well providing leadership and technical guidance on HIA for Federal, state, and local agencies conducting HIA. With technical expertise from the Centers for Disease Control and Prevention, various institutes from the National Institutes of Health (NIH), relevant federal agencies and academia, such a center would:
 - a. Provide and coordinate on-demand HIAs to Congress through the Congressional Research Service and to executive branch agencies.
 - b. Facilitate interagency, intersectoral dialogue on cross-cutting issues with likely significant health effects. Perform an HIA where the issues meet predetermined Congressionally defined criteria.
 - c. Provide technical assistance on HIA to federal, state and local agencies.
 - d. Assess the field of HIA practice to identify best practices, information gaps, neglected issues, and research priorities. Communicate this information through the establishment of an HIA clearinghouse.
2. Promulgate enabling legislation to clarify that assessment of human health impacts is within the scope of NEPA where technically feasible and warranted by the nature of the impacts.
3. Provide research funding for HIAs with the goal of building regional, state, and local capacity to conduct HIA. To facilitate the larger goals of HIA, which include intersectoral cooperation, such funding would combine federal, state, and local resources from multiple agencies (e.g. NIH, EPA, USDA, and the Department of Transportation).
4. Establish a task force involving the GAO or CRS, along with the National Center for HIA, to assess the value and identifying mechanisms for using HIA in Congressional deliberations and/or incorporating HIA requirements into programs implemented by executive branch agencies.

Charting a course for building HIA capacity and finding effective mechanisms for its broad use will require time, re-assessment, and adjustments. The complexity of this task makes it essential to learn from historical examples of analogous efforts in the U.S. and from the experience of HIA in different countries. At the same time, any change needs to occur in recognition of the unique set of opportunities and challenges presented by the landscape of policymaking in the U.S.

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

While a complete road map cannot be laid out in advance, some essential steps can be taken that will form a solid foundation for use of this new tool. Over time, most HIAs will undoubtedly be done at the state and local level. Congress can and should support federal-level HIAs, but an equally important opportunity is to provide leadership and guidance for the states and localities, which will be its most frequent users.

Beginning with several modest actions requiring relatively small investments, Congress can support the development of HIA capacity and its utilization in guiding government decision-making, working toward the goal of more effectively protecting and promoting the public's health and well-being. These steps include the following:

5. Establishing a national, quasi-governmental National Center for HIA;
6. Promulgating legislation to clarify and enable the consideration of impacts on human health within existing NEPA mandates;
7. Providing funds for interagency (e.g., NIEHS+USDA+Commerce) research grants to build state and local capacity to conduct and utilize HIAs; and
8. Establishing a task force, which includes the GAO, CRS and National Center for HIA, to assess opportunities, value, and mechanisms for HIA in federal government.

Action Step 1: Establishment of a National Center for HIA

A national, quasi-governmental National Center for HIA could provide credible, non-partisan policy analysis to federal agencies. It could also provide leadership and technical guidance on HIA for state and local agencies. This center should be sufficiently insulated from political pressures to maintain its independence and credibility but still close enough to policy-makers to ensure its effective and regular contribution to the policymaking process. A virtual center with participation from multiple academic institutions in conjunction with appropriate agencies from both the executive and legislative branches is one possibility. Expertise for such a center already exists within and outside government. Thus, the role of the center should be to coordinate efforts and create a critical mass of expertise that can more effectively and efficiently respond to requests for HIAs. Interdisciplinary, interdepartmental teams of analysts could serve on rotating appointments from experienced academic research centers, the CDC, relevant institutes from the NIH, and other relevant executive branch and Congressional agencies, supported by a permanent administrative and coordinating staff.

In addition to responding to requests for HIAs from executive branch or Congressional agencies, a key function of this center would be to advance HIA practice by facilitating dialogue across agencies, reviewing existing health-related assessment procedures in the Environmental Protection Agency, Departments of Transportation, Commerce, Agriculture, Housing and Urban Development (among others), the CDC, and other agencies with relevant mandates. The center would provide training and technical

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

assistance for building internal capacity for HIA within these other federal agencies. As part of this function, the center could help establish guidelines for determining when an HIA is worthwhile so that the Federal government gets the most out of investment in HIA. These guidelines could cover the following areas:

- 1) *Technical criteria* – Is there sufficient information that can be synthesized and communicated in a timely fashion?
- 2) *Legislative/Procedural* – Will additional information about health impacts make a difference?
- 3) *Resources* – Balancing the costs of HIA with anticipated benefits (including threshold guidelines based on the size of population affected, disparities, and potential severity of health consequences to individuals and communities).

A third function of this center would be to develop a support structure for providing training and technical assistance to state and local agencies interested in conducting HIA. This assistance could include conducting HIA training workshops, loaning experts to state and local agencies (as is done with the Epidemiologic Intelligence Service of the CDC), and providing fellowships within the center for on-the-job HIA training to individuals already employed by state and local agencies.

Fourth, the center would be tasked with periodically assessing the field of HIA practice and issuing reports to identify best practices, information gaps, neglected issues, and research priorities. The center should also create and maintain a national clearinghouse on HIA that provides updated information on HIAs conducted in the U.S. and guidance on how to conduct them. Such a clearinghouse would provide information on specific pathways, analyses, and references that could substantially reduce the work and time needed to conduct an HIA on issues that have already been addressed in related HIAs.⁶⁷ To link information about gaps and common pathways from the clearinghouse with information on emerging policy initiatives, a steering committee could be established to identify priority areas for new HIAs and communicate this information to funding agencies, such as the NIH, the Transportation Research Board and the National Science Foundation (see Action Step 3, below).

A board of directors with members representing academia, different branches of government, health and non-health agencies, business, and the nonprofit sector would be invaluable for guiding the work of this center. The board would serve to increase the visibility of the center and ensure its credibility. A mechanism for outside institutions to appoint board members, such as that utilized by the National Bureau of Economic Research⁶⁶ would help ensure balanced membership and links with stakeholder groups.

Action Step 2: Legislation Clarifying and Enabling Human HIA within NEPA

Although protection of human health is a stated goal of NEPA, judicial interpretations of the statute and bureaucratic practices have minimized its consideration

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

in environmental impact assessments (EIA).⁴² There are, however, opportunities to expand the consideration of human health impacts under NEPA. In a few instances, some incremental steps have been made in this direction under the existing law.⁴³

Congressional legislation could clarify for the courts, affected agencies, and EIA preparers that consideration of human health impacts in NEPA-mandated HIAs is appropriate when warranted by the circumstances of a particular proposal and as determined through existing scoping processes. Furthermore, such statutory clarification could spur technical innovations and standards for improved assessment of health impacts within NEPA.

Because EIA, as mandated by NEPA, is such a powerful tool and has been widespread in its practice, proponents of HIA often look for ways to integrate HIA into EIA. Despite advantages of an integrated EIA/HIA approach, pursuing this as the only mechanism for bringing HIA into the policymaking process will exclude HIA from many areas where it could make its greatest impact.

NEPA-EIAs are triggered only when the proposed action is deemed to have a likely direct and significant effect on the natural and physical environment (CFR 40 §1508.14). Other actions, such as tax code changes that might encourage or deter certain kinds of building and investments that facilitate urban sprawl and harm the environment, would not trigger an EIA, since change to the physical environments is an indirect effect of the proposed policy. Many policies that are good candidates for HIA due to their large aggregate effects on health, such as tax, agriculture, housing, transportation and education policies, fall outside the scope of NEPA, either because they do not entail any changes to the physical environment or because such changes are indirect effects.

Even when a proposed federal action triggers a NEPA-mandated EIA, the impact assessment may ignore important health effects because of NEPA's emphasis on the prevention of harm. In accordance with the goals of NEPA-- to prevent environmental degradation--NEPA-mandated EIAs focus on anticipating negative impacts and mitigating harm. Improving the public's health, however, is as much about maximizing health-enhancing actions as minimizing harm. A complete and accurate picture of potential health effects needs to examine both potential harm and benefits and their differential distribution in the population.

Action Step 3: Funding for Interdepartmental Research Grants to Build State and Local HIA Capacity

While the National Center for HIA proposed under Action Step 1 would provide national leadership and guidance for HIA, many of the best technical and administrative innovations in HIA practice will come from the field: local agencies, universities, and nonprofit organizations trying to conduct HIAs in novel situations with extremely limited resources. Innovation from these groups could be accelerated and better disseminated with support from federal research grants.

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

Such a grant program would most effectively advance the field of HIA if they specifically include capacity building (i.e., not just conducting HIAs) and require inter-agency partnerships and government-university cooperation. The grant program also could facilitate greater uptake of HIA by non-health agencies if the program brought together funding from health and non-health agencies alike (e.g., CDC, EPA, USDA, and USDOT).

Action Step 4: Formation of a Congressional Task Force to Assess Opportunities, Value, and Mechanisms for Building HIA Capacity in Congressional Agencies or Committees

Many of the policy decisions most significantly affecting the health and well-being of Americans are made in Congress. For HIA to realize its full potential for advancing policy opportunities in the best interests of the health and well-being of Americans, it needs to become well integrated into the federal policymaking process. Such integration could occur upstream in the policy process as an input to Congressional deliberations on pending legislation, or it could occur downstream as part of policy implementation by executive branch agencies with Congressional oversight and review. While obstacles such as uncertainty, competing priorities, and partisanship may impede the feasibility and uptake of HIA, it does not mean that HIA is a bad idea, but it does mean that obstacles need to be anticipated. Congress, with the support of staff members and Congressional agency staff, is well positioned to identify mechanisms for finding the most appropriate and effective ways to utilize HIA in the development and implementation of federal policies. A Congressional HIA task force could take the lead in determining the following:

1. Procedures, standards, and resources for Congressional agencies (e.g., the Congressional Research Agency) to best conduct or coordinate HIAs on pending legislation if requested by a Congressional committee.
2. Mechanisms through which executive branch agencies could be charged with conducting HIAs.
3. How outside agencies (e.g., the National HIA Center proposed in Action Step 1) could best support Congressional and/or executive branch agencies tasked with conducting, coordinating, or reviewing HIAs.

Charging executive branch agencies with the task of conducting HIAs would present many challenges, but it is a promising option as well. Extending HIA requirements to federal agencies could effectively leverage far greater resources and have much broader effects than if HIA were confined to Congressional deliberations. Agencies could be required to identify potential health impacts prior to implementation of Congressionally specified policies, programs and projects and to demonstrate that measures have been put in place to minimize adverse health impacts and maximize positive impacts. Effective and judicious use of this approach would require several elements, including upstream guidelines for use by Congress to suggest when and where such HIAs might be mandated, and downstream procedures for ensuring high- quality

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

HIAs and agency follow-through on HIA recommendations. One executive branch agency would have to be delegated responsibility for promulgating standards for HIA procedures and establishing guidelines to assess the adequacy of agency steps taken to minimize health harm and maximize health benefits. To ensure agency compliance, some periodic review by the GAO would be needed. In addition to the challenges of implementing HIA discussed in the next section, it is important to be aware that if federal agencies conduct HIAs, they will face the same challenges that any initiative making its way through the large, complex federal government, with its complex procedures for rule-making, must contend with.

Whatever path is chosen for HIA, there are several common strategies that will help increase the likelihood that HIA will be able to contribute meaningful, actionable information with a modest level of resource inputs:

1. Projects and policies subject to HIA need to be carefully selected to ensure that analysis of health impacts is feasible and can contribute valuable information to decision-makers. If possible, the topics of HIA also should be selected with some strategic consideration given to building the field of HIA and policymakers' understanding of the links between policy and the public's health and well-being where such linkages are not immediately apparent.
2. The architects of a federal HIA program need to leverage the wealth of existing resources and expertise in order to maximize effectiveness and efficiency. The success of HIA hinges on it being well integrated into policymaking processes and highly visible to those agencies and sectors where health concerns are not already "on the radar screen."
3. Some thought needs to be given to building stakeholder demand for HIA so that it does not become a mere bureaucratic procedure forced upon agencies. Policymakers, professional groups, and public constituencies in different sectors need to be shown the value of HIA—how it can help achieve the larger public policy goals of advancing public health and well-being. Opportunities to learn about HIA and observe its demonstration are necessary, as is leadership from Congress that clearly communicates the importance of shared responsibility for protecting the public's health.

Challenges to Effective Use of HIA in Federal Policymaking

Key Points

1. Over time, institutionalization is necessary if HIA is to achieve its aim of guiding public policy decisions that more effectively promote the public's health and well-being.
2. Broad action among different government sectors on implementation of HIAs and follow-through on recommended actions will require leadership from Congress.
3. Experience from other countries shows that acceptance of HIA is broader and more sustained when supported by broad directives for agencies to promote equitable, sustainable, health-promoting policies that help cast HIA as a resource rather than as an imposition.
4. HIA needs to demonstrate its utility as a tool not just for communicating information of compelling public interest but as a guide to policymaking in promoting the health and well-being of the public and future generations.

Efforts to encourage the broader use and acceptance of HIA in federal policymaking face two types of challenges: (a) technical challenges to designing and conducting sound, credible HIAs, and (b) the political and administrative challenges of institutionalizing HIA so that it becomes accepted as an integral part of decision-making. Many researchers^{68-70,1} have discussed the technical challenges facing practitioners trying to conduct high-quality HIAs. We will focus our comments here on the political and administrative challenges to increased utilization of HIA.

Some degree of institutionalization is necessary if HIA is to achieve its aim of guiding public policy decisions that more effectively promote the public's health and well-being. This means more than merely conducting periodic ad hoc assessments in agencies already tasked with protecting the public's health, such as the CDC. Health impact assessment needs to reach into areas of public policy decision-making where the health implications of policies are under-recognized. And, to be most effective, HIA needs to be conducted early in the policy development process, when recommended measures to protect health can most easily be integrated into policy proposals. Merely holding HIA up as a laudable, yet completely voluntary analytic tool, will not achieve the broad, regular utilization of HIA necessary to meaningfully transform the policy landscape. The eventual success of HIA will not be measured in terms of numbers of HIAs, technical sophistication, or even the sum of recommended mitigation measures protective of human health that are eventually accepted. Rather, the measure of the success of HIA will be its ability over time to increase general awareness and broad

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

action to promote the public's health and well-being, regardless of whether an HIA is even conducted in a particular situation.³

Building a broad base of support across political factions, sectors, and in different branches of government is difficult. And, once built, such support may be fleeting. Experienced lawmakers are well aware of the many major initiatives, from Great Society programs⁷¹ to health care reform in the early 1990s,⁷² which at one time had strong support that evaporated. Experience from other countries shows that enthusiasm for HIA can also quickly change to disillusionment if there are unmet, perhaps unrealistic expectations and difficulties involved in incorporating HIA into decision-making processes, or shortcomings in the credibility, significance, or utility of information that HIA contributes to the decision-making process. In Canada, the province of British Columbia, which was one of the early innovators in HIA, largely abandoned efforts to institutionalize HIA following a change in government in the late 1990s.³² Support for HIA in Sweden,³³ the Netherlands,^{73,34} and the United Kingdom^{4,74} has been tempered by recognition of the challenges of routinely incorporating HIA into decision-making, although all three countries continue to have in place governmental policies that support using HIA. In the United Kingdom, however, government support for project-based HIA also seems to be declining.⁷⁴

In contrast, HIA seems to be well incorporated in government decision-making and planning in New Zealand⁷⁵ and Quebec, Canada.⁷⁶ What sets these two cases apart is longstanding experience with coordinated government planning, combined with legislation calling for a commitment to health promotion across sectors, such as Quebec's Public Health Act³² and New Zealand's Local Government Act 2002.⁷⁵ Indeed, acceptance of HIA across different sectors seems to have come less from specific mandates for HIA than from the attractiveness of the method for helping agencies fulfill other government requirements for promoting equitable, sustainable, health-promoting policies.⁷⁵

Regardless of whether government priorities are conducive to the institutionalization of HIA, inherent difficulties persist in getting policymakers to routinely request and use HIA. Policy agendas are crowded with numerous decisions, goals, and interest groups. Public health is one of many concerns that most policymakers must weigh. Because HIAs naturally cross sector boundaries, the health concerns raised

³ This perspective on the measure of success of HIA is similar to thinking about the legacy of NEPA, which despite the shortcomings of particular EIAs, has expanded agency awareness and planning for environmental impacts even in their attempts to avoid having to conduct an environmental impact statement.^{39,57}

⁴ Despite scaling back on HIA at the national level, some local governments in the U.K., such as London (43), have made HIA a cornerstone of health promotion policy, supporting the use of both project- and policy-based HIA.

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

by a HIA may be discounted by policymakers and stakeholders in other sectors who may feel that health is trying to encroach on their domain or trump their priorities. Furthermore, the regulated community may perceive HIA as another onerous government-imposed burden, much like EIA.⁴² Sound analysis and a focus on health impacts of compelling public interest are necessary to minimize these obstacles to implementation.

Responding to “compelling public interest” is what HIA is all about. As household and government budgets are weighed down by the burden of escalating health care costs in the face of perceptions of stagnant or declining quality of life prospects, people look to government to make wiser, more informed, and more effective decisions. Information from HIA, or any other technical analysis, cannot supplant a well-functioning political process in shaping good legislation, but it can serve as a valuable asset for mapping possible courses of action and their potential consequences for the health and well-being of the public and future generations.

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

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Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

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Appendix 1. Some Policy Elements Affecting Health Across Sectors by Congressional Committee and Health Pathway

Agriculture

- +Physical activity promotion included among criteria for school lunch program eligibility (*physical activity*)
- +Subsidies for fresh fruits and vegetables (*nutrition*)
- Subsidies for low nutrient value foods (*nutrition*)
- +Labor standards supportive of farm labor safety (*injury and violence*)
- +Community development aid to small, rural communities (*social capital*)
- +Continuing ed. grants for small farmers in ag. programs (*social capital*)
- +Loans for retailers selling fresh produce in low-income areas (*income*)
- +Incentives to use less toxic integrated pest management (*env. quality*)

Commerce, Banking

- Support for lending practices that facilitate sprawl (*physical activity*)
- +Advantageous loans for new grocers locating in “food deserts” (*nutrition*)
- +Standards for local investment of bank assets (*social capital*)
- Community disruption linked to high foreclosure rates (*social capital*)
- +Small business incentives to hire local residents (*income*)
- +Foreclosure avoidance programs for owner-occupants (*mental health*)
- +Trade agreements with environmental standards and incentives for “greener” production and shipping (*env. quality*)

Energy (*continued*)

- +Low-income home heating subsidies (*income*)
- +Subsidies for energy-efficient appliances and home insulation (*income*)
- groundwater contamination due to gas and oil extraction (*env. quality*)

Finance

- +Employer tax incentives for promoting non-motorized commuting (*physical activity*)
- +Negative excise tax on minimally processed, high nutrient foods (e.g., fresh fruits and vegetables, whole grains, fish) (*nutrition*)
- +Tax incentives to support preschool education (*injury and violence*)
- +Rent and mortgage tax deductions for housing near employment centers and transit (*social capital*)
- Mortgage interest tax deductions promoting sprawl and long commutes (*social capital*)
- +Earned Income Tax Credit (*income*)

Housing

- +Housing development standards requiring recreational space/facilities (*physical activity*)
- +Grants for small groceries and farmers markets serving areas with high densities of low-income housing (*nutrition*)
- +Best practice guidelines for safer buildings (*injury and violence*)
- +Housing development standards for common social areas (*social capital*)
- +Construction loans encouraging hiring of local labor (*income*)
- +Housing project standards for greenspace and natural light (*mental health*)
- +Financial incentives for “brownfield” remediation and reuse

Education

- +Nutrition, P.E., and other physical activity included in school accountability reports (*physical activity, nutrition*)
- +Tiered subsidies to incentivize healthier school lunches (*nutrition*)
- +After-school program funding for high-need communities & households (*injury and violence*)
- +Grants for non-college track programs (*injury and violence*)
- Poor tracking of dropouts in accountability reports (*injury and violence*)
- +Student loan forgiveness for teachers, police, and firefighters working and living in poor and rural communities (*social capital*)
- Guidelines favoring new school construction in outlying areas (*social capital*)
- +Grants and teacher corps programs for quality preschool programs (*income*)
- +School design incorporating greenspace and natural light (*mental health*)

Energy

- Diversion of crops for biofuels resulting in food price increases (*nutrition*)
 - Crime linked to an influx of migrant drilling workers (*injury and violence*)
 - +Small business loans in post-energy boom towns (*social capital*)
- + indicates generally positive impact on health; – indicates generally negative impact on health

(*env. quality*)

Transportation

- +Requirements for projects to expand and improve infrastructure for non-motorized travel (*physical activity*)
- +Safe Routes to School funding (*injury and violence*)
- +CAFÉ standards encouraging more uniform vehicle sizes (*injury and violence*)
- +Guidelines to assess “level of service” for non-motorized travel in environmental impact assessments (*social capital*)
- +Local job retention and investment included for project ranking (*income*)
- +Employer incentives to promote transit use (*mental health*)
- +Trip (demand) minimization for project ranking (*mental health*)
- +Pilot grants to develop “greener” port operations (*env. quality*)
- +Evaluation of projects’ CO₂ footprint (*env. quality*)

Appendix 2. Topics of Completed Health Impact Assessments (HIA) in the United States (January 2001-September 2008)

HIA topic [No. of HIAs if more than one]	Relevant Federal Agencies ³	Key Pathways
Farmers'/Public markets ¹	Agriculture	Economic development, nutrition, physical activity, social capital
2002 Federal Farm Bill ¹	Agriculture (+ DOE for biofuels)	Air pollution (biofuels), nutrition (subsidies)
Petroleum exploration and extraction ²⁻⁵ [3]	Bureau of Land Mgmt/Energy/EPA	Nutrition, social capital, mental health
State physical education policies ¹	Education	Physical activity
State Funding for after-school Programs ¹	Education, Justice	Crime, education, sexual activity, substance abuse
Home heating subsidy ⁶	Energy/Housing and Urban Dev.	Food and health-related spending, injury prevention
Coal-fired power project ⁷	Energy/EPA	Airborne pollutants, employment
Restaurant menu labeling ⁸	FDA/HHS	Nutrition
Rental voucher program ⁶	Housing and Urban Development	Housing
Redevelopment/Land-use Projects ^{1,9-17} [12]	Housing and Urban Development, EPA, Transportation	Air quality, crime, economic development, employment, housing, injury, land-use policy, noise, parks, pedestrian safety, physical activity, transportation
State limits on injury liability related to recreational physical activity ¹	Justice	Physical activity
Municipal living wage ordinances ^{1,18}	Labor	Health insurance, income
Paid Leave ⁹	Labor	Health, income
City transportation plan ¹⁹	Transportation	Safety, physical activity
State funding for mass transit ¹	Transportation	Air and water quality, noise pollution, discretionary time, physical activity, mental health, social capital, income, economic development, access to services

Building Health Impact Assessment (HIA) Capacity: A Strategy for Congress and Government Agencies

Bridge construction ^{20,21} [2]	Transportation	Air quality, noise, physical activity, injury, environmental justice
Safe routes to school projects ¹	Transportation	Air pollution, injury, physical activity, social capital

*HIAs were identified through search of Internet, NLM PubMed, HIA listserv reports, and follow-up of incoming requests for technical assistance received by the UCLA HIA group, colleagues at the Centers for Disease Control and Prevention, the National Association of City and County Health Officers and the American Planning Association.

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