

A BRIEF HISTORY OF HEALTH IMPACT ASSESSMENT IN THE UNITED STATES

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Background

In recent decades, several factors have contributed to the increasing use of health impact assessment (HIA) in the United States. Initially in California and subsequently in other states, communities that have been traditionally disenfranchised began seeing HIA as an opportunity to address the issues impacting their lives and to increase their ability to participate in decision-making processes about those issues. Second, public health professionals began to better understand the links between health and the natural and built environments, and to use HIA as a tool to improve cross-disciplinary communication. Third, public health professionals recognized that HIA could be valuable to address economic and social issues, such as educational and wage policies, in addition to built environment issues, such as land use and transportation. Some of the major milestones in the growth of the use of HIA in the United States are listed in Figure 1.

The National Environmental Policy Act in 1969 (NEPA, 1969) required evaluation of the environmental effects of any “major federal action significantly affecting the quality of the human environment.” In recognizing of the interdependence of environmental quality and human health, NEPA was designed “to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man” (NEPA, 1969 §4321) and to “assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings” (NEPA, 1969 §4331; Bhatia, 2008).

While NEPA could be used to examine health impacts of projects and policies routinely, in practice, health has received relatively little attention in most environmental impact assessments (EIAs). For example, EIAs commonly

estimate the change in air quality (an environmental impact) resulting from a proposed project or policy, but do not estimate the associated change in respiratory disease rates (a health impact) that could be expected from that change in air quality. The inclusion of health in the EIA process has been encouraged by the National Research Council report on HIA (NRC, 2011) and discussed in several reviews (Cole, 2004; Bhatia, 2008). Examples in which health issues have been incorporated into the EIA process include the Lake Oswego to Portland Transit Project HIA in Oregon (<http://www.pewtrusts.org/hip/portland-to-lake-oswego-transit-project.html>) and the HIA of oil and gas leasing in the National Petroleum Reserve in Alaska’s North Slope Borough (Wernham, 2007).

In 1986, the World Health Organization’s (WHO) *Ottawa Charter for Health Promotion* was a major step toward the development of HIA. The charter recognized that achieving health requires working across multiple sectors to fulfill basic human needs including: peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity (<http://www.who.int/healthpromotion/conferences/previous/ottawa/en/>). In 1997, the WHO *Jakarta Declaration on Leading Health Promotion into the 21st Century* specifically called for the use of “equity-focused health impact assessments as an integral part of policy development” (<http://www.who.int/healthpromotion/conferences/previous/jakarta/declaration/en/index2.html>). Substantial work on HIA in the 1990s, primarily in Europe, led to the publication of the WHO Gothenburg Consensus Paper that delineated the core principles of HIA practice including democracy, equity, sustainable development, and ethical use of evidence (WHO, 1999).



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Figure 1. Selected milestones in the development of health impact assessment in the US. Adapted from Ross 2014 and Harris-Roxas 2012

1969	National Environmental Policy Act passes that included among its purposes to “promote efforts ... [to] stimulate the health and welfare of man”
1986	World Health Organization’s Ottawa Charter for Health Promotion recognizes that achieving health requires working across multiple sectors
1997	WHO Jakarta Declaration calls for the use of “equity-focused health impact assessments as an integral part of policy development”
1999	WHO releases the Gothenburg consensus paper on HIA
2001	San Francisco Department of Public Health publishes a paper on the health benefits of a living wage ordinance, the first HIA in the US (Bhatia 2001)
2004	First book on HIA published, primarily with European contributors (Kemm 2004)
2006	CDC documents steps to advance HIA in the US, based on 2004 CDC/RWJF workshop (Dannenberg 2006)
2006	University of California Berkeley teaches first graduate school course on HIA in the US
2008	CDC documents first 27 HIAs conducted in the US (Dannenberg 2008)
2008	North American HIA Practice Standards Working Group releases version 1 of practice standards for HIAs
2008	Washington state requires an HIA for State Route 520 bridge replacement, the first HIA required in the US
2008	First HIA of the Americas workshop held in Oakland, CA
2009	Massachusetts Healthy Transportation Compact requires HIAs for transportation projects
2011	National Research Council publishes <i>Improving Health in the United States: The Role of Health Impact Assessment</i> to guide future of HIA in the US (NRC 2011)
2011	Society of Practitioners of Health Impact Assessment (SOPHIA) established
2012	First National HIA conference held in Washington, DC, sponsored by RWJF
2014	First textbook on HIA in the US published (Ross 2014)
2014	First sector-specific review of HIAs in the US published (Dannenberg 2014)
2015	Evaluation of the impact of HIAs in the US published (Bourcier 2015)
2016	Over 380 HIAs completed or in progress in the US
2016	First issue of <i>Chronicles of Health Impact Assessment</i> published

Early HIA work in the US

Early work on HIA in the US was led by the San Francisco Department of Public Health, the UCLA School of Public Health, and Partnership for Prevention (<http://www.prevent.org>; Cole, 2008). In 1999, the first HIA conducted in the US described the health impacts of a living wage ordinance in San Francisco; however, it was not called an HIA at that time (Bhatia, 2001). In 2004, Cole discussed the potential for expanded use of HIA in the US and identified a number of reports on health impacts of various issues outside of the health sector, such as gambling and building codes. However, many of these reports did not focus prospectively on a specific policy or project and should not be considered HIAs (Cole, 2004). The fact that one can assess the health impacts of any topic (such as air pollution or sea level rise), yet not be doing a health impact assessment, leads to confusion of terminology that persists now. Most HIAs are conducted prospectively on a proposed policy or project in which decision-makers are willing to consider

recommendations to promote health or mitigate adverse health impacts. HIAs that are not timely or in which decision-makers have little receptiveness to recommendations are of less value, although they may still facilitate community engagement.

Community engagement has long been a central component of HIA work (Wright, 2005; Tamburrini, 2011; CCHE, 2015). Much of the early work in the San Francisco Bay area focused on efforts with local community partners to address health equity issues. Initial work to shape HIA practice to be relevant to communities included sessions in which public health and community partners worked to identify the scope of hypothetical HIAs. After trust between public health professionals and community constituencies was established, these local partners began to call on public health to use HIA to help with their project and policy struggles. In one early success, an HIA by the San Francisco Department of Public Health contributed to the building of affordable replacement housing for low income

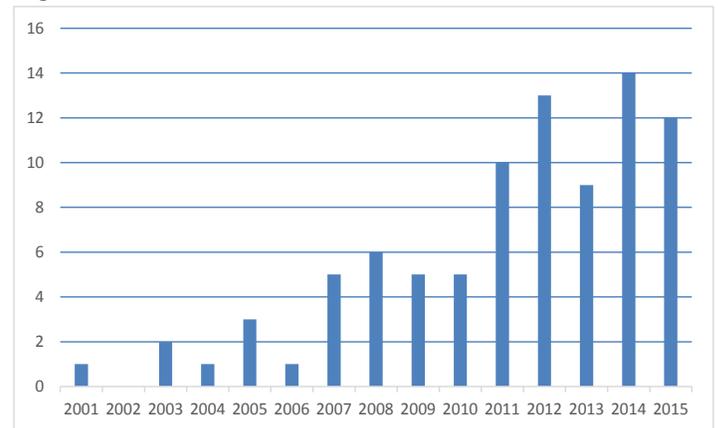
residents in Trinity Plaza Apartments who were being displaced by the development of market rate condominiums (Bhatia, 2007). The creation of the non-profit organization Human Impact Partners (<http://www.humanimpact.org/>) in 2006 in Oakland added to the field's capacity to conduct HIAs. Similar progress in the mid-2000's was made in Alaska, where work on the health impacts of resource extraction on native Alaskan communities led to substantial expansion in the use of HIA by the Alaska state health department (Wernham, 2007; Anderson, 2013).

In 2002, the Centers for Disease Control and Prevention (CDC) hosted a multi-disciplinary workshop in Atlanta to develop a research agenda to advance the field of the relation between health and the built environment (Dannenberg, 2003). The resulting research agenda listed health impact assessment as one of the recommended approaches worthy of further research. As a result, in 2004, the Robert Wood Johnson Foundation (RWJF) and CDC hosted a second multi-disciplinary workshop, including HIA experts from Europe and Canada, to explore approaches to further develop the use of HIA in the US (Dannenberg, 2006). This workshop suggested next steps including conducting pilot HIAs, creating a database of completed HIAs, building capacity to train HIA practitioners, evaluating the impacts of HIAs, and identifying more resources to expand the field. The results of this workshop, as well as the early HIA successes in California and Alaska, contributed to the expanded involvement of both RWJF and CDC in HIA activities in subsequent years. As described below, progress has been made in each of the workshop's recommended next steps.

Academic research

In addition to the conduct of numerous HIAs, the field of HIA has grown in the United States and internationally over the past 15 years as an area of academic research. Two books (NRC, 2011; Ross, 2014) and approximately 85 peer-reviewed articles (Figure 2) with U.S. authors have been published since 2001. Some articles focused on HIA methods, such as challenges in conducting HIAs (Krieger, 2003), use of quantitative methods in HIA (Bhatia, 2011), use of stakeholder consultation in HIAs (Tamburrini, 2011), and modeling of traffic noise exposures (Seto, 2007). Other articles have focused on the effectiveness of HIAs (Bourcier, 2015), teaching HIA courses in universities (Pollack 2015), and a review of HIA guidelines (Hebert, 2012). Papers focused on the use of HIA in specific sectors include: transportation (Dannenberg, 2014), housing (Morley, in preparation), and education (Gase, in preparation). A few articles focused on the conduct and results of a single HIA, such as local speed limits in Massachusetts (James, 2014), zoning revisions in Baltimore (Johnson Thornton, 2013), and the Atlanta Beltline transit and redevelopment project (Ross, 2012). Now containing over 380 HIAs, the HIA database created by the Health Impact Project has been a valuable resource for identifying relevant HIAs for research and practice (The Pew Charitable Trusts, 2016).

Figure 2. Number of articles with US authors related to



Source: http://www.cdc.gov/healthyplaces/docs/hiaarticles_usauthors_29february2016.pdf

Teaching and training

As the demand for conducting HIAs has grown over the past decade, there has been a parallel increase in the demand for training professionals to conduct HIAs. For several years, HIA workshops were organized by the CDC, the National Association of County and City Health Officials, and the American Planning Association with local public health and planning officials in the same classroom to increase their cross-disciplinary collaboration. From 2006 to 2012, over 2200 people in 29 states were trained in at least 75 in-person short courses on HIA by four organizations: CDC, the San Francisco Department of Public Health, the non-profit Human Impact Partners, and the University of California, Berkeley (Schuchter, 2015). Based on interviews of a sample of trainees, Schuchter reported that many trainees had met their training objectives, established new collaborations at the trainings, and disseminated what they learned.

In about 2008, the American Planning Association and the National Association of County and City Health Officials developed a free six-hour on-line training course on HIA that has since attracted several thousand users (<http://advance.captus.com/planning/hia2/home.aspx>). At least five universities teach graduate level courses focused on HIA; a number of students in these courses have subsequently taken jobs that involve the use of HIA skills (Pollack, 2015). National capacity to conduct HIAs has been strengthened by the founding of the Society of Practitioners of Health Impact Assessment (SOPHIA) (<http://hiasociety.org/>) in 2011 and the development of a network of HIA professionals who provide technical assistance to new HIA practitioners with support from the Health Impact Project and others.

National and international conferences

The growth of HIA conferences over the past decade has helped advance the field by facilitating interactions among HIA practitioners. Six national HIA workshops have been held in Oakland, California, beginning in 2008 (http://hiasociety.org/?page_id=833). These workshops include 75-

100 experienced HIA practitioners and focus on advancing HIA practices. Three national HIA conferences have been held in Washington, DC, beginning in 2012 (<http://www.pewtrusts.org/en/projects/health-impact-project/research-and-analysis/presentations-and-webinars>). These conferences each attracted 400-500 participants ranging from novices to experienced HIA practitioners, and have been primarily sponsored by the Robert Wood Johnson Foundation. In addition, HIA practitioners from the US have participated in some of the thirteen international HIA conferences during 1998-2013, held primarily in Europe except for the 2012 conference in Quebec (<http://www.apho.org.uk/resource/browse.aspx?RID=93284>).

HIA guidelines and standards

Early work on developing guidelines and standards for HIA was associated with creating structured reports for HIA projects conducted by the HIA class taught at UC Berkeley that began in 2006. This work was furthered by activities associated with the HIA workshops in Oakland and led to the most recent version entitled *Minimum elements and practice standards for health impact assessment* (Bhatia, 2014). While this document recommends standards for HIA conduct, the actual practice of HIA in the US varies widely on issues such as engaging stakeholders, formulating actionable recommendations, and providing an implementation plan for follow-up.

Evaluation

The need to evaluate the impact of HIAs on subsequent decisions and health outcomes was evident from early in the growth of the field (Dannenberg, 2006). Several process evaluations have examined whether specific HIAs followed recommended methods (Schuchter, 2014; US EPA, 2013). The largest impact evaluation conducted in the US included detail case studies of 23 HIAs and concluded that “HIAs are a useful tool to promote public health because they can influence decisions in non-health-related sectors, strengthen cross-sector collaborations, and raise awareness of health issues among decision makers” (Bourcier, 2015). Findings from this study were similar to those from HIA evaluations conducted in Europe (Davenport, 2006; Wismar, 2007) and in Australia (Haigh, 2013). Several studies have specifically documented facilitators and barriers to successful HIAs (Davenport, 2006; Bourcier, 2015; Haigh, 2015; Dannenberg, 2016).

Funding

No consistent source of funding has been routinely available to conduct HIAs in the US. Many HIAs have been conducted with support from the Health Impact Project (a collaboration of RWJF and The Pew Charitable Trusts, <http://www.pewtrusts.org/en/projects/health-impact-project>) [see related HIA article from *Health Impact Project* in this issue of *CHIA*]. A number of HIAs have been supported by The California Endowment, Blue Cross and Blue Shield of

Minnesota Foundation, Kansas Health Institute, RWJF's Active Living Research program, and other foundations. Other HIAs have been funded by the CDC's Healthy Community Design Initiative, either directly or through partners such as the National Association of County and City Health Officials and the National Network of Public Health Institutes. Some HIAs have been conducted by health departments within the scope of their existing resources or by students enrolled in graduate school HIA courses (Pollack, 2015).

Institutionalization

The National Research Council report on HIA stated “HIA is a particularly promising approach for integrating health implications into decision-making” (National Research Council, 2011). In recent years, there has been increasing interest in multisectoral approaches to health promotion, often called Health in All Policies (HiAP). An executive order by the governor of California in 2010 set up a task force to advance the use of HiAP in the state (http://sgc.ca.gov/s_hiap.php). HIA is a tool that can be used to further the HiAP approach (Collins, 2009; Gase, 2013).

The National Prevention Council (which includes 17 primarily non-health agencies) in its National Prevention Strategy states that “opportunities for prevention increase when those working in housing, transportation, education, and other sectors incorporate health and wellness into their decision making” (p. 2) and that HIA “can be used to help decision makers evaluate project or policy choices to increase positive health outcomes and minimize adverse health outcomes and health inequities” (National Prevention Council, 2011, p. 15). Other national reports that encourage the use of HIA include the White House Task Force on Childhood Obesity (White House Task Force, 2010), the Department of Health and Human Services Healthy People 2020 report (US DHHS, 2012), and the CDC's transportation and health policy statement (CDC, 2011).

State legislators have proposed or adopted a number of bills that include certain elements of an HIA. The National Conference of State Legislatures (Farquhar, 2014) reported that 55 bills in 17 states supportive of HIA or its components were introduced during 2009-2014, but few passed into law. Among successful HIA-related bills, a bill in Washington state mandated an HIA as part of funding for the State Route 520 bridge replacement in Seattle (Seattle King County Public Health, 2008), and the Massachusetts Healthy Transportation Compact mandated HIAs in transportation-related projects (Massachusetts Department of Transportation, 2009). In Alaska, the use of HIA has been institutionalized with funding support from the state's natural resources permitting process (<http://dhss.alaska.gov/dph/Epi/hia/Pages/default.aspx>; Anderson, 2013). In Washington state, “health impact reviews” are conducted on proposed legislation by the State Board of Health when requested by the governor or a state legislator (<http://sboh.wa.gov/OurWork/HealthImpactReviews>).

Conclusion

The use of HIA has grown substantially over the past 15 years since it was first introduced in the US. Familiarity with HIA has greatly increased both among public health professionals and decision-makers in other sectors and among many community groups. HIA is proving valuable as a tool to facilitate community engagement and empowerment, even in cases where changes in a decision explicitly due to that HIA may be difficult to document. HIAs have been useful in sectors well beyond the built environment, including topics such as incarceration, gambling, living wages, after school programs, and climate change policies.

Little is known about the impact of policies that encourage or require the use of HIAs; further research on this topic would be valuable. Challenges to the further expansion of HIA use include the need for reliable funding sources and the potential for pushback in an anti-regulatory environment. In the long term, as the awareness of health impacts increases in other sectors, it may be possible to achieve healthy outcomes without needing to conduct a formal HIA on every proposed individual project and policy. Should it occur, such an accomplishment would be due in large part to the success of the hundreds of HIAs that have been and are being done now.

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