

CHIA

Chronicles of Health
Impact Assessment

Improving community health through health impact assessments

October 2017

VOLUME 2

LETTER FROM THE EDITOR

In the second issue of the Chronicles of Health Impact Assessment we have four articles on HIA projects and research and one book review. The Society of Practitioners of Health Impact Assessment continue to be active partners with the CHIA board in providing ongoing sharing of information to continue to move forward the work in the field. The CHIA editorial board would also welcome articles about tools to better measure impact and broader research and interventions on promoting health in all policies.

We continue to need more volunteers to be peer reviewers. Being a peer reviewer is a time sensitive process as we have a goal to have the comments and suggestions back to the authors within a month of consenting to be a reviewer. As a peer reviewer, you are providing valuable feedback on how to make the article more useful and easier to comprehend. We have included the application to be a peer reviewer at the end of this issue.

Thank you,
Cynthia Stone DrPH, RN
Chronicles of Health Impact Assessment Editor-in-Chief



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THE SOCIETY OF
PRACTITIONERS OF
HEALTH IMPACT ASSESSMENT

SOPHIA

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LETTER FROM THE SOCIETY OF PRACTITIONERS OF HEALTH IMPACT ASSESSMENT

During times of political uncertainty, it is easy to let the political environment dictate our work. More pressing issues may take precedence over scholarly curiosity, cross-sector collaboration, or genuine community engagement. It is during these precise times, however, that it is more important than ever to maintain integrity and continue the mission of our work.

Democracy, equity, sustainability, ethical use of evidence, and a comprehensive approach to health are the core values behind all HIA practice. It is important that we maintain these values and continue to use HIA to improve the health and wellbeing of the communities in which we live and work.

As the field grows and advances, HIA practitioners will continue to experience uncertain political climates. Despite current challenges, practitioners in the field have produced prodigious outcomes. It is the dedication of these practitioners, and the positive outcomes for the communities in which they work that gives life and purpose to what we do.

It is for these reasons that the Chronicles of Health Impact Assessment continues to be a key resource and outlet for the field. The articles contained in this issue are excellent examples of the continual development of the practice of HIA. We hope that this work inspires you to continue to approach your own work with creativity, novelty, and resilience.

Sincerely,

The Steering Committee of the Society of Practitioners of Health Impact Assessment

Katie Hirono, President of SOPHIA

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ABOUT THE JOURNAL

A Health Impact Assessment (HIA) is a systematic process that uses a variety of data sources and analytic methods and input from community stakeholders to determine the potential health effects of a proposed policy, program, or plan. HIAs provide recommendations to decision makers on how to adjust the policy or program to minimize negative health effects and increase potential positive health benefits.

The editorial board and staff of CHIA strive to give expression to health impact assessment research and scholarship while serving the public health profession.

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INSIGHTS INTO HOW HIAs ARE CHARACTERIZED IN THE PRESS: FINDINGS FROM A MEDIA ANALYSIS OF WIDELY CIRCULATED UNITED STATES NEWSPAPERS

Maxim Gakh, JD, MPH; Courtney Coughenour, PhD; Jennifer Pharr, PhD; Aaliyah Goodie, MPH candidate; Samantha To, MPH candidate

Abstract:

Background: Health impact assessments (HIAs) are burgeoning tools in the policy arena, where media plays an important role by focusing attention on issues, informing the public, and influencing positions. Examining how media portrays HIAs is critical to understanding HIAs in the policy context.

Methods: This study considered how widely circulated, U.S. newspapers represent HIAs. After searching newspaper databases, we used a qualitative document analysis method consisting of open and axial coding to examine specific phrases of HIA depictions.

Results: In coding over 1,000 unique phrases from the 62 documents generated in our search, we found an uptick in HIA-related publications since 2010. Coding these documents identified 46 distinct codes across 10 different themes. The two most prominent HIA-centered themes focused on HIA engagement and the HIA setting. While themes of policy and science, health determinants, and explanations of HIAs were also frequently featured, specific mentions of projected impacts, HIA processes, HIA values, and health outcomes were less prevalent.

Conclusion: HIA media portrayals warrant further inquiry by researchers and practitioners. Focusing on how media portrays HIAs is consistent with several HIA steps. It is also important for a broader strategy to educate stakeholders about HIAs and to understand HIAs' utility. HIA practitioners should develop and implement guidelines for media interaction and tracking that encourage practitioners to seek additional media attention and to focus such attention on health impacts and outcomes, HIA recommendations, and HIA values. Building on our work, researchers should examine HIA media portrayals beyond the context of this study.



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Introduction

The use of health impact assessments (HIAs) in the United States is on the rise. To date, over 400 HIAs have been completed across the country (Pew Charitable Trust, 2015). According to the National Research Council (NRC)(2011), an HIA is a “systematic process...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” (p. 46). HIAs rely on a six-step process -- consisting of screening, scoping, assessment, recommendations, reporting, and monitoring and evaluation -- and utilize assorted data, methods, and stakeholder inputs to draw meaningful conclusions (NRC, 2011).

HIAs are especially useful for bringing health concerns to decisions and issues that originate outside of the health sector, enhancing relationships across sectors, and empowering communities (Bourcier, Charbonneau, Cahill, & Dannenberg, 2015; Dannenberg, 2016). In particular, HIAs can be instruments to address the social determinants of health, defined by the World Health Organization (2017) as “conditions in which people are born, grow, live, work and age [which] are shaped by the distribution of money, power and resources at global, national and local levels [and] are mostly responsible for health inequities - the unfair and avoidable differences in health status.” Addressing these social determinants is critical to tackling health inequalities across groups (CDC, 2014). However, Gottlieb, Fielding, and Bravemen (2012) argue that, in isolation, HIAs do not constitute “healthy public policy.” They define “healthy public policy” as “a comprehensive approach to achieving more health-informed decision-making in other sectors, [that] generally requires multiple components,” including HIAs and also other strategies (p.158). In other words, HIAs can be an important component of a multifaceted Health in All Policies approach (Rudolph, Caplan, Ben-Moshe & Dillon, 2013; Gase, Pennotti, & Smith, 2013).

Challenging questions about the effectiveness of HIAs -- and how to measure this effectiveness -- remain critical for the field to resolve (Quigley & Taylor, 2004; Ali, O’Callaghan, Middleton, & Little, 2009). Studies demonstrate that HIAs can be useful in emphasizing the connections between health outcomes and some of their causes, both for policymakers and communities (Bourcier et al., 2015). Proponents frequently point to the ability of HIAs to raise awareness about health and public policy connections across sectors and communities (Winkler et. al, 2013; Gottlieb et al., 2012; Harris-Roxas & Harris, 2013). Since HIAs appear to impact how health-related issues are perceived, it is important to understand how they are portrayed and discussed in public discourse.

Media is a powerful outreach tool to enhance health-promoting behaviors (Randolf, & Viswanath, 2004). In addition -- and perhaps more salient to the social determinants of health and HIA work -- media plays an important role in public health policy. According to Dorfman & Krasnow (2014), media can blend “communications, science, politics, and advocacy to advance public health goals” (p. 293). Golden & Moreland-Russell (2016) explain that it does so by focusing public attention on issues as well as “raising awareness of a problem, stimulating coverage of issues, generating support for proposed policy solutions, and communicating information regarding the implementation of a policy” (p. 34). Shih, Wijaya, & Brossard (2008) have found that how issues are framed in the media impacts ways in which audiences perceive them and can “activate certain thoughts or feelings in readers’ minds that make them more likely to react in a somewhat predictable manner” (p. 142); media helps readers form heuristics to process complex issues (Shih, Wijaya, & Brossard, 2008).

Thus, determining how media portrays HIAs is critical to understanding the relationships between HIA and policy. We were unable to locate any studies in the literature that systematically examine HIAs’ portrayal in U.S. media sources. Aiming to reduce this gap, our

study focused on understanding how HIAs are portrayed in U.S. print media.

Methods

Our study aimed to examine how HIAs have been portrayed in U.S. media sources. Specifically, our study asked: how have HIAs been covered and characterized in the most widely circulated U.S. newspapers? To answer this question, we used qualitative research methodology to analyze newspaper documents discussing HIAs. According to Bowen (2009), this type of “document analysis is a systematic procedure... [that] requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge” (p. 27). Its methodology is especially useful to understand context, identify research questions, follow the development of issues, and enrich other research findings (Bowen, 2009). This type of analysis involves breaking down the content of selected documents and synthesizing and organizing data (i.e. document excerpts and quotations) into meaningful themes (Bowen, 2009). The process consists of skimming documents, followed by examining them thoroughly and then conducting content and thematic analyses to make meaning of the subject matter (Bowen, 2009). It is comprised of open coding, axial coding, and selective coding (Neuman, 2004).

In our analysis, we focused on newspapers to the exclusion of other news sources. Research suggests that consumers increasingly rely on television, online, and radio sources for news and that reliance on newspapers is declining (Pew Research Center, 2016). Nevertheless, many researchers continue to focus on newspaper texts to analyze how media portrays public health concerns (Rooke & Amos, 2014; Caulfield, Clark, McCormack, Rachul, & Field, 2014). As Rooke & Amos (2014) explain, newspapers perform an important gatekeeping function; they serve as “a useful proxy for reporting in other media as they often set the agenda for other formats and are easy to access and search” (p. 508). We also limited our analysis to

newspapers because, compared to other news sources, the quality of newspaper reporting is high. For example, an analysis of three large newspapers and five local TV news channels in the San Francisco Bay Area assigned overall “A” grades to all three newspapers while the local television channels earned grades ranging from “D+” to “C+.” These grades were based on measures of context, newsworthiness, explanation, civic contribution, local relevance, and enterprise (McManus, 2003).

Using document analysis methodology, our team developed and implemented a research protocol starting in January 2017. First, we selected the specific newspapers to include in our study. We chose the 50 U.S. newspapers with the widest circulation. These newspapers were identified using *The World Almanac and Book of Facts 2016*, which relied on data from the Alliance for Audited Media (Janssen, 2016). The most recent circulation data available to generate this list dated to March 2014. We relied on these 50 newspapers because of the readership reach. We also selected the time-period of 1990 to January 31, 2017 for our analysis. We did this primarily because HIAs are a fairly new tool in the U.S. (Schuchter, Bhatia, Corburn, & Seto, 2014). Therefore, related newspaper documents would be unlikely to predate 1990.

Two members of our team searched for newspaper documents published in each of the 50 most circulated newspapers by using three different databases: ProQuest Newspapers, LexisNexis Academic, and Access World News. For the selected newspapers and dates, we searched each database using the key term: “health impact assessment.” Two members of the team then downloaded and saved all of the documents found, eliminating any duplicate results uncovered through multiple databases or documents printed only online. Online-only articles were excluded because of the differences in online presence and archiving across newspapers and also because the circulation and readership for online-only documents was difficult to ascertain.

We then proceeded to code the documents and identify themes. During open coding, two members of the research team read through all of the resulting documents, twice, to familiarize themselves with their content and the ideas discussed. Then, the two team-members re-read each document individually. For each main idea related to our research question, each of the two team-members selected one to three representative words, or codes, keeping detailed notes on the meaning of each code.

After the initial codes were created, three members of the team met to resolve differences and compile an agreed-upon, final list of codes and code definitions. Using this final list, two members of the research team together re-coded each document over several sessions. Sessions consisted of each researcher reading and coding alone and then the two researchers immediately and thoroughly discussing the document codes to resolve any discrepancies in order to agree on all final codes. The team then calculated the number of times each code emerged in the documents.

After each document was coded in the open coding phase, the research team completed axial coding by arranging the codes into meaningful themes. In this phase, the team organized the codes generated during open coding into larger, categorical themes that discussed related ideas. Once the list of themes was finalized, we tallied the number of times each theme appeared. Finally, the team engaged in selective coding to pick out representative quotations that could illustrate the character of each code and theme. We deemed a quotation representative when it exemplified the meaning of that particular code.

Results

The initial search generated 70 documents, eight of which were excluded because they were duplicative or online only. The database searches ultimately produced 62 documents that met inclusion criteria. The 62 documents came from 27 newspapers (see Table 1).

Of these 27 newspapers, six newspapers contained 28 total documents -- or 45.2% of all documents found in our search; specifically, two newspapers published six documents each while four newspapers published four documents each. These six newspapers were: The Oregonian (n=6), Orange County Register (n=6), Los Angeles Daily News (n=4), Star Tribune (n=4), St. Paul Pioneer Press (n=4), and Buffalo News (n=4). Four additional newspapers contained three documents each (a total of 12 documents, or 19.4% of all identified documents); five contained two documents each (a total of 10 documents or 16.1% of all identified documents); and 12 newspapers printed one document each (a total of 12 documents or 19.4% of all documents). In some of these newspapers, one author produced most or all of the HIA-related content.

We found no relevant documents in the remaining 23 newspapers. Of these 23 newspapers, we were unable to search for complete results for five. Three of the five (Long Island Newsday, Phoenix Republic, and The Detroit Free Press) were not indexed in the databases available to us and two of the five were only partially indexed for our period of interest (Pittsburgh Tribune-Review indexed from 2001-2015 and Woodland Park Herald News indexed from 1998 to 2016). Table 1 lists the newspapers that contained documents relevant to our search. Newspaper document citations are provided in the Appendix.

Table 1. Number of documents mentioning “health impact assessment” in the top 50 most circulated newspapers of 2014 published between 1990 and January 31, 2017

Rank	Newspapers	Results (n)	Rank	Newspaper	Results (n)
1	<i>USA Today</i>	3	26	<i>The Oregonian</i>	6
2	<i>Wall Street Journal</i>	1	27	<i>San Diego Union Tribune</i>	-
3	<i>New York Times</i>	1	28	<i>Cleveland Plain Dealer</i>	3
4	<i>Los Angeles Times</i>	2	29	<i>San Francisco Chronicle</i>	-
5	<i>New York Post</i>	1	30	<i>Kansas City Star</i>	-
6	<i>San Jose Mercury News</i>	2	31	<i>Pittsburgh Tribune-Review</i> [^]	1
7	<i>New York Daily News</i>	-	32	<i>St. Paul Pioneer Press</i>	4
8	<i>Chicago Tribune</i>	1	33	<i>Detroit Free Press</i> *	-
9	<i>Long Island Newsday</i> *	-	34	<i>Milwaukee Journal Sentinel</i>	1
10	<i>Washington Post</i>	1	35	<i>Sacramento Bee</i>	3
11	<i>Chicago Sun Times</i>	-	36	<i>Miami Herald</i>	-
12	<i>Dallas Morning News</i>	1	37	<i>Tampa Tribune</i>	-
13	<i>Los Angeles Daily News</i>	4	38	<i>Atlanta Journal-Constitution</i>	2
14	<i>Denver Post</i>	3	39	<i>Fort Worth Star Telegram</i>	-
15	<i>Houston Chronicle</i>	-	40	<i>St. Louis Post-Dispatch</i>	-
16	<i>Orange County Register</i>	6	41	<i>Salt Lake City Tribune</i>	-
17	<i>Philadelphia Inquirer</i>	-	42	<i>Baltimore Sun</i>	2
18	<i>Star Tribune</i>	4	43	<i>Pittsburgh Post-Gazette</i>	2
19	<i>St. Petersburg Times [AKA Tampa Bay Times]</i>	-	44	<i>Ft. Lauderdale Sun-Sentinel</i>	-
20	<i>Newark Star-Ledger</i>	1	45	<i>Indianapolis Star</i>	-
21	<i>Honolulu Star-Advertiser</i>	-	46	<i>Little Rock Democrat Gazette [AKA Arkansas Gazette]</i>	-
22	<i>Boston Globe</i>	1	47	<i>Woodland Park Herald News</i> [^]	-
23	<i>Phoenix Republic</i> *	-	48	<i>Buffalo News</i>	4
24	<i>Seattle Times</i>	1	49	<i>Fresno Bee</i>	-
25	<i>Las Vegas Review-Journal</i>	1	50	<i>Orlando Sentinel</i>	-

Notes: * = Not indexed in the databases used; ^ = Partially indexed in the databases used

While our search dated back to 1990, the first document we found was published in 1996 and the last document we found was published in 2015 (see Figure 1). Between the calendar years of 1997 to 2002, we found no documents that met our search criteria. Most of the documents (n=57 or 91.9%) appeared in 2010 or after, with 21 documents (or 34.0%) appearing in 2014 alone. Of the 62 documents that met inclusion criteria, 37 were news articles (59.7%), 11 were editorials or commentaries (17.7%), 9 were other opinion pieces such as letters to the editor (14.5%), four were news briefs (6.5%), and one was a crossword puzzle (1.6%).

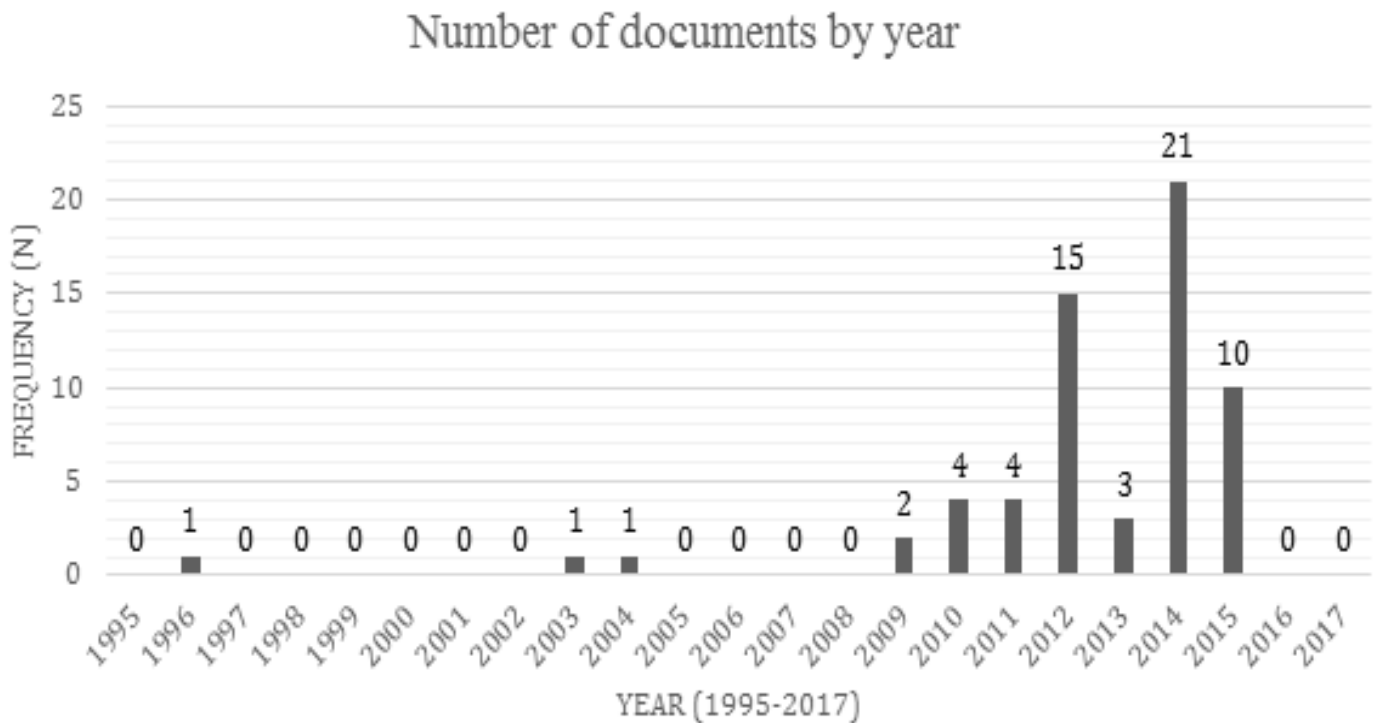


Figure 1. Frequency of documents mentioning “health impact assessment” within the top 50 mostly widely circulated U.S. newspapers of 2014 with publication dates between 1990 and January 31, 2017

By coding over 1,000 individual phrases from the 62 documents using a final list of 46 codes, grouping the codes into 10 different themes to capture related codes, and selecting quotations to illustrate the essence of each code, we identified several important patterns of how newspaper documents characterized HIAs.

These patterns -- in order of theme frequency -- are discussed below. Code definitions and frequencies as well as illustrative quotations are presented in Table 2. In addition, Figure 2 illustrates the relative frequency with which each code was observed.

Theme	Code (n)	Definition	Quotation
General reference to HIA or other HIA-related work	HIA steps (4)	mentions 6 HIA steps	<p>“It’s not clear how extensive the DEC’s health-specific review has been or will be, or whether it will follow the guidelines and methodology laid out for health impact assessments laid out by leading medical organizations” (Campbell, 2012, September 21, p. ARC).</p> <p>“Getting information out to the public ahead of the official scoping process, perhaps beginning in June, inspired creation of www.coaltrainfacts.org” (Dickie, p. A15).</p>

	HIA-related assessment (40)	mention of mental health impact assessment; environmental impact assessment; other assessment related and similar to HIA but defined differently	<p>“The study coincides with a 20-month, \$3 million draft environmental impact study, which is a required part of the government funding process” (Mohr, p. A3).</p> <p>“The DEC has already released a draft set of regulations and two non-final versions of its environmental impact statement, which has grown to 4,000 pages” (Campbell, 2012, September 20, p. ARC).</p>
	HIA background (9)	mentions or discusses when, why, and by whom HIAs are used or performed – not specific to the HIA that is the main topic of the newspaper piece	<p>“Ross said that the “health impact assessment” is about improving quality of life, such as finding best practices for sound-proofing homes near an airport” (Tobin, p. A11).</p> <p>“A health impact assessment is a relatively new tool in urban planning. It uses existing epidemiological data to project the likely health outcomes of a change to a community’s built environment” (McCurdy, sec. Clark Community).</p>
	Previous HIAs (14)	mentions or discusses other HIAs in the US or abroad – mention should be of a specific HIA other than the one that is the main topic of the article	<p>“Doctors elsewhere are starting to call for a health assessment along the entire corridor. The concept is not new. A study was done in 2008 on the Highway 520 replacement” (Dickie, p. A15).</p> <p>“A similar health impact assessment was completed last year for the Bottineau Transitway, which is slated to be a 13-mile extension of the Blue Line light-rail ...” (Mohr, p. A3).</p>
	General HIA definition (6)	defines in general (that is, not specific to the HIA that is the topic of the newspaper piece) what HIAs are	<p>“What if proposed policies had to include a health impact assessment in addition to the oft-required fiscal impact analysis? Including information about a policy’s health impacts could shift the view” (Gara, sec. My town).</p> <p>“To measure how planning decisions affect health in city neighborhoods, Collier said his department would use a new digital tool called Health Impact Assessment, which employs data to measure the potential effect of policy on public health” (Litt, p. 6).</p>
Miscellaneous	Other (64)	information not related to the HIA	<p>“Cities were sickly places 150 years ago. Dysentery, typhoid, measles, influenza and other diseases thrived in overcrowded and unsanitary conditions. It took heroic and creative leadership by city planners, architects and health advocates to create healthier cities” (Kaufman, p. M6).</p> <p>“Freed, a former board member for Environmental Advocates of New York, ceased working for the state in March of this year. Both he and the Department of Health declined comment on why he no longer works there” (Campbell, 2012, September 21, p. ARC).</p>
	Author opinion (67)	opinion or conjecture of the author of the editorial or letter – not fact	<p>“The mayor has been a stubborn disappointment since taking office, but he hit a high note with his June 5 speech commemorating World Environment Day” (Duin, sec. Local News).</p> <p>“When is a proposed moratorium on oil and gas drilling really not a moratorium at all but an excuse to ban such operations for a couple of years?” (Loveland is the latest, 2014, p. 15A)</p>
HIA Values	Social justice (3)	discusses or mentions social justice	<p>“Ben Duncan, chairman of the environmental justice task force, said the trains tend to pass through lower-income neighborhoods, whether in eastern Oregon, Portland or Eugene. That’s “an environmental justice issue that cannot be ignored,” he said” (Learn, 2012, July 20, sec. Local News).</p> <p>“The worst part of this story is that this compressor and pipeline, which are slated to be built in Pendleton and Wheatfield, will get the toxic gases and threat of malfunctions, while Canada gets “clean gas” (Stanley, p. 5).</p>

	Vulnerable population (21)	discusses or mentions a vulnerable population	<p>“Delaying disconnection can cause other problems for vulnerable populations, allowing them to accrue more debt” (Wernau, p. 2.1).</p> <p>“Metro-area faith leaders say a \$1.8 billion plan to widen a portion of Interstate 70 in northeast Denver should be scuttled because it is a public health threat and will break up low-income families...” (Whaley, p. 17A).</p>
	Equity (9)	discussion of a population that is at risk of inequity or harm	<p>“Today, if Collier’s views hold sway, equity would mean a greater emphasis on improving public health through parks, bike trails and healthier food options for residents in economically challenged neighborhoods” (Litt, p. 6).</p> <p>“And communities have become willing to overcome earlier hesitation over connecting racially and economically diverse areas with bike lanes and other recreational pathways” (Litt, p. 1).</p>
HIA Setting	Geographic setting (24)	mentions or discusses the geographic setting for the decision related to the HIA	<p>“Metro-area faith leaders say a \$1.8 billion plan to widen a portion of Interstate 70 in northeast Denver should be scuttled because it is a public health threat and will break up low-income families...” (Whaley, p. 17A).</p> <p>“A \$100,000 grant will fund a yearlong study of potential health effects resulting from the development of the Gateway Corridor, the transit link being developed along Interstate 94 from the eastern end of Woodbury to downtown St. Paul” (Anderson, p. 2N).</p>
	HIA decision (65)	mentions or discusses the proposal, policy, law, program etc. that is the subject of the HIA	<p>“The Eastside Greenway [project] ... would bring nature and recreation closer, among other benefits” (Litt, p. 1)</p> <p>“Placer County has proposed developing the power-generation facility on county-owned land off Highway 89 between Truckee and Squaw Valley” (Litt, p. 1).</p>
	Problem background (86)	mentions or discusses the situation that led to the proposal being examined in the HIA	<p>“Today’s cities are plagued with traffic, violence and overcrowding” (Kaufman, pg. M2).</p> <p>“When Matt Pakucko and Hibino bought their four-bedroom home in Porter Ranch eight years ago, they say it was never disclosed it sat on an oil and gas field. The closest well pumps crude 1,200 feet from their house” (Bartholomew, p. 3)</p>
	Timeline (25)	timeline for the decision related to the HIA	<p>“The council unanimously agreed last month that owner Sam Chew must cease new shipments and clear the lot by Feb. 1, 1997” (Central Los Angeles, 1996, p. 5).</p> <p>“City Manager Tom Bakaly said ... the analysis should be finalized by the end of June” (Cooley, p. H).</p>
	Legal mandates (11)	mentions or discusses government requirements related to the HIA	<p>“Tuesday is the last day to comment on new proposed fracking regulations in California as mandated by SB 4” (Russell, p. 11A).</p> <p>“Such measures have historically been a tough sell in Wisconsin, where the Legislature passed the truth-in-sentencing law in 1999 and last year rescinded a program that released prisoners early for good behavior or health reasons” (Russell, p. 11A).</p>
	Decision-makers (42)	mention or discussion of those who are making a decision related to the topic of the HIA	<p>“Coal export critics ramped up pressure on Gov. John Kitzhaber on Thursday to delay any Oregon projects until a comprehensive “health impact assessment” is completed” (Learn, 2012, July 20, sec. Local News).</p> <p>“Several environmental and medical groups had on Martens and Gov. Andrew Cuomo to tap an independent, non-governmental group to assess hydrofracking’s physical effects on humans” (Campbell, 2012, September 20, p. ARC).</p>

	Baseline conditions (33)	discusses or mentions baseline or existing conditions about the community affected by the HIA decision related to health or other factors	<p>“Despite almost 60 years of nationwide experience proving the safety and tooth-saving benefits of maintaining a consistent level of this naturally occurring element in the water, fewer than 14 percent of New Jerseyans receive fluoridated drinking water” (Harris, p. 4).</p> <p>“Among other issues, Mariposa’s assessment found that more than 55 percent of the neighborhood’s predominantly Latino residents were overweight, about 75 percent had high blood pressure or were borderline, and nearly 40 percent had a condition that prevented them from working” (Gose, p. B8).</p>
Process for this particular HIA	HIA authors (20)	mentions or discusses authors of HIA	<p>“The Health Impact Assessment that the city commissioned McDaniel Lambert Inc. to complete...” (Cooley, 2014, June 12, p. 1).</p> <p>“Research team member Courtney Coughenour, an assistant professor in public health courses at UNLV...” (Ortega, p. B1).</p>
	HIA funding (12)	mentions or discusses grant or other funds used to conduct the HIA that is discussed in the newspaper piece	<p>“Georgia Tech’s work is being funded in part by more than \$300,000 in grants from sources including the Ford Motor Co., The Pew Charitable Trusts and The Robert Wood Johnson Foundation” (Tobin, p. A11).</p> <p>“A \$100,000 grant will fund a yearlong study of potential health effects resulting from the development of the Gateway Corridor...” (Anderson, p. 2N).</p>
	Availability (11)	mention or discussion of where completed HIA or its related documents are available	<p>“Residents can read the report online at www.hennepin.us/bottineauhia. Copies are available at Hennepin County libraries at Brookdale, Brooklyn Park, Golden Valley, Rockford Road and Sumner” (Bottineau transitway, p. 2AA).</p> <p>“The report documenting the expected health impact of the proposed Bottineau light-rail line is now available online and at local libraries” (Bottineau transitway, p. 2AA).</p>
	Community event (14)	mention of public forum or event related to the HIA where community members are present	<p>“The prospect of Whatcom County hosting the annual export of 54 million tons of Power River Basin coal helped turn out more than 800 people for a community meeting on what the environmental review of the project should cover” (Bottineau transitway, p. 2AA).</p> <p>“The gathering attracted St. Paul citizens representing a cross-section of ethnic and religious groups advocating for protection for low income people, small businesses and history in the heart of St. Paul” (Simons, p. 1B).</p>
	Steering committee (4)	discusses or mentions a steering committee created to work on the HIA	<p>“Coyne is helping to lead a steering committee that includes planners and elected officials from Shaker Heights, Cleveland Heights, University Heights, Euclid, South Euclid, Beachwood, Lyndhurst, Pepper Pike, Mayfield, Mayfield Heights, Highland Heights, Orange, Warrensville Heights and Bratenal” (Litt, p. 3).</p> <p>“The committee also included former mayor Miesha Headen of Richmond Heights.... Christel Best, director of economic development, represented the city at the last steering committee meeting” (Litt, p. 3).</p>
Projected impact of decision, program, or policy	HIA impact of decision (19)	discusses or mentions the decision’s expected impact on health or its determinants (e.g. projections)	<p>“If vaccine mandates are weakened, we will see pockets of unvaccinated kids putting at risk infants, pregnant women and people whose immunity has waned or never took when first inoculated” (Harris, p. 4).</p> <p>“The report found several possible negative health impacts, including a likely increase in mortality locally due to exposure to air pollution, increased traffic injury risks and both mental and physical problems associated with the project’s odors” (Cooley, p. K).</p>

	Recommendations (9)	Mention or discussion of the HIA’s recommendations	<p>“Because research shows that giving children information about nutrition early in life can have a positive effect on their attitudes later, the team suggested schools provide professional workshops to kindergarten teachers to improve their nutrition education strategies. It also recommended free universal meals for all kindergartners to ensure they receive proper nutrition” (Ortega, p. B1).</p> <p>“The health impact assessment recommends that the ICC disallow remote disconnection” (Wernau, p. 2.1).</p>
	Cost (30)	Discusses or mentions projected impact of the decision that is the subject of the HIA on monetary cost (in dollars) to the government or private parties	<p>“The Gateway Corridor project is expected to cost about \$400 million” (Mohr, p. A3).</p> <p>“City staff estimate that the first phase of construction for the project... will cost \$563,000” (Cooley, p. H).</p>
	Economics (15)	Mentions or discusses projected impact of the decision that is the subject of the HIA on the economy and/or economic well-being of the community or groups or individuals in the community	<p>“Supporters say the project can be done without long-term harm to the environment, providing an economic boost to the regional economy” (Myers, p. A8).</p> <p>“The City Council on Tuesday night asked for additional changes to a cost benefit analysis taking place on the proposed E&B Natural Resources oil drilling project” (Cooley, p. H).</p>
Engagement	Stakeholders (100)	Mentions or discusses involvement and input into the HIA or related decision by stakeholders (i.e. persons or organizations invested or interested in the decision being discussed by the HIA)	<p>“Healthy Corridor for All, a coalition of St. Paul community groups, unions and churches, organized the event to push this message: Decisions surrounding the Central Corridor project should be made in a way that improves life for the low-income and minority residents that populate the neighborhoods along University Avenue” (Simons, p. 1B).</p> <p>“In February, a group of 19 Duluth-area physicians, nurses and medical school faculty sent letters to state and federal regulatory agencies saying the effects of copper mining on human health haven’t been adequately addressed” (Myers, p. A8).</p>
	Collaboration (21)	Mentions or discusses relationship between different sectors (e.g. public health and other sector)	<p>“The Pennsylvania Department of Health is charged with ensuring and protecting the health of all state residents. It fulfills this obligation by partnering with communities to monitor existing and emerging health problems and to establish programs that prevent disease and injury” (McDermott-Levy & Katkins, p. B1).</p> <p>“Ross said the studies are being done by several Georgia Tech departments, including mechanical engineering, and city and regional planning” (Tobin, p. A11).</p>
	Health department (24)	Mentions or discusses local, state, or federal health department (e.g. CDC, state health department)	<p>“The groups want the Minnesota Department of Health to conduct the review, saying none of the human health issues has been vetted in the ongoing environmental impact statement that has focused on how Minnesota’s first copper mine might affect air and water quality, wildlife and other natural resources” (Myers, p. A8).</p> <p>“Officials at the Centers for Disease Control say raw milk consumption is 150 times more likely to cause similar infections than pasteurized milk” (Harris, p. 4).</p>
	Expert (10)	Mentions or discusses opinion of an expert in the field related to the HIA, other than the HIA authors	<p>“Ann Stahlheber, a county public health dietician who helped collect the data, said that well-used trails and parks could improve safety and public health” (Litt, p. 1).</p> <p>“Three outside experts assisting New York with a health review of hydraulic fracturing say their work was completed more than a month ago, which the state Health Department didn’t reveal during lengthy testimony before lawmakers last week or in a public statement” (Campbell, 2013, February 8, p. ARC).</p>

	Feedback (154)	Mentions or discusses testimony or feedback about the HIA or related issue from someone in community or a stakeholder	<p>“Ophthalmologist Andy Harris, an advisory board member for Oregon PSR, said coal export out of Oregon and Washington ports poses ‘a significant risk to public health’” (Learn, 2012, July 20, sec. Local News).</p> <p>“Michael Schommer, a health department spokesman, said that “Commissioner Ehlinger looks forward to discussing the issue with the governor later this week, and to addressing any of his questions about the requests for a health impact assessment” (Marcotty, p. B1).</p>
Policy and Science	Community advocacy (21)	Discusses how community members affect policy or policymaking process	<p>“The records obtained by Gannett’s Albany Bureau show that several organizations have been privately pushing the Department of Environmental Conservation and Gov. Andrew Cuomo’s office to take a broader look at the potential health impacts of hydrofracking” (Campbell, 2012, September 21, p. ARC).</p> <p>“More than 250 doctors asked Gov. Cuomo yesterday to order a thorough review of potential health hazards before allowing hydraulic fracturing in upstate’s Marcellus Shale” (Kriss, p.14).</p>
	Science advocacy (2)	Discusses how scientists affect policy or the policy-making process	<p>“Unfortunately, health professionals contribute to this confusion by their silence. Some who dare to speak out are attacked professionally and personally. Some have trouble communicating complex issues in understandable language. Many work for public institutions, such as universities and health agencies, with strict rules about ‘lobbying’ and can’t speak directly to legislators without their employer’s consent” (Harris, p. 4).</p> <p>“Legislators should invite academic researchers to present objective testimony without concerns over lobbying. The state’s significant data resources and newly developed health information networks should inform their deliberations” (Harris, p. 4).</p>
	Misinformation (4)	Mentions or discusses information that is not scientifically accurate or groups espousing such information	<p>“Opponents of fluoridation, citing concerns about cost, toxins and lack of consent, ignore the fact that 72 percent of the nation’s water is already fluoridated without adverse health effects. Every dollar spent on fluoridation saves \$38 in dental care” (Harris, p. 4).</p> <p>“Vaccine deniers painted a somber portrait of children damaged by vaccines, while public health professionals cited detailed research studies showing that vaccinations prevent, rather than cause, serious disease” (Harris, p. 4).</p>
	Lack of evidence (7)	Mentions or discusses lack of consensus on an issue related to the HIA topic	<p>“Los Angeles City Councilman Mitch Englander and L.A. County Supervisor Michael Antonovich only repeat what SoCal Gas says: The leak is ‘non-toxic,’ ‘no health concern.’ Neither repeats what dozens of residents said about being sick from the gas” (Frazer, p. 4).</p> <p>“Instead, self-proclaimed experts citing personal anecdotes or cherry-picked factoids fresh off the internet are heard in the same forum and often given the same credence as scientific experts with decades of training and experience dedicated to advancing public health” (Harris, p. 4).</p>
	Scientific evidence (27)	Mentions or discusses credible, scientific evidence related to an issue related to the HIA	<p>“A separate analysis that used ComEd’s data from its pilot study said education will be especially important to the area’s most vulnerable populations: the sick, the poor and the elderly, who otherwise won’t receive the benefits they’re paying for” (Wernau, p.2.1).</p> <p>“Research shows that fewer patients die when their caregivers are vaccinated against the flu, but last year, only 64 percent got the shot” (Harris, p. 4).</p>

	Failure to conduct HIA (12)	Refusal to conduct HIA, despite stakeholder or community interest in an HIA	<p>“New York’s top environmental regulator on Thursday dismissed calls for a lengthy outside analysis of natural-gas drilling’s health effects, instead calling on the Department of Health to tap experts to assist in the state’s review” (Campbell, 2012, September 20, p. ARC).</p> <p>“Since the department has failed to provide a public registry of fracking-related complaints, there is no way to determine whether it is adequately monitoring and investigating fracking’s health effects” (McDermott-Levy & Katkins, p. B1).</p>
	HIA pushback (4)	Resistance by stakeholders or decision-makers to the <u>findings</u> of a <u>completed</u> HIA	<p>“Following the preliminary report’s release in February, E&B’s attorneys sent the city a letter demanding it “retract and disavow” the report, claiming it failed to address existing laws that regulate air, water and soil quality” (Cooley, p. E).</p> <p>“E&B asked the city to retract and disavow the report, claiming that the HIA failed to address existing laws that regulate air, water and soil quality. The oil company also claimed that statements in the report were either not backed up by science or used untested methods for verification” (Cooley, p. K).</p>
	HIA resistance (23)	Resistance to <u>conducting</u> an HIA by stakeholders or decision-makers	<p>“The city of Hermosa Beach has withdrawn the Health Impact Assessment for the proposed oil drilling project at the request of the consulting group that compiled the report” (Cooley, p. K).</p> <p>“In February 2011, a Cuomo administration official sent a letter to a doctor who had pressured the Department of Health on hydrofracking, outlining his position that an extensive health assessment would be redundant” (Campbell, 2012, September 21, p. ARC).</p>
Health determinants	Healthy community (21)	Mentions or discusses attributes of a community that are termed or described as healthy or desirable for health purposes	<p>“By redesigning the area where people live, they hope to change how they live, making it so simple to move and eat good foods that people start leading a healthier life” (Dworkin, sec. Living).</p> <p>““We seek a solution that demonstrably improves the health and wellness of residents beyond conditions that exist today -- that is, a solution that results in measurably better health conditions for residents, schoolchildren, workers and visitors to these neighborhoods,” the letter says” (Whaley, 17A).</p>
	Access to health-care (3)	Mentions or discusses a person’s or community’s access to the healthcare system and/or clinical services (e.g. paying for health insurance, getting to a doctor)	<p>“Large Hospital groups typically make these transactions to keep smaller, financially distressed nonprofit hospitals open so they can continue to serve their communities” (Maiman, p. 11A).</p> <p>“Do we want to hold a community’s access to critical health care while the litigation process resolves itself?” (Maiman, p. 11A).</p>
	Community development (31)	Mentions or discusses building projects in the community (e.g. related to housing, transportation, and/or planning)	<p>“So activists are working with Portland’s Bureau of Planning and Sustainability to map out new sidewalks and other changes that could turn the area around Southeast 122nd into a ‘20-minute neighborhood’” (Dworkin, sec. Living).</p> <p>““We are the test bed for the re-creation of urban spaces, neighborhoods and communities,” said Catherine Ross, director of the school’s Center for Quality Growth and Regional Development. ‘My hope is that we develop this reputation -- with Atlantic Station, the Beltline and the aerotropolis -- as cutting edge examples of recreating communities’” (Tobin, p. A11).</p>

	Environment (24)	Mentions or discusses the <u>natural</u> environment or attempts to address impacts on the natural environment by government or others	<p>“The preliminary finding said air pollution, noise and increased traffic from the project would subject neighboring residents to numerous physical and mental problems” (Cooley, p. E).</p> <p>“It is also clear fracking will cause environmental damage, especially to water. It has happened everywhere fracking is allowed and it can’t be stopped” (Guy, p. 17A).</p>
	Health behavior (6)	Mentions or discusses individual behaviors that can have positive or negative impacts on health outcomes (e.g. smoking, substance abuse, sexual practices, healthy eating, exercise) or associated risks	<p>“In addition to encouraging convenience stores to offer healthier food, Mortell and other officials have been working to encourage county residents to walk and bike” (McCurdy, p. Clark Community).</p> <p>““For example, developments that include sidewalks and nearby places to walk to such as coffee shops and grocery stores can encourage people to exercise -- even casually -- and can help in the war against obesity,” he said” (Frankston, p. F1).</p>
Health outcomes	Injury (3)	Mentions or discusses injury-related morbidity or mortality (e.g. car crash, fall, gun violence, etc.) or associated risks	<p>“The data show that from 2008 to 2012, there were 330 accidents involving bikes on east side roads and streets, and 596 pedestrian accidents” (Litt, p. 1).</p> <p>“With more time spent in the car, the probability of a crash becomes greater. A lack of sidewalks also can lead to more pedestrian fatalities” (Frankston, p. F1).</p>
	Chronic disease (26)	Discusses or mentions morbidity or mortality data related to chronic disease	<p>“Sprawling cities that force people to drive long distances to work, school or shopping reduced the amount of exercise people got by replacing walking with increased driving. Problems linked to sprawl include heart stroke, road rage, obesity, asthma and diabetes” (Frankston, p. F1).</p> <p>““For example, developments that include sidewalks and nearby places to walk to such as coffee shops and grocery stores can encourage people to exercise -- even casually -- and can help in the war against obesity,” he said” (Frankston, p. F1).</p>

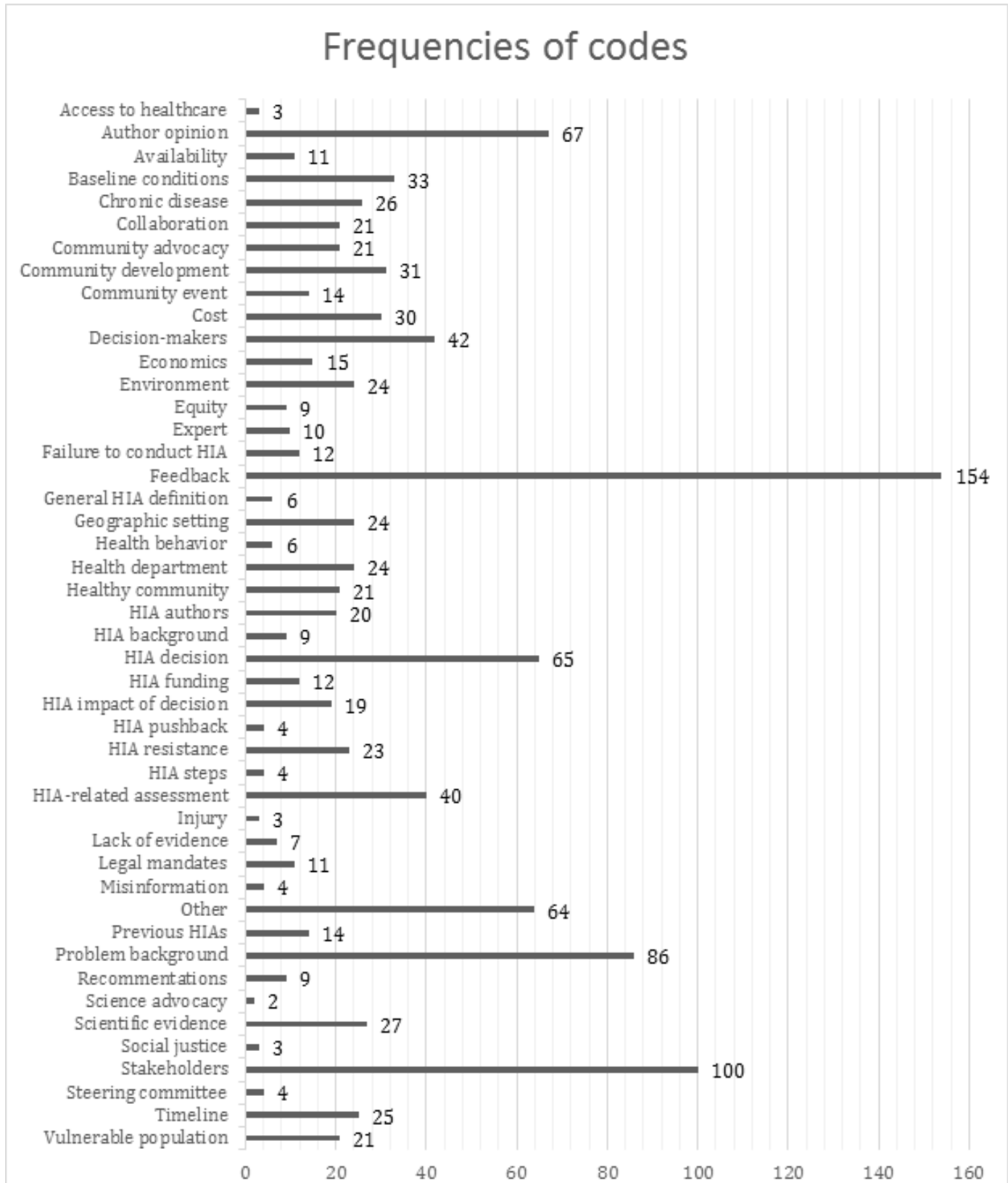


Figure 2. Number of times each code appeared in examined documents

Theme 1: Engagement

The most common theme that appeared in the documents focused on HIA-related engagement. This theme includes codes that captured documents' discussions of collaboration and feedback across sectors, with stakeholders, and with experts. Within the engagement theme, which appeared 309 times in the documents, "feedback" was the most frequently used code (n=154). The "feedback" code was used when a phrase focused on a reaction to the HIA or related issues from a stakeholder or community member. The second most commonly used code under this theme was "stakeholder" (n=100). The "stakeholder" code was used when an article mentioned involvement in the HIA or a related decision by a stakeholder. Phrases discussing collaborations between public health and other sectors (e.g. city planning, academia, or engineering) also appeared within this theme.

Theme 2: HIA Setting

The second most frequently appearing theme (n=286) consisted of codes depicting the environment in which the HIA was occurring. The most frequently used code in this theme captured language discussing the "problem background" (n=86), or the situation that led to a proposal examined by the HIA. This theme also included discussions of the "HIA decision" (n=65) -- that is, the proposal, policy, law, or program that was the subject of the HIA -- and "decision-makers" (n=42), the individuals, groups, and organizations involved in making decisions on a proposal examined by the HIA. This theme also included codes that captured the scope of the HIA, such as existing conditions (n=33), HIA or decision timelines (n=25), HIA geographic settings (n=24), and any related mandates (n=11).

Theme 3: Miscellaneous

Many of the documents contained authors' opinions (n=67) and other statements (n=64) that were not directly related to the HIAs or the issues they were examining. We grouped these two codes into a theme that we called "miscellaneous" (n=131). While not

focused on the HIA, phrases coded under this theme were still prominent. The "author opinion" code in particular was often used in opinion pieces.

Theme 4: Policy and Science

The fourth most frequently detectable theme represented discussions of various aspects of the policy process and its interaction with scientific evidence (n=100). Within this theme, the most frequently used code, "scientific evidence" (n=27) captured phrases that connected scientific evidence to an issue examined by the HIA. Many documents mentioned ways in which community members affect policy or the policymaking process (n=21). They also contained language that discussed resistance to conducting an HIA by stakeholders or decision-makers (n=23), refusals to conduct an HIA despite stakeholder or community interest (n=12), or resistance to the findings of a completed HIA (n=4). Mentions of how scientists affect policy were infrequent (n=2). Some documents discussed a lack of scientific consensus on an issue related to an HIA topic (n=7) or discussed information that was not scientifically accurate (n=4).

Theme 5: Health Determinants

The "health determinants" theme appeared in the documents 85 separate times. The most frequently used code under this theme was "community development" (n=31), which captured discussions of built environment projects related to housing, transportation, or planning. Codes capturing mentions of the natural environment (n=24) and attributes of healthy communities (n=21) also appeared in the newspaper documents with moderate frequency. In contrast, individual health behaviors (n=6) and access to healthcare (n=3) were mentioned infrequently.

Theme 6: General Reference to HIA or Other HIA-Related Work

Many documents made general references to HIAs or the HIA process or discussed other HIAs previously completed (n=73). Within this theme, mentions of HIA-related assessment, such as environmental im-

pact assessments or mental health impact assessments, were frequent (n=40). The documents also contained phrases intended to explain HIAs to readers. This included language that defined HIAs (n=6); explained when, why, and by whom HIAs are typically performed (n=9); specifically mentioned the 6 HIA steps (n=4); and discussed previously completed HIAs (n=14).

Theme 7: Projected Impacts

Discussions of the projected impacts of the decision, program, policy, or issue at the center of the HIA were appeared in the documents 73 times. This included projections of monetary costs (n=30) and broader economic impacts (n=15). It also included projected health impacts (n=19). We coded nine times when specific recommendations were mentioned in the documents.

Theme 8: Process for a Particular HIA

Codes centered on the process of a particular HIA appeared in the documents with some frequency (n=61). This theme included mentions of an HIA's authors (n=20) and funding sources (n=12). It also included mentions of events or fora held as part of the HIA process at which community members were present and input was solicited (n=14), and any steering committees or similar groups created to work on or guide the HIA (n=4). Mentions of the publication of the HIA report or related documents were coded as "availability" and appeared 11 times.

Theme 9: HIA Values

Discussions of HIA-related values were relatively infrequent (n=33). This theme manifested primarily through mentions of vulnerable populations (n=21) and equity (n=9). In a few cases, social justice was also specifically referenced or discussed (n=3).

Theme 10: Health Outcomes

While mentions of health outcomes did appear in the documents, the use of mortality and morbidity data was relatively infrequent (n=29). The majority of these

references focused on chronic diseases (n=26), such as asthma and diabetes, and their risk factors. A few phrases referenced injuries (n=3).

Discussion

This study examined how HIAs are portrayed in widely circulated U.S. newspapers. While previous research has considered HIAs in the broader policy-making context, we were unable to locate studies that systematically analyzed discussions of HIAs in U.S. media sources. This is an important line of inquiry because of media's prominent role in policymaking, particularly in focusing attention. We concentrated our research on representations of HIAs in major newspapers, searching newspaper databases for documents published in the most widely circulated newspapers in the U.S. between 1990 and January 31, 2017. We found 62 unique documents from 27 newspapers in our search. Approximately two-thirds of these documents were news pieces and the remaining one-third were opinion pieces. Almost 92% of these documents were published in 2010 or thereafter and 45.2% were published in just six sources. For the pieces found through our search, we used a qualitative document analysis method consisting of open and axial coding to examine more than 1,000 individual phrases. We ultimately identified 46 unique codes across 10 different themes. The two most prominent themes focused on engagement around an HIA and the HIA setting. While policy and science, health determinants, and explanations of HIAs were also frequently featured themes, specific mentions of projected impacts, HIA processes, HIA values, and health outcomes were less prevalent.

Attention to HIAs in major U.S. print media sources is on the rise. This is not surprising because the use of HIAs is steadily increasing nationwide (The Pew Charitable Trusts, 2015). More surprisingly, however, is that while over 400 HIAs have been completed in the U.S. (The Pew Charitable Trusts, 2015), their coverage in print versions of major U.S. newspapers has been limited. This may be in part because many HIAs,

including the ones that were the subjects of the newspaper documents in our analysis, considered local-level decisions about the built or natural environment and most of the newspapers we searched focused primarily on limited geographic areas where HIAs may not have been taking place. Another potential explanation for this limited coverage may be a lack of knowledge of or interest in HIAs and the issues they analyze by newspapers. A reader relying primarily on printed versions of USA Today, The Wall Street Journal, The New York Times, The Los Angeles Times, The Chicago Tribune, The Washington Post, or other major U.S. newspapers as a main source of news, therefore, will have only very limited exposure to HIAs from news media. In fact, even in the last seven years, when the vast majority of HIA-related documents were printed in the newspapers we searched, readers might be exposed to only one to three stories. In many large newspaper markets, exposure to HIA-related newspaper documents may be non-existent. In large market newspaper media sources, it seems, HIA discussions are still very much a novelty.

Our analysis indicates that HIA depictions in newspapers center on two major themes: (1) HIA-related engagement and (2) setting the scene for the HIA. Within the engagement theme, which appeared over 300 times in the 62 documents, the two most prevalent types of depictions focused on stakeholder feedback (n=154) and involvement in the HIA (n=100). This suggests that newspaper documents are primarily used to demonstrate how stakeholders and community members interact with HIA processes and their underlying questions. Additional research is needed to better understand why media portrayals focus on engagement and setting the HIA scene. One possible explanation that merits study is whether focusing on HIA engagement and setting the scene for an HIA provides what news outlets would consider newsworthy content when compared to other important facets of an HIA, such as its processes, recommendations, and values. Newspaper documents are also consistently used to draw attention to the setting and scope of

the HIA, emphasizing questions leading to the assessment (n=86) and the specific decisions being assessed (n=65). This includes emphasizing decision-makers, timelines, settings, and conditions giving rise to the issues central to the HIA as well as presenting HIAs as tools to understand problems and address uncertainty. Relatedly, newspaper and other media sources appear to underscore the connections between policy and science, explain HIAs, and discuss health determinants. The prominence of these themes across newspaper documents is consistent with previous research that stresses the ability of HIAs to heighten awareness across communities and sectors (Winkler et al., 2013; Gottlieb et al., 2012; Harris-Roxas & Harris, 2013). Our analysis supports the possibility that media depictions are a mechanism through which HIAs raise awareness beyond the HIA team and its partners and may also present an important way to measure attempts to heighten awareness.

A more surprising finding of this study is that the documents examined focused less on projected impacts (including impacts on health, costs, and the broader economy) and HIA recommendations; HIA processes; health data; and HIA values. Information on the HIA process – including its authors, steering committees, funding, community events, and availability – for example, arose only 61 times across all documents. Readers of these newspaper documents therefore may end the pieces without a sense of the HIA process or what happens next. Perhaps even more surprising, while scholars have found that HIAs can be useful in emphasizing the connections between health outcomes and some of their causes (Bourcier et al., 2015), these connections appeared infrequently in the documents we analyzed. Although there were references to costs (n=30) and economic impacts (n=15), we found only 19 phrases specifically mentioning health impacts related to an HIA and 29 references to health outcomes data. Specific recommendations made in the HIA appeared only 9 times across all 62 documents. HIA values (i.e. social justice, vulnerable populations, and equity) were mentioned in the documents in aggregate

only 33 times. These findings are surprising because, in contrast to the portrayal we observed in the newspaper documents, HIAs are organized around projecting health impacts and recommending health-promoting actions around core values. An implication of this finding is that in contributing to newspaper documents, both HIA practitioners and authors of newspaper documents should frame HIAs in terms of their scope and values and emphasize the health-related projections and recommendations that are central HIA outputs.

A concerted focus on media depictions during an HIA and after its completion is critical for HIA practitioners (Lin, Houchen, Hartsig, & Smith, 2017). It is especially useful as part of reporting, stakeholder engagement, and monitoring and evaluation. This is because of media's prominence in the public policy process (Golden & Moreland-Russell, 2016). HIA coverage in major newspaper sources is limited, leaving an important mechanism of dissemination and potential impact underutilized, especially in the reporting phase. Our finding that only about 14.5% of the documents analyzed were letters to the editor also suggests untapped opportunities to use HIA findings in media-based advocacy. A practitioner-led effort to use media more frequently and in ways that emphasize health impacts, recommendations, and HIA values – especially in larger markets – may be important for a shared strategy of informing community members about HIAs and the social determinants and building momentum in the field. Employing such a strategy may require that practitioners work with trained communications experts or receive additional training on both how to work with media effectively and how to portray and frame their work around HIA processes, projected impacts, recommendations, and values. Such a strategy would be consistent with the major strengths of HIAs: inserting health concerns into non-health sector decisions and empowering communities (Bourcier et al., 2015; Dannenberg, 2016).

HIA practitioners should also build on existing practices to track HIA media portrayals as part of moni-

toring and evaluation (Lin et al., 2017). In addition to aiding with monitoring issues and tracking impacts of specific HIAs, media analysis can also assist in understanding the aggregate impact of the HIA field, which remains a challenge (Quigley & Taylor, 2004; Ali et al., 2009). Uniform practitioner standards to track HIA-related media reporting are imperative for the success and utility of individual tracking efforts.

While our study presents important findings, it has several limitations. Our study focused on large market (i.e. top 50), print newspapers. However, we were unable to comprehensively search five of the 50 newspapers in the databases available to us. The study also excluded all other newspapers. In the process, it excluded any discussions of HIAs occurring in other markets or in smaller newspapers in the same markets. Furthermore, the study excluded other frequently consumed media sources, such as television, radio, and the internet. These exclusions may affect the generalizability of this study beyond the sources we considered. Nevertheless, analyzing newspaper documents is important, particularly because of their gatekeeping function and because of the relative quality of their content. In addition, while we analyzed newspaper documents, our study did not take into account whether readers actually read these documents or how they interpreted them. Finally, while we used an established method of document analysis, the phrases that triggered certain codes and themes for our team may have triggered other codes or themes for other researchers or led other researchers to select alternative themes and taxonomies.

This study and its limitations raise vital questions for future research. Media can be important to the policy process and advancing public health (Dorfman & Krasnow, 2014). Future research in this area should aim to understand HIA portrayals in the media beyond large markets and beyond print newspapers. One strategy could involve a media analysis for each completed HIA. Our recommendation to create and use uniform practitioner standards for tracking would greatly assist

in conducting this type of research. Studies should also examine the actual impact of media portrayals of HIAs on stakeholders and community members. Such research can help HIA practitioners understand the most effective ways to employ this important tool and contribute to new standards in the field.

Conclusion

A central purpose of HIAs is to contribute best-available evidence to questions of policy. As such, HIAs function in a larger policy landscape. A powerful feature of this landscape is the media, which has the ability to inform and shape ideas and actions of communities, stakeholders, and decision-makers both about specific policy questions and the connections between the social determinants and health outcomes. Thus, it is critical to understand how HIAs are represented in media sources. By aiming to examine how widely circulated, U.S. newspapers depict HIAs, our study begins to build systematic evidence to answer this question.

Our findings indicate that there is substantial room in both how much HIAs are discussed in major media sources and how they are discussed. While discussions of HIAs in newspaper documents are on the rise, many readers are never confronted with HIAs in major newspaper sources. Those who are exposed, more frequently encounter depictions focused less on HIA projections, recommendations, and values and more on engagement and the HIA setting. This presents tremendous opportunities for HIA practitioners to increase efforts to both study these portrayals in greater depth and enhance these portrayals through media interaction. In addition, HIA practitioners should establish and utilize uniform media engagement and tracking guidelines to understand and meaningfully compare this aspect of HIAs. This is significant because the media is a powerful tool for reporting, monitoring and evaluation, and stakeholder engagement. It is also important because of media's potential to educate stakeholders about the connections between health outcomes and social factors and to help build an HIA movement.

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HEALTH IMPACT ASSESSMENTS IN HOSPITAL COMMUNITY BENEFIT: A MULTIPLE CASE STUDY OF THE USE OF HIAs AT CHILDREN'S HOSPITAL COLORADO

Gregory Tung, PhD, MPH; Venice Williams, MPH

Abstract:

Objective: To explore the use of Health Impact Assessments (HIAs) within nonprofit hospital community benefit activities.

Methods: We conducted case studies of three HIAs that were done in collaboration with Children's Hospital Colorado as part of the hospital's community benefit portfolio. We used data from key informant interviews and documents to construct individual explanatory case studies and we then conducted cross-case analysis to compare and contrast across cases.

Results: Hospital staff stated that HIAs provided Children's Hospital Colorado with a transparent and systematic process for generating evidence-based recommendations with community and stakeholder feedback within the hospital's community benefit activities. HIAs were used to generate recommendations to inform community benefit planning activities and to generate public policy recommendations to enhance child health. The case studies highlighted several issues that need to be addressed in order to further explore and advance the use of HIAs within hospital community benefit activities including: use of HIAs on explicit health issues, hospital capacity for HIAs, potentially broadening the scope of HIA recommendations, and the use of HIAs to generate recommendations from broad priority areas.

Conclusion: HIAs have the potential to meet the need for established, evidence-based, and stakeholder responsive tools and processes to be used within nonprofit hospital community benefit activities. In meeting this need, the non-profit hospital community benefit area can potentially serve as a major institutional home for the practice of HIAs. There is a need for additional research and practice innovation to further explore and refine the use of HIAs within nonprofit hospital community benefit activities.



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Introduction

The use of Health Impact Assessments (HIAs) in the United States (US) has grown rapidly over the last decade (Dannenberg, 2016). HIAs have been used in a broad range of sectors including built environment, transportation, housing, energy etc. (Dannenberg, 2016). There is now growing evidence and consensus that HIAs are an important tool to introduce health optimizing recommendations in a variety of program and policy settings (National Research Council, 2011). The funding and creation of incentives and infrastructure or institutionalization of HIAs is now a major factor in the more widespread use of HIAs in the US (Morley, Lindberg, Rogerson, Bever, & Pollack, 2016).

While a number of organizations such as the National Research Council have highlighted HIAs as a valuable tool for “integrating health implications into decision-making” and as a tool that fits within the broader Health in All Policies (HiAP) movement, there has been limited institutionalization of HIAs in the US (National Research Council, 2011). There are, however, some examples of the HIA process being institutionalized on a small scale including legislation in Washington State that required an HIA to be conducted on a bridge replacement in Seattle (Seattle and King County Public Health, 2017). Two other interesting examples of HIA institutionalization are the Massachusetts Healthy Transportation Compact and the funding of HIAs in Alaska through the state’s natural resources permitting process (Anderson, Yoder, Fogels, Krieger, & McLaughlin, 2013; Massachusetts Department of Transportation, 2016). Both of these examples represent important advancements in the institutionalization of HIAs in the US. Additional avenues to institutionalize HIAs are needed in order to further advance the practice and realize the potential population health benefits of HIAs.

The use of HIAs within nonprofit hospital community benefit activities holds promise for the more widespread institutionalization of HIAs in the US (Tung & Williams, 2017). Nonprofit hospital community

benefit activities are those that are required by the Internal Revenue Service (IRS) of nonprofit hospitals to justify their nonprofit status (Rosenbaum & Margulies, 2011). Nonprofit hospital community benefit activities have traditionally focused on the provision of charity care but a number of changes associated with the Patient Protection and Affordable Care Act (ACA) have pushed nonprofit hospitals to focus more on population and public health (Rosenbaum & Margulies, 2011; Young, Chou, Alexander, Lee, & Raver, 2013).

In 2012, nonprofit hospitals in the US reported spending more than \$60 billion on community benefit (Leider et al., 2016). The redirection of even a small portion of this spending toward more population and public health oriented activities could have a significant impact on the public’s health (Corrigan, Fisher, & Heiser, 2015). This shift in focus from charity care towards population health represents a tremendous opportunity for the integration of hospitals and public health systems, but what community benefit spending levels should be and what specific activities hospitals should engage in have yet to be established (Leider et al., 2016). This has created a need for additional tools and processes to guide nonprofit hospital investments and activities to enhance public health (Abbott, 2011).

This need for tools and process to guide hospital community benefit activities can potentially be served in part by HIAs in at least two ways. First, there is now a requirement for nonprofit hospitals to conduct community health needs assessments (CHNAs) and develop corresponding implementation plans (Health Affairs, 2016). Implementation plans are intended to guide and outline specific community benefit activities to address identified community health needs. HIAs can provide a transparent and systematic process and be used by nonprofit hospitals to generate recommendations to inform implementation plans. The HIA process is consistent with the IRS requirements that implementation plans (1) address priority areas identified in the CHNA, (2) be evidence informed, and (3) incorporate community and stakeholder feedback.

Second, HIAs can provide a mechanism for hospitals to directly engage in policy and make recommendations to enhance population and public health. An HIA used in this way would serve the role of an activity that directly benefits population health as opposed to a tool to guide community benefit planning and investment. HIAs used to generate policy recommendations can specifically address an identified community health need(s) and provide estimates of the anticipated population health impacts.

To further explore the potential for the use of HIAs within hospital community benefit activities, we conducted a pilot consisting of three HIAs in collaboration with Children's Hospital Colorado. These three HIAs were embedded within various aspects of Children's Hospital Colorado's community benefit activities and hospital staff were involved in various roles for all of the HIAs conducted. This pilot effort was supported with funding from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts.

The three HIAs conducted were: (1) the Colorado Marijuana and Child Abuse and Neglect HIA, (2) the Colorado Springs Pilot HIA, and (3) the Colorado Child and Adolescent Behavioral Health HIA. To explore the experience of using these HIAs within the context of nonprofit hospital community benefit activities, we conducted case studies informed primarily by key informant interviews of individuals who participated in various aspects of the HIAs and our own experience as HIA practitioners/researchers.

Methods

From December 2016 to March 2017, we conducted case studies with both explanatory and exploratory components for each of the three HIAs that were conducted as part of this pilot (Yin, 2009). The focus of our case studies was to identify and explain the impacts from each HIA and explore the utility of each HIA within the hospital community benefits context. After all of the pilot HIAs were complete, we conduct-

ed a total of 17 key informant interviews with various stakeholders (e.g. HIA team members, hospital staff, community stakeholders, etc.) who participated in the HIAs. These interviews were guided by a theme-based interview guide. Six key information interviews were conducted to inform the Colorado Marijuana and Child Abuse and Neglect HIA case study, seven key information interviews were conducted to inform the Colorado Springs Pilot HIA, and four key informant interviews were conducted to inform the Colorado Child and Adolescent Behavioral Health HIA.

All interviews were audio recorded and memos were then written to synthesize information and abstract key themes from each interview by the interviewer. When appropriate and available, documents such as legislative records were used as an additional data source for the cases. We used a data triangulation and explanation building approach to synthesize the data from the interview memos and documents (Yin, 2009). This involved using multiple data sources (e.g. multiple interviewer perspectives) to explain and explore the phenomenon of interest and iteratively developing an explanation of key events and their linkages for each case (Yin, 2009). As an additional validation step, interview participants were given an opportunity to review the case studies and any statements attributed to them. The Institutional Review Board at the University of Colorado reviewed and approved our research protocol.

Results

Here we report our results organized by case. Each case begins with a brief overview of the HIA, followed by impacts, if any, from the recommendations. We then present perspectives of community stakeholders shared on the HIA process, followed by perspectives shared by Children's Hospital Colorado staff on the utility of the specific HIA within the community benefit context.

Colorado Marijuana and Child Abuse and Neglect Health Impact Assessment

This HIA was led by the Colorado School of Public Health and conducted in collaboration with Children's Hospital Colorado and the Kempe Center for the Prevention and Treatment of Child Abuse and Neglect. The motivation for this HIA was to improve child and family health by generating recommendations on state policies surrounding how marijuana use should be handled in Child Welfare decision-making. More specifically, this HIA was scoped to generate recommendations for mandatory reporting and Child Welfare screening decisions when marijuana is involved and improve consistency in practice across the state of Colorado, while reducing the number of families unnecessarily interfacing with the Child Welfare system.

Impacts

The HIA recommendations informed the development of House Bill (HB) 16-1385, which updated and modernized the definition of child abuse or neglect in the Colorado Children's Code as it relates to substances. During the 2016 legislative session this bill passed through the Colorado House of Representatives, but did not pass through the Colorado Senate before the close of that year's legislative session. Although HB 16-1385 did not pass in 2016, there is interest among stakeholders involved with the HIA to continue work in future legislative sessions.

In addition, one of the key stakeholders involved with the HIA, the executive director of Illuminate Colorado – a strategic partnership of the established nonprofits: Colorado Alliance for Drug Endangered Children, Prevent Child Abuse Colorado, Colorado Chapter of the National Organization on Fetal Alcohol Spectrum Disorder, and more recently Sexual Abuse Forever Ending – noted the potential for the HIA recommendations to inform future training and education for mandatory reporters as well as Child Welfare caseworkers. She develops and assists in the delivery of Child Welfare

curriculum for the state of Colorado and expressed interest in using the HIA recommendations to develop new materials on marijuana/substance abuse training.

Another key stakeholder, the state Child Welfare associate director stated that the state is embarking on modernizing the Trails database system, a statewide automated case management system that includes Child Welfare, Child Care, and Youth Corrections data, to better track substance use; which aligns with one of the HIA's data recommendations. This change will help with aggregating data around when and where substance use occurs within the Child Welfare context, inform counties on how to target their services and supports, and to develop prevention strategies in the future.

Despite the ongoing policy efforts, stakeholders that we interviewed said that practice among mandatory reporters and Child Welfare screeners in the state had not changed since the HIA recommendations were finalized.

Stakeholder perspectives

Interview participants for this HIA included two executive directors of institutional partners, two county-level human services division administrators, a state-level Child Welfare associate director, and the contracted meeting facilitator for the HIA. All participants had no previous HIA experience. There was consensus among the interviewees that the main objective of the HIA was achieved, which was to develop evidence-informed recommendations to assist mandatory reporters and Child Welfare screeners in their decision-making when marijuana is involved.

Relationship building among diverse stakeholders was expressed as one of the most effective elements of the HIA. Interview participants also stated that the stakeholder engagement process in the HIA was effective: formal stakeholder meetings created a forum for different perspectives to be incorporated in interpret-

ing the implications for the current state of science on the HIA recommendations. The perspectives included spanned the spectrum from child abuse pediatricians to marijuana patient advocates and child welfare workers at both the state and local levels.

While interviewees agreed that the HIA produced valuable recommendations, some stated that the delineation between developing the HIA recommendations and drafting policy language was unclear. This HIA developed two tiers of recommendations: the first tier focused on recommendations for actual practice and the second tier focused on updating legislation to be consistent with the practice recommendations. Many interviewees stated that they were uncertain as to where the HIA formally ended and policy and advocacy efforts began. Furthermore, some participants felt that the policy efforts that came out of the HIA were beyond the original scope; such that a couple participants stated that they were initially unaware that the HIA recommendations would lead to proposed legislation.

Interviewees also stated that the HIA team could have improved on the dissemination of the HIA findings and recommendations. The final HIA report was shared with all stakeholders who participated in the process, but not formally shared with or presented to Colorado Department of Human Services, other county Child Welfare departments, or mandatory reporters such as those in hospital systems. One county Child Welfare administrator added that there has been little discussion on the issue of marijuana once the HIA was completed, which she found disappointing, given the amount of time and energy she had dedicated to the work.

Children's Hospital Colorado Perspectives

Leadership and staff at Children's Hospital of Colorado stated that while they did view this HIA positively and as being consistent with the organization's overall community benefit objective of improving child

health, they ultimately viewed it as motivated more by opportunity and need than being clearly aligned with the hospital's formal community benefit obligations. They noted that this HIA was not embedded within the hospital's formal community benefit activities in that it was not used to inform implementation plans and was not directly aligned with community health priorities identified in the hospital's formal CHNAs. Despite this, hospital representatives noted that HIAs could be used opportunistically like this in order to make policy recommendations to benefit public health and that HIAs used in this way fit within the larger umbrella of community benefit activities.

Colorado Springs Pilot Health Impact Assessment

This HIA was conducted to generate recommendations to inform Children's Hospital Colorado's formal community benefit implementation plan in Colorado Springs, CO. This effort was led by the Colorado School of Public Health and conducted in collaboration with Children's Hospital Colorado's Child Health Advocacy Institute. This HIA was scoped to address health priority areas identified in CHCO's CHNA in El Paso County. More specifically, it focused on mental health and physical activity in school-aged children. This HIA generated recommendations for Children's Hospital Colorado to invest in and advance school-based health centers as part of the hospital's future community benefit activities.

Impacts

The HIA recommendations informed the development of Children's Hospital Colorado's 2016 Community Health Action Plan for El Paso County (Children's Hospital Colorado, 2016). The report specifically highlights the school setting as a primary place for programming to address the top six health priorities for the region, particularly that "CHCO will spearhead the creation of school resource centers that will provide: integrated primary care services, including mental and oral health; community support services;

professional development and technical assistance for school personnel; and will inform targeted policy initiatives” (Children’s Hospital Colorado, 2016).

Stakeholder perspectives

Interview participants for this HIA included three representatives from Children’s Hospital Colorado, two school-based health center employees, a public health planner from the local health department, and the externally-contracted meeting facilitator. None of the interviewees had previous experience with HIAs. All interview participants stated that the HIA’s major objective was to determine CHCO’s role to address identified health priorities in the Colorado Springs region.

Non-hospital interview participants stated that the hospital’s desire to collaborate with the community was evident. Participants shared that the HIA process also allowed for community voice and feedback to determine where the hospital’s community benefit investment should go. Regarding the development of new partnerships, many participants felt that the HIA gave the hospital good exposure to the Colorado Springs’ experience and the region’s uniqueness.

The HIA’s stakeholder engagement process helped to build stronger relationships between the hospital and local community as well as between local stakeholders. Interviewees stated that stakeholder meetings were productive with the right individuals represented; that the conversations facilitated a sharing of experiences, ideas, and resources between groups; that good questions were asked; and appreciation among stakeholders to be able to share their perspectives and have an open dialogue about the health priorities in their community. Several stakeholders stated that that they now wanted to become more involved in the health of the community and partake in more face to face interactions with other organizations that focused on the shared goal of improving child health. Ultimately, all participants shared that the HIA created a better

understanding of the community in Colorado Springs and brought together a stakeholder group to discuss what role the hospital could play in the community.

Despite these successes, there were several challenges shared by participants. First, many stakeholders and even one of the hospital staff members who was a formal member of the HIA team were not aware of the impact of the HIA recommendations. They were not aware of how and if the recommendations were being adopted by the hospital and incorporated into its implementation plan. Several stakeholders stated that they received a draft report of the HIA, but did not realize that the process had been completed. In fact, many participants felt that the HIA process ended abruptly with no formal closure; a couple felt that there could have been a final group meeting to “wrap up loose ends” as there was lag time between the last meeting and the distribution of the draft report.

Another challenge expressed by some participants related to the scope of the HIA. The scope of the HIA was refined and focused on school-based health centers based in large part on the perspectives and preferences of the hospital. A couple of participants expressed that although this narrowing of scope resulted in good recommendations that could be supported by the hospital, they would have appreciated a broader assessment of the priority areas and determination of scope with greater stakeholder input.

Children’s Hospital Colorado Perspectives

Hospital representatives, some of whom directly engaged as part of the HIA team, expressed enthusiasm for this HIA and stated that using the HIA process to inform implementation planning provided an established and transparent process to make evidence-based recommendations with stakeholder and community input. They noted that many hospitals struggled to use information gathered from the community health needs assessment process to develop implementation plans and activities. Hospital representatives

stated that the HIA process validated the community health needs assessment findings and brought things into alignment with local stakeholders to inform the broader implementation plan. Hospital representatives noted that the HIA allowed the hospital to build new community partnerships and relationships including with those who were not directly involved in the HIA process.

Hospital staff also stated that the implementation of HIA recommendations has been difficult and not yet fully developed due to the lack of staff, a physical structure, experience, and hospital resources for execution. Some hospital representatives expressed concern that working with community stakeholders through the HIA process might create expectations that would be difficult for the hospital to meet. One hospital staff member felt that incorporating hospital employees responsible for developing the implementation plan in the HIA process from the beginning would be beneficial and that setting clear expectations and communication channels early on in the process would be helpful for future HIAs used in this manner.

Children's Hospital Colorado's community benefit team also noted that the recommendations that came out of the HIA process were very detailed and specific and not necessarily calibrated well with the IRS community benefit implementation plan requirements. There were initial discussions that recommendations from the HIA might serve as the required implementation plan for the hospital in its entirety. As the HIA process progressed, hospital staff stated that the implementation plan needed to be broader in that it needed to address all of the identified community health priorities and outline more general strategies that would then need to be further refined when specific community benefit investments and activities would be decided on. As a result, recommendations from the HIA were broadened and made less specific when they were incorporated into the hospital's implementation plan.

Colorado Child and Adolescent Behavioral Health HIA

This HIA was policy focused and motivated by Children's Hospital Colorado's implementation plan which stated that the hospital would utilize policy levers to address child and adolescent behavioral health – an identified community health priority area. This effort was initiated as a collaboration between the Colorado School of Public Health, Children's Hospital Colorado's Child Health Advocacy Institute, the University of Colorado's Farley Health Policy Center, and the Keystone Policy Center. This HIA was intended to generate recommendations to the state of Colorado on how to implement an anticipated competitive grants program that would be made possible through a proposed tobacco tax ballot initiative. The objective of this proposed competitive grants program was to enhance child and adolescent behavioral health services in the state of Colorado.

Impacts

This HIA was not completed as the tobacco tax ballot initiative intended to fund the proposed grants program did not pass during the November 2016 elections. At the time the HIA was in the assessment phase and after consultation with the HIA and the stakeholder team, a collective decision was made to terminate the HIA as the decision point was longer present.

Stakeholder perspectives

Interview participants for this HIA included a government affairs specialist and the executive director for advocacy at Children's Hospital Colorado, a policy director at the Farley Health Policy Center, and a senior policy analyst from the Keystone Policy Center. All but one had previous HIA experience. In addition, all interview participants were in agreement that the HIA's major objective was to develop recommendations for a grants program targeted at enhancing child and behavioral health services in Colorado that was to

be funded by the proposed tobacco tax ballot initiative.

This HIA was conceptualized as flowing directly from the hospital's implementation plan which highlighted among other approaches, that child and adolescent behavioral health would be addressed through available policy approaches. As such, the initial scope of the HIA was very broad and was not initially specific to the tobacco tax funded grants program that became the eventual focus of the HIA. The initial broad scope was described both positively and negatively by many participants. The government affairs specialist felt that as collaboration between the different entities was still being built, the HIA seemed to move slowly initially. The Farley policy director agreed with this perspective and felt the scope of the HIA could have been refined earlier in the process.

Ultimately, through an iterative screening and scoping process, the HIA team assessed various potential policy approaches and eventually decided to focus the HIA on the tobacco tax initiative. The rationale was that it was likely the initiative would pass and that there was a real opportunity for evidence-based recommendations to be adopted in how the resulting program would be administered. In addition, the campaign director for the tobacco tax initiative was also an HIA team member. The broader HIA team viewed this involvement as increasing the likelihood that HIA recommendations would be adopted. Despite this perception and consensus to focus on the tobacco tax initiative, all interview participants shared that the HIA was inherently challenging, given that the outcome of the ballot initiative – that would fund and create the grants program – was uncertain.

Interview participants stated that having an HIA team member who was well integrated into the tobacco tax campaign was essential to the process. It was also noted that this team member had the relationships with the key players statewide given her professional background and involvement in the tobacco tax initiative. This resulted in a stakeholder engagement process that

members of the HIA team viewed as including most, if not all, of the politically influential organizations that are active in child and adolescent behavioral health in Colorado. These groups included: the state health department, major state foundations, and representatives from the governor's office.

However, the campaign director and HIA team member stated that there was initial skepticism among stakeholders around the authenticity of the HIA process and that some foundations wanted to complete this process separately and on their own. Overall, the political landscape along with relationships among stakeholders involved in the tobacco tax initiative and administering agencies were expressed as challenging for her to balance.

All interview participants stated that if the tobacco tax initiative had passed, the recommendations from the HIA would have had an excellent chance of being adopted. Furthermore, all participants agreed that the right stakeholders were at the table and engaged in the HIA process. The ultimate failure of the tobacco tax initiative during the November 2016 election effectively made the HIA irrelevant. After prolonged discussions, the HIA team eventually made a decision to terminate the process.

Children's Hospital Colorado Perspectives

Leadership and staff at Children's Hospital Colorado, who were directly involved as part of the HIA team, stated that they had high expectations for this HIA. They saw this opportunity as a proof of concept for the use of HIAs, as a tool that the hospital could use in the future to make recommendations and inform policy as part of the organization's community benefit portfolio. They also stated that this HIA was a test for the hospital to take a more proactive role in policy engagement, as opposed to a more reactive stance that the hospital has adopted in the past. They also stated that they viewed this HIA as being very well aligned with the hospital's CHNA priority areas and implementation

plan strategies. The defeat of the tobacco tax initiative was described by hospital representatives as unfortunate, but they echoed the opinions of other stakeholders and stated that in their opinion the recommendations that would have come out of the HIA process would have had a good chance of being adopted if the initiative had passed.

Hospital representatives also stated that this HIA in particular gave them a greater appreciation for what was involved in conducting an HIA and the potential for the process in the future. The hospital's government affairs specialist stated that while he still viewed HIAs as a useful tool to make policy recommendations, he also now better understood how time and resource-intensive the process is. He noted that for much of the policy work that the hospital engages in an HIA is more than is necessary. He went on to state that an HIA would be most useful to make policy recommendations when there was (1) a need for more rigorous assessment of scientific evidence and data and/or (2) the need for a very systematic and structured stakeholder engagement process to build consensus among diverse participants.

Discussion

This pilot, the three HIAs that were conducted in collaboration with Children's Hospital Colorado as part of the organization's community benefit activities, has highlighted the potential, limitations, and opportunities for improvement in the ongoing use of HIAs within nonprofit hospital community benefit. There is a clear need for processes and tools to generate evidence-based recommendations to guide hospital community benefit activities in various ways.

The focus of this work was to explore the use of HIAs within hospital community benefit. In many ways the lessons learned from previous HIA practice and evaluations were consistent and apply to our experience such as the importance of authentic stakeholder engagement and the challenges of timing and working on legislation (Dannenberg, 2016). In other ways, the

community benefit context created unique challenges and considerations.

Our experience reinforces the potential for HIAs to be used as a tool within hospital community benefit in at least two ways, (1) embedded within nonprofit hospitals' formal community benefit assessment and planning activities and (2) to generate evidence-based policy and program recommendations to address identified community health priority areas.

Our experience also highlights several issues that need to be addressed in order to further advance the use of HIA within hospital community benefit activities including: use of HIA on explicit health issues, hospital capacity for HIA, potentially broadening the scope of HIA recommendations, and the use of HIA to generate recommendations from broad priority areas.

Nonprofit hospital community benefit activities have an explicit health focus and the HIA field has historically conceptualized the use of the tool as most beneficial when used on topics and sectors where there is typically not an explicit health focus (The Pew Charitable Trusts, 2016). The rationale for this is that in these areas, there are important health implications that are not typically factored into decision making and HIAs can provide an avenue to include important health considerations that would not otherwise be included. This is true, but HIAs can still provide significant benefits to important decisions in health explicit areas. All of the HIAs that we engaged in for this pilot were on health focused topics. The systematic HIA process provided structure that resulted in recommendations developed based on more methodical and rational incorporation of scientific evidence and stakeholder perspectives than if an HIA was not conducted. In addition, use of HIAs on health explicit topics could help to more systematically incorporate certain criteria that go beyond the total health impacts such as equity of anticipated impacts.

Our pilot also highlights the need for capacity build-

ing to conduct HIAs if there is additional growth in the use and institutionalization of HIAs within hospital community benefit. This could take the form of training and capacity building among hospital staff involved with community benefit. The technical needs of hospitals could also be served by outside consultants or via collaborations with health departments or other institutions with HIA knowledge and expertise. Given the potential for hospital community benefits to serve as a mechanism for enhancing hospital and public health collaboration, the potential use of HIAs collaboratively between hospitals and health departments could serve the technical needs of hospitals and help build collaborations in population health efforts between hospitals and health departments (Abbott, 2011).

In our pilot, we found that the detailed and specific recommendations that were generated by the HIA process was not always well calibrated with the needs of community benefit planning activities such as IRS required implementation plans. In our experience, Children's Hospital Colorado took the recommendations from the HIAs we conducted in Colorado Springs, CO and broadened them to be incorporated into the hospital's formal implementation plan in the region. Despite this, Children's Hospital Colorado expressed enthusiasm for the HIA process and expressed that there was clear value in using HIAs in this way. Specific and actionable recommendations are considered best practice in HIA and are a great strength of the process but there might be utility in adapting the HIA process to generate broader recommendations for use by hospitals in their community benefit planning activities. This is an area where future research and practice innovation is needed.

All of the HIAs used in this pilot generated recommendations from broad priority areas and were not based on an already existing program or policy proposal. Traditionally, HIAs have been used to generate health maximizing recommendations when an existing proposal has already been put forward (The Pew

Charitable Trusts, 2016). Existing practice already has precedents for the use of HIA when there is not an existing proposal in place, but based on our pilot efforts, HIAs used in this manner hold the most promise for use by nonprofit hospitals as part of their community benefit activities given the need to address broad community health priorities. This does raise questions about adherence to best practices and whether or not these types of changes would make the process different enough to no longer qualify as an HIA.

Limitations

This pilot and the corresponding case studies included only three HIAs conducted in collaboration with one hospital. The stakeholders we interviewed were only a subset of all stakeholders involved in each HIA and there could have been different perspectives that we did not capture. What we learned from this pilot and the implications are related to context and may not be generalizable to other nonprofit hospitals with different settings and circumstances.

Conclusion

HIAs or HIA-like processes can potentially help meet the need for established, evidence-based, and stakeholder responsive tools and processes to be used within nonprofit hospital community benefit activities. In meeting this need, the nonprofit hospital community benefit area could potentially serve as a major institutional home for the practice of HIA. There is a need for additional research and practice innovation to further explore and refine the use of HIA and/or HIA-like processes within nonprofit hospital community benefit activities.

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THE CHALLENGES AND OPPORTUNITIES OF PEER REVIEW IN HEALTH IMPACT ASSESSMENT

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Abstract:

Background:

While HIA guidelines and practice standards are used throughout the field, peer review is a potentially untapped resource for HIA practitioners in the US and potentially internationally. Peer review is thought to strengthen HIA practice, although very few guidance documents exist, and there has been little research to date on the efficacy of peer review for improving HIAs.

Methods:

To explore the possible value of peer review in HIA, an expert panel was convened at the 2013 HIA of the Americas Workshop, and an online survey was used to query HIA practitioners regarding their experience with and motivation for HIA peer review.

Results:

Most survey respondents (n=20 out of 26) indicated that peer review in HIA was helpful, and 15 respondents thought a formal peer review process would improve HIA practice. Respondents wanted peer review to be timely and the reviewer to approach the review as a mentor rather than a gatekeeper.

Conclusion:

This paper offers the initial development of a peer review typology based on feedback from the online survey and workshop participants. Better understanding of the potential challenges and opportunities for using peer review in HIA may help to improve HIA practice.

Introduction

In the past 30 years, health impact assessment (HIA) has developed into a tool used in many sectors all over the world (Vohra, 2007). Countries such as Australia, England, Thailand, and the Netherlands have integrated HIAs into formal decision-making processes. In the

United States (US), although initiation of HIA practice occurred later than in other parts of the world, practice has grown 10-fold in the past decade from 27 completed HIAs in 2007 (Dannenberg; Dannenberg et al., 2008) to 407 completed or in progress HIAs in 2016 (The Health Impact Project, 2016). The diverse and growing practices in HIA in the US have called atten-



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tion to the need to improve overall HIA application (National Research Council, 2011). One potential area to advance HIA practice in the US (and potentially internationally) is through better consideration of the use of peer review.

Peer review is the evaluation of a process or product by experts in the field to maintain or enhance the quality of the process or product in that field (Smith, 2006). Peer review plays a critical role within the scientific community to improve the quality and applicability of research and evidence (Abelson, 1990). While peer review often occurs after submission of research manuscripts for publication or for proposals for funding, other types of formal and informal peer review processes are used at different stages of research (Solomon, 2007). These other types include collegial review of products before they are submitted and reviews of outlines to ensure that a proposed product is well-designed. Some institutions may require that reports and other documents undergo internal review prior to being shared externally. Though peer review is considered necessary for maintaining scientific standards and quality control, it is subject to its own set of challenges such as bias, complexity, and a lack of understanding of its overall effectiveness (Goldbeck-Wood, 1999).

Peer review has been conducted in environmental impact assessment (EIA), and though it is not required, it is a recommended practice (Office of Management and Budget, 2004). In EIA, peer review tends to focus on the technical quality of assessment standards, methods and results in order to ensure attainment of appropriate levels of scientific rigor (Beanlands et al., 1983). In some EIA processes, peer review is conducted by the contracted agency by specialists not involved in the work. The report authors respond to the reviewers' comments and make necessary changes to the scientific report. In some cases, the peer reviewers' comments and the authors response may become part of the public record (Klamathrestoration.gov). Given that the focus of peer review in EIA is to ensure scientific integ-

rity, it is recommended that peer review be conducted at the inception and design stages, though given the practical complexities of environmental assessment, it is not clear to what extent this is actually completed (Beanlands et al., 1983; Chaker et al., 2006). It is also argued that as an applied science, EIA should conform to the same rules and standards that govern scientific research and therefore EIA reports should be subject to peer review (Cashmore, 2004).

Incorporating peer review in HIAs may be one strategy that can help to improve the quality and usefulness of HIAs. Some guidance exists, particularly for peer review at the end stage of the HIA (Fredsgaard et al., 2009; Vohra, 2005), however there has been little research to date on to what extent, and in what manner, peer review can be used to improve HIAs. Given that HIAs must be conducted within policymaking cycles (Harris et al., 2014), it is unclear how peer review processes can account for timing restrictions and negotiating of interests from multiple stakeholders within diverse HIA projects. Based on a practitioners workshop and subsequent survey, this paper explores the challenges and opportunities presented by using peer review to support HIAs. We examine the current use of peer review by HIA practitioners primarily in the US, the perceived value of peer review to the HIA process, and provide a typology of peer review practice in HIA.

Methods

The development of an HIA peer review typology was initiated by a working group convened at the 2013 HIA of the Americas Workshop (changed to the HIA Practitioner Workshop), a meeting for HIA practitioners to discuss the state of the field and plan steps for future improvements. Workshop participants (n=11) self-selected to attend the working group entitled "Peer Review of HIA." All participants had previously been involved in one or more HIA and had some level of experience with peer review in the HIA process. The workshop was facilitated by two of the

Figure 1: The Steps of HIA

1. SCREENING
Determine whether an HIA is needed and likely to be useful.
2. SCOPING
Develop a plan for the HIA, including identification of potential health risks and benefits.
3. ASSESSMENT
Describe the baseline health of affected communities and assess the potential impacts of the decision.
4. RECOMMENDATIONS
Develop practical solutions that can be implemented within the political, economic or technical limitations of the project or policy being assessed.
5. REPORTING
Disseminate the findings to decision makers, affected communities and other stakeholders.
6. MONITORING AND EVALUATION
Monitor the changes in health risk factors and evaluate the efficacy of the measures that are implemented and the HIA process as a whole.

paper authors (KR and TC) and incorporated an open format to discuss the potential role of peer review in HIA practice in the US. Most of the paper authors attended the workshop. During the conference, the working group discussed the potential range of peer review which might be applied to HIA. Additionally, participants described the positive and negative factors of applying peer review across a range of HIA typologies. Participants also looked at the HIA process (see Figure 1) and identified at which steps peer review could be beneficial.

Following the meeting, the authors designed and distributed an online survey to investigate the experiences of practitioners with peer review of HIA projects (see Box 1). The survey consisted of eight questions designed to gauge the motivations of HIA practitioners to engage in peer review, the perceived value of peer review, and the broad and multiple practices of peer review within HIA. The authors did not strictly define peer review in the survey so that a full range of experiences with peer review, both formal and informal, could be captured. The

Box 1. Survey Questions

1. What type of agency do you work for?
 - a. Federal/state/local government
 - b. Consulting organization (for-profit)
 - c. Community/non-profit organization
 - d. Educational institution
2. List some of the HIAs where you were involved with peer review.
3. Based on your general experiences of using peer review in HIA, indicate how much you agree with the following statements: "Overall, peer review was helpful for improving the quality of the HIAs"
 - a. Strongly agree
 - b. Agree
 - c. Not sure
 - d. Disagree
 - e. Strongly disagree

4. Based on your general experiences of using peer review in HIA, indicate how much you agree with the following statements: “I think HIAs could benefit from a more formal or standardized peer review process”
<ol style="list-style-type: none"> a. Strongly agree b. Agree c. Not sure d. Disagree e. Strongly disagree
5. What has been your role in the peer review process?
6. Briefly describe your experience overall with the HIA peer review process: Having an HIA reviewed (skip, if not applicable.)
7. Briefly describe your experience overall with the HIA peer review process: Reviewing an HIA (skip, if not applicable)
8. If peer review added value to the HIAs, please specify how.

survey was conducted between May and August 2013, and was advertised to the HIA practitioner community through state and national organizations’ networks mainly in the US, including HIA listservs and blogs. Solicitation for the survey was conducted using convenience sampling and is not necessarily representative of the diverse range of HIA practitioners. Authors used basic descriptive statistics and a qualitative coding scheme to analyze open-ended responses.

Table 1: Survey respondent characteristics

Organizational Affiliation	Number of Respondents (n=26)
Community/non-profit organization	5
For-profit consulting organization	3
Educational institution	6
Federal, state, or local government	12

Results

Sample

A total of 26 HIA practitioners responded to the survey. Respondents represented a variety of organizations although the majority were affiliated with governmental agencies (n=12) (see Table 1). The majority of respondents were from the US.

Respondents’ experience of peer review

The roles of respondents in the peer review process varied but generally fell into three categories:

- HIA project lead – oversees the project and drafting of the HIA report and may have received a peer review on their HIA;
- Technical reviewer – has expertise in a given field and reviews part of the assessment; and

Table 2: Respondents' role in HIA peer review

Role in peer review process	Number of respondents ^a (n=29)
HIA Project lead	16
General editor: identifies and recommends technical corrections in parts of HIA	11
Technical reviewer: identifies and recommends technical corrections in part of HIA	9
Moderator: conducts peer review process	3
Other	5
No response	1

^aRespondents could report more than one role

- General editor – provides non-technical revisions to the report.

Several respondents stated that they performed multiple roles and respondents listed “other” roles, including moderator (conducts peer review process), in the peer review process (see Table 2).

Respondents described several different types of peer review:

- 1) Technical - review by “qualified statisticians and scientists” for “technical accuracy;”
- 2) Process - review by “HIA experts” to “ensure all steps of HIA were addressed;”

3) General - review for “identification of oversights, corrections,” “general edits,” and “flow and readability” and;

4) Political - review for “what in the document seemed biased,” to avoid “hot buttons,” and “unnecessarily alienating the local audience.”

Some of these types of review may be interpreted more as a type of technical assistance, rather than traditional peer review, however the authors have included all types of peer review in order to reflect the respondent’s perception of the meaning of peer review in HIA.

Table 3: Number of respondents (and %) who agreed or disagreed with statements. (n=26)

Questions	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Peer review was helpful for improving the quality of the HIAs	1 (4%)	0 (0%)	5 (19%)	11 (42%)	9 (35%)
HIAs could benefit from a more formal or standardized peer review process	4 (15%)	2 (8%)	5 (19%)	10 (38%)	5 (19%)

Perceived value and challenges of peer review

Although the overwhelming majority (n=20) agreed or strongly agreed that peer review was helpful for improving the quality of the HIA, fewer respondents agreed (n=15) that HIAs would benefit from a more formal or standardized peer review process, and six participants disagreed that a standardized peer review process would benefit HIAs (see Table 3).

Generally, respondents described peer review as beneficial or positive. Respondents commented that peer review identified needed corrections or missing information. Respondents stated that it also validated “HIA leaders’ concerns” and provided further opportunity for answering questions. In addition, participants felt that peer review helped to identify additional data sources, legal citations, and publications to consider or include, and to clarify language and framing of the report. Respondents identified peer review as helping to refine logic models and pathway diagrams, and providing useful feedback on recommendations. They highlighted that having the HIA reviewed by statisticians, scientists, and other qualified reviewers was crucial to ensuring the technical accuracy of the HIA, the alignment with methodological best practices, and the relevance of recommendations. Respondents also reported that peer review helped to produce a more credible product, to increase confidence of HIA staff in their findings, and to present the information clearly and effectively.

Respondents also reported that peer review aided incorporation of perspectives of different stakeholders within the HIA process. They stated that diverse viewpoints of people with dissimilar skill sets add value by providing input and perspectives on issues not apparent to those leading the HIA project. Respondents suggested that diversity also adds credibility to the analyses, findings, and recommendations, making the HIA stronger overall.

Respondents stated that the timing of peer review was important. One respondent commented that retrospec-

tive reviews of finished HIAs do little good; the key to an effective review is to engage the reviewer in the HIA process early enough to address issues and make changes. Another respondent stated that incorporating peer review in the early stages of HIA helped to avert complications that would have been more problematic later in the process.

Respondents identified several challenges to peer review. Some found that time limitations impeded addressing and incorporating feedback. One respondent mentioned that peer review could add value, but could also increase the time and resources needed to complete an HIA and present a different set of barriers and constraints for the project. Another respondent stated that HIAs are often conducted under tight deadlines by already busy staff, and although reviewers add credibility by identifying realities about the HIA being conducted, HIA staff may not be able to adequately react to constructive comments. Respondents suggested that peer reviewers need to be matched to the work based on their own specific talents, skills, or time constraints. One respondent noted that the benefit of the review is highly dependent on the reviewer.

Inadequate communication between the reviewer and those leading the HIA was also mentioned as a barrier. One respondent found peer review to be useful but indicated that the lack of communication between the reviewers and the HIA team can lead to misunderstandings. Peer reviewers of journal article submissions are usually seen as gatekeepers, this respondent stated, but HIA peer review needs to be less anonymous to ensure that feedback is useful. The respondent suggested that reviewers act more as mentors.

To address some of the challenges of conducting peer review of HIAs, respondents described the need to clarify the purpose of the peer review, the type of review (e.g., general or technical), the level of review, and the timeframe for comments. Respondents suggested providing parameters or instructions to reviewers, such as specific questions, concerns, or content

areas for the reviewers to consider. They noted that providing such details seemed to help manage the work of the peer reviewers, the expectations of the HIA project team, and the goals of the peer review

within the constraints of the overall HIA project.

Table 4: Comparison of Peer Review Factors for Traditional Journal Articles and HIA

Factors	Traditional, peer review journal protocols	HIA peer review (lots of variation)
Primary role of peer review	Gatekeeper of quality	Conversational, open
Peer review lead	Journal editor	HIA coordinator
Peer reviewers	Field experts selected by editor	General HIA experts, technical field and community experts
Anonymity	Single- or double-blinded; allows review with less identity bias	Open but varies
Time of review	At completion of final draft	Varies: process (step-specific review), general review
Time and cost	Varies: typically no cost to applicant, only publication expense if accepted	Varies: depending on availability of funds and reviewers
Transparency for feedback	Reviewer identity withheld	Varies: the public may have open access to comments and review, and agency affiliation
Opportunities for information exchange	Limited (communication usually routed through editorial board)	Varies: may be desirable in most cases

Discussion

Practitioners often viewed the peer review they received as helpful but were less supportive of a standardized process. Additionally, they described an application of peer review to HIA that would be different than the application to a journal article (see Table 4). For example, the review process should be sensitive to the timeliness of the HIA, the reviewer might act more as a mentor rather than a gatekeeper, and different types of review could be applied, such as a technical review or a general review. Based on the open-ended questions querying practitioners about their perceived motivation, value and use of peer review in HIA, we found that peer review can

address many aspects of an HIA:

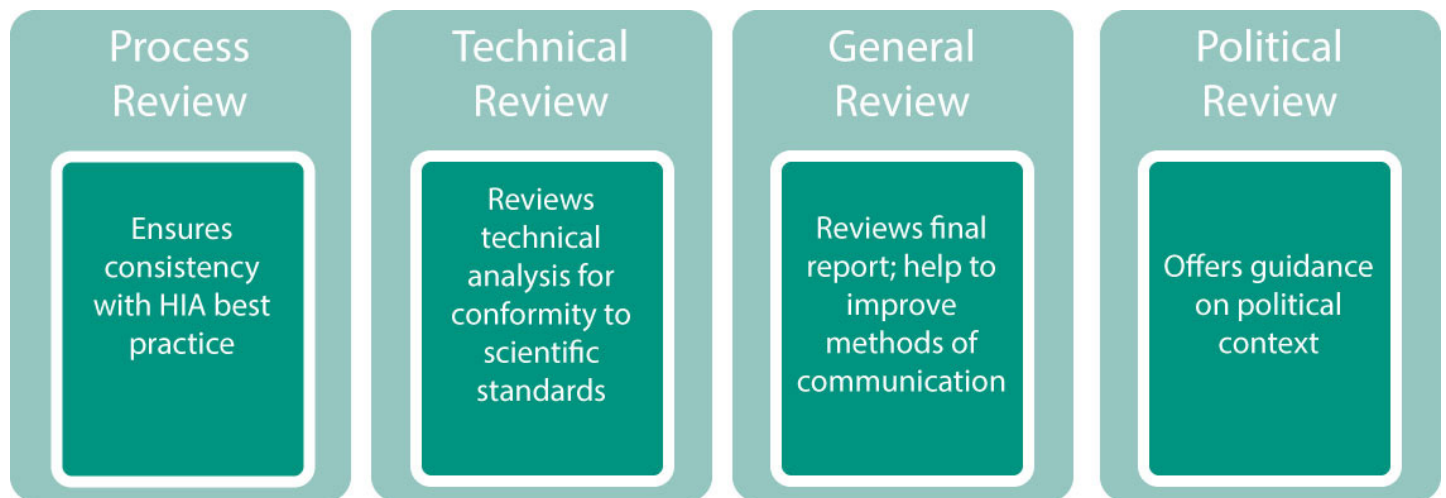
- Process (e.g., did the HIA follow the steps of HIA, did the HIA involve significant stakeholder input throughout the process).
- Analyses (e.g., were quantitative and qualitative analyses performed according to best scientific practices in their respective fields, are the analyses transparent and replicable).
- Recommendations (e.g., are the recommendations based on the analyses, are the recommendations politically feasible).
- Reports (e.g., was the final report comprehensive, was the final product written in a format understandable to and useable by the appropriate audiences to inform the decision-making process).

Our findings highlight several key considerations for integrating peer review into HIA practice. First, almost all the respondents to the survey reported that peer review, when performed early in the process, when timely and cognizant of resource constraints, and when targeted to the particular step and needs of the HIA, is a helpful practice to improve the quality and applicability of an HIA. When feasible, peer review should begin as early as possible in the HIA process

and be incorporated in all steps.

Second, our findings indicate that peer review in HIAs should be fit-for-purpose. Because the HIA process is complex and can involve different disciplines and expertise that are subject to improvement by review, peer review should be conducted in a way that is flexible and appropriate to the needs of the individual HIA.

Figure 2: Typology of HIA Peer Review



In order to represent the different types of peer review being used in HIA practice, and when they are best applied, we propose a typology of HIA peer review (see Figure 2). The typology includes process, technical, general, and political peer review. Each of the types of peer review provide different information to improve the HIA, can be applied at different stages in the HIA process, and may require a different reviewer depending on their individual skill set.

Process review involves ensuring that the HIA performs all steps in a manner consistent with published HIA guidelines and best practices. Process review could also help to ensure the inclusion of equity considerations in each step of an HIA. A process reviewer

could draw on their experience as an HIA practitioner and be well versed in the many practice guides and standards available.

Technical review ensures that the qualitative and quantitative data analyses were performed according to best practices and applicable scientific standards, and that the level of evidence and uncertainty for the predictions was stated clearly. The qualifications of the technical reviewer will vary according to the decision and health issues being assessed in the HIA.

General review includes general editing of documents and can include review related to best methods of communicating results to appropriate audiences. A general reviewer has editing skills, communication

knowledge, and familiarity with the HIA process.

Political review helps to understand and negotiate the political space in which the HIA occurs. This is

especially important for politically sensitive HIAs, often the norm rather than the exception. Politics can influence whether the HIA is undertaken, which health issues are addressed (e.g., scoping and pathways), the

Table 5: Types of review suggested at each HIA Step.

HIA Step	Type of review			
	Process review	Technical review	General review	Political review
1. Screening	X		X	X
2. Scoping	X	X	X	X
3. Assessment	X	X	X	
4. Recommendations	X	X	X	X
5. Reporting	X		X	X
6. Monitoring/evaluation	X		X	

recommendations, and the reporting of the HIA. A political reviewer has a firm understanding of the politics and context surrounding the HIA and provides insight and advice to the HIA practitioner to ensure that the HIA recommendations are salient to the decision makers.

The four types of review can be applied at various stages of the HIA process (Table 5).

A peer review typology should consider the HIA steps as well as the different typologies of practice (Harris-Roxas et al., 2011). The type of review should be expanded or minimized according to time and resources in accordance with the type of HIA (rapid, comprehensive, etc.). For example, minimally-resourced and time-constrained HIAs might only have the capacity for one reviewer, who may perform several types of review at different stages of the HIA. To facilitate and expand peer review opportunities, a pool of potential HIA reviewers could be drawn from identified authors of HIA reports or from existing HIA communities of practice, such as the Society of Practitioners of Health Impact Assessment (SOPHIA, n.d.).

In summary, several key considerations are important for conducting peer review in HIA.

- **Timing and coordination:** Conducting peer review early within the appropriate stage of an HIA helps suggested changes and recommendations to be meaningfully addressed. Reviewing an HIA after it is completed may do little to improve the HIA itself. The HIA coordinator or project lead may also need to build in time to possibly respond to or address peer reviewers' recommendations.
- **Reviewer fit:** The value of the review is highly dependent on the reviewer. Peer reviewers should be matched with the right type of review needed based on their specific skills and availability. For example, if a technical review is needed, the peer reviewer would be well versed or have had experience in conducting the methodology used in the analysis.
- **Peer review scope:** Clarifying the purpose and scope of the peer review is essential. Providing parameters or instructions for reviewers – such as specific questions to consider, areas of the HIA in need of attention, time constraints of the project, and type of review (i.e., general, technical, process, or political) – will help to increase the usefulness of the peer review and ensure that the issues of

greatest concern are most likely to be responded to and addressed within the given time frame of the project.

- **Communication:** HIA peer review benefits from an open dialogue between the HIA lead or project team and the peer reviewers. Good communication will decrease the likelihood that peer review recommendations will be misunderstood, will increase the usefulness of the comments, and will increase the potential for the peer review to improve the HIA by clarifying any points of concern or suggestions.

Limitations

Our study and findings are subject to several limitations. Initial input from practitioners was obtained only from participants at the HIA of the Americas Workshop, and survey information from only a subset of (mostly US) HIA practitioners. Given that most respondents were from the US, the results cannot be taken to reflect the views of practitioners in other international settings. However, while our survey was relatively small, we believe it illustrates a range of useful perspectives on an evolving HIA practice. Respondents were solicited from a pool of experienced practitioners, and the working group and authors of this article also have a diverse range of HIA experience. Still, due to the nature of the convenience sampling, and the small number of respondents, we may have excluded other experiences and perspectives on HIA peer review. Additionally, the survey was only sent out to HIA practitioners, and not more broadly to

those conducting other forms of impact assessment. While the focus on HIA practitioners helped to elucidate HIA-specific issues and opportunities for peer review, other insight related to peer review within other impact assessment may have been missed. Moreover, the term “peer review” could be interpreted by respondents differently; different potential interpretations were apparent from discussions at the initial working group meeting and survey responses. Future research might better define peer review and address similar questions in a more representative sample. Nonetheless, we believe our findings highlight several opportunities for improving the practice of HIA through peer review.

Conclusion

Peer review in the context of HIA can be both an end-stage quality control measure and an iterative quality improvement process used throughout multiple steps of the HIA. HIA provides timely and valid evidence amid myriad scientific and political uncertainties. Peer review of HIA may be an opportunity to support the legitimacy, acceptance and utility of the research findings, thereby increasing the value of HIA in decision-making. However, further incorporation of peer review in HIA will need to consider the potential pitfalls and criticisms of peer review practice (i.e. bias), the types of practitioners that can conduct peer review (who precisely is considered a “peer”) and how this practice can be applicable in international settings.

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A COMMUNITY GROUNDED HIA: THE BENEFITS OF CONDUCTING A HIA DURING THE AIRDS BRADBURY ESTATE REDEVELOPMENT

Karla Jaques; Fiona Haigh; Michael Thorn

Abstract:

Background: This paper identifies and discusses the benefits of taking a ‘community grounded’ approach to Health Impact Assessment (HIA) in the context of a place based urban renewal setting and reflect on whether this is a useful approach for people and organisations wishing to undertake HIA’s in similar settings. The HIA was on the redevelopment of the suburban town centre and focussed on the creation of a new multipurpose centre, improvements to a manmade pond and the relocation of sporting fields found in the area. The HIA team aimed to explore what the planned redevelopment of the local town centre area would mean for the local community and its potential health impacts upon residents.

Methods: The HIA followed the standard HIA steps. The HIA team took a community grounded approach where particular focus was engaging community members in the HIA process. This included community members being involved in the HIA working group, reference group and providing evidence for the HIA.

Results: The HIA report contained a series of recommendations for the redevelopment of the Airds Bradbury estate, found in the outskirts of South-Western Sydney, the estate prior to redevelopment being a predominantly public housing estate and via redevelopment will include a mixture of privately and publicly-owned housing. These recommendations were presented to the Community Reference Group and were adopted by various stakeholders.

Conclusion: The community grounded approach influenced both how the HIA was carried out, the decisions that were made within the HIA and ultimately the findings and recommendations. The HIA of this latest stage of the Airds-Bradbury estate redevelopment was a useful project to encourage further collaboration, dialogue and planning between redevelopment agencies, Local Government, and residents of the Airds Bradbury social housing estate.



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Introduction

Health Impact Assessment (HIA) can be applied to many different types of proposals and is adaptable to the context in which it is undertaken. This paper identifies and discusses the benefits of taking a ‘community grounded’ approach to HIA in the context of a place-based urban renewal setting, and reflects on whether this is a useful approach for people and organisations wishing to undertake HIA’s in similar settings.

This HIA was conducted to inform plans to redevelop the town centre of the Airds-Bradbury social housing estate* and, through the engagement of residents, to ensure that these plans reflected the needs of the community. This was achieved through the examination of greenspace and infrastructure within the town centre, and how these might be improved or reconfigured to improve the wellbeing and neighbourhood livelihood of residents.

To attain this, the project engaged community members of the estate, academics, and service providers in a ‘learning-by-doing’ process. This process was useful in initiating all participants to this process in a manner that was practical and accessible to all members of the HIA project team. The effect of undertaking this process was this community grounded approach to HIA. Community grounded in this context means that the HIA is based on the:

values, behaviours, norms, and worldviews of the populations they are intended to serve, and therefore are most closely connected to the lived experiences and core cultural constructs of the targeted populations and communities (Okamoto, Kulis, Marsiglia, Holleran Steiker, & Dustman, 2014, p. 104).

* Throughout this report the term ‘estate’ is used to refer to public/social housing, that is; dwellings that are publically owned and managed by Housing NSW within NSW Government’s Department of Family and Community Services (FACS).

The Proposal

The Airds Bradbury suburban area is approximately 50km south-west of Sydney CBD. Airds Bradbury is one of the most socioeconomically disadvantaged of New South Wales (Australian Bureau of Statistics, 2011) consisting of 1,540 dwellings which the majority are publically owned and managed (94%). The suburb has a large Aboriginal and Torres Strait Islander community making up 15% of the total Airds population.

The Airds Bradbury Renewal project is a large public housing estate renewal plan with the objective to redevelop the area as a mixed tenure neighbourhood of 30% social housing and 70% private housing. This involves redeveloping some areas of the estate and constructing new private and social housing and also making new road connections and new community facilities. This includes demolition of some existing housing and re-location of residents.

Previously established redevelopment plans of the Airds Bradbury Renewal Project were used for this HIA, as they included crucial community infrastructure that residents of Airds Bradbury had previously identified as key to a successful renewal and redevelopment of the area. The HIA focused on stage 3 of the Project concept plan which covers the redevelopment of the suburban town centre which contains the retail centre, local tavern and a multipurpose facility. This stage also includes development of new playing fields, a multipurpose community centre, redevelopment of an existing Pond located off the town centre, a new road connection, a Reserve and new housing lots.

The HIA team aimed to explore what the planned redevelopment of the local town centre area would mean for the local community and its potential health impacts upon residents. The HIA focused on three local sites that the redevelopment plans had identified as crucial to the well-being of local Airds Bradbury residents, and the municipal upkeep of the area, once the redevelopment was completed. These sites were

the creation of a new multipurpose centre, improvements to a man-made pond and the relocation of sporting fields found in the area.

Methods

Undertaking a HIA followed a step-by-step process as detailed below (see Table 1)

Table 1 HIA Steps

1. <i>Screening</i>	<p>Residents of the Airs Bradbury social housing estate, and staff working locally for the New South Wales (NSW) Land and Housing Corporation, met with trainers from Centre for Primary Healthcare and Equity (CHETRE) to discuss the possibility of conducting a HIA on the Airs Bradbury (AB) renewal project. This was as a result of calls for expressions of interest for the HIA training. These parties formed the project team for carrying out the HIA.</p> <p>As previously highlighted, this was to be conducted as part of a learning-by-doing HIA training conducted by CHETRE. During day one of the training a screening tools was used by the project team to develop the rationale for the HIA.</p>
2. <i>Scoping</i>	<p>The HIA team hosted a scoping workshop, which included members of the Airs Bradbury Community Reference Group (CRG), local school administrators and local high school students. Various impacts of the planned redevelopment of the town centre were considered and it was agreed that the HIA would focus on the three main sites within the town centre (i.e. the multipurpose centre, upgrades to the pond and relocation of sporting fields). Initial health impact pathways were developed and validated by a member of the local Aboriginal community.</p>
3. <i>Identification</i>	<p>Members of the HIA team conducted a literature review focusing on the health impacts of each of the focus areas. Additionally, previous research that had been conducted in the Airs Bradbury community were identified and examined for relevance to the HIA.</p>
4. <i>Assessment</i>	<p>An assessment meeting was held with local stakeholders, made up of community members, service providers, police, council members, members of the local high school (including administrators and students), NSW Land and Housing Corporation staff and the developers of the redevelopment site (Urban Growth). The HIA presented the findings of the literature review and previous research, stakeholders validated these findings and developed draft recommendations. The findings were also shared with and validated by a member of the local Aboriginal Community.</p>

<p>5. <i>Decision making and Recommendations</i></p>	<p>The HIA team developed an initial set of recommendations based on the assessment workshop and input from the local Aboriginal men’s group. These were then shared with and prioritised by local stakeholders and a member of the local Aboriginal community, who corroborated these with members of the local Aboriginal men’s group.</p> <p>As the HIA was undertaken it also was a standing agenda item at monthly CRG monthly meetings meeting between May 2016 through to November 2016 with draft recommendations developed at the CRG and reported back to the CRG for comment.</p> <p>The HIA project team developed a series of report drafts informed through various forms of research – census data, the interviewing of local community groups, and consultations with members of the CRG. This was incorporated into the final recommendations of the eventual HIA report, the report formally submitted to the CRG, the developers Urban Growth, NSW Land and Housing Corporation’s Development Director and Campbelltown City Council in December 2016.</p>
<p>6. <i>Monitoring and Evaluation</i></p>	<p>As of writing it is anticipated that an evaluation plan will be developed by the HIA project team.</p> <p>The implementations of the HIA recommendations, as articulated within the final report, are being monitored by the CRG. The HIA is a standing agenda item for ongoing CRG meetings.</p> <p>It is anticipated that this HIA could act as a case study in which a ‘grounded HIA’ approach worked well with the local community, and the case study can outline how this was achieved and what contributed to its success.</p>

Results

The potential impacts of the planned redevelopment of the town centre were identified through a creation of a pathway diagram. This considered the potential impacts that the redevelopment would have on Airs Bradbury residents.

The impacts were identified using existing evidence and data collected in a workshop with CRG members. This involved accessing data collected during prior consultations, a rapid literature review, data collected by the Airs Community Renewal team, City of Campbelltown Council and Department of Sports and Recreation, and anecdotal evidence from the Airs

Bradbury Community Reference Group (CRG) members. Data included previously collected information from a telephone survey and various community consultations. Given the context specific background of the HIA team, members had direct experience with the community and had a sound understanding of the current needs of the community.

Prior HIA projects, both internationally and locally based, were also researched by the project team to validate the approach taken. It is noted, however, the limited critical nature of this research, in that this research was undertaken ultimately to identify similar kinds of urban redevelopment. The success of these redevelopment projects remained largely unexplored.

While the research demonstrates what is involved in changing the urban landscape - the introduction of green spaces, outdoor recreation facilities, and fixed areas for exercise – what is lacking in the commentary of the redevelopment projects is how effective these changes were toward improving living standards in the neighbourhood.

While the changes obviously improved the landscapes from an aesthetic standpoint, missing were substantial measurements or metrics demonstrating an improvement of the overall health within the neighbourhoods that these changes took place. What the research did provide value toward, however, was providing solid examples on how landscape design can be directed in the process toward improving the quality of life within urban landscapes. This informed the process that the HIA took in assessing what residents considered to be effective urban landscape design..

The HIA report contained a series of recommendations for the redevelopment of the Airds Bradbury estate. These recommendations were presented to the CRG

and were adopted by various CRG stakeholders. While these recommendations are not binding and do not have authority over the key estate redeveloper Urban Growth, all members of the CRG consider the report as capturing the views and wants offered by residents in relation to the redevelopment. As a consequence, the HIA report is seen as a substantial document by the CRG.

As a member of the CRG, Urban Growth considers the community feedback the report offers to be of relevance, as the report forms part of the local consultation requirements required to be legally met when undertaking redevelopment on the Airds Bradbury estate. Before the HIA report was completed, Urban Growth requested any early findings of the HIA report to inform their planning, suggesting that Urban Growth considered the HIA as a major source for local feedback regarding the redevelopment.

As of writing the CRG will have a future role in reviewing the Stage 3 concept plan of the Airds Bradbury redevelopment, through a tabling of the draft

Table 2: Summary of key findings

Activity	Results
Upgrades and relocation of the playing fields	Potential for positive impact on the community as evidence from the literature and the community demonstrates that improvements in the built environment and access to recreational opportunities have the potential to lead to improved physical activity, social cohesion and mental wellbeing .
Upgrades to pond and surrounding area	Evidence from the literature and community suggest that this had the potential to positively impact the community. Improvements to the built environment have the potential to lead to ownership and improve positive community integration, decrease stigma and improve mental wellbeing .
Creation of new multipurpose centre	Evidence from the literature and community found that this activity has the potential to impact the community both positively and negatively . Positive impacts included an increase in availability of local childcare services and employment. Negative impacts included the shifting of the current effective model of practice would lead to a decrease in established community ownership and connection . A reduction in community space would lead to a decrease in utilisation , causing a reduction in community activity, involvement, physical activity and connectedness.

Table 3: Summary of key findings

Activity	Recommendations
Upgrades and relocation of the playing fields	<ul style="list-style-type: none"> • Prioritise local sport needs • Develop promotion strategy for local use • Develop strategy for low cost participation for locals • Ensure fields and amenities are safe (lighting, surveillance) • Ensuring historical name and significance is displayed • Establish adjacent spaces applicable for different age groups and ability levels • Acknowledge the sensitivity of the placement of fields near significant Aboriginal land.
Upgrades to the pond and surrounding area	<ul style="list-style-type: none"> • Establish ongoing maintenance plan (waste disposal, vegetation, water quality and safety) • Physical design to include information about local flora and fauna and local aboriginal history and significance and have facilities including shade, lighting, drinking water and rest stations. • Design to encourage participation e.g. walkability, age and ability appropriate.
Upgrades for multipurpose centre	<ul style="list-style-type: none"> • Physical design meets minimum requirements for community use as deemed appropriate by local community • Continue to have staffed reception area • Adequate amenities including kitchen and toilets • Minimum opening hours 5 days a week.
Participation	<ul style="list-style-type: none"> • Employ community development office to encourage and support health and wellbeing and social participation throughout period of change in the estate • Continue to support existing relationships between current community centre and local residents • Ensure all three design components (playing fields, pond and multipurpose centre) are easily accessible and integrated. • In longer term, consider alternative modes of operation which reflect needs of the changing community, use of IAP2 Spectrum of Public Participation recommended. • Where possible, naming of existing or newly established infrastructure should be made in consultation with local community including the local Aboriginal community.
Cultural participation	<ul style="list-style-type: none"> • Ensure appropriate ongoing engagement with local Aboriginal community to recognise the significance of local Aboriginal community. • Consider introduction of a cultural learning/sharing space within town centre • Consider regular organisation of cultural events that reflect local community • Consider the use of public art that reflects local cultural diversity

plan by Urban Growth to the CRG, and the CRG then seeking to assess this plan against the recommendations contained within the HIA. The HIA remains as a standing agenda item at CRG meetings. Redevelopment under Stage 3 is expected to commence in the latter half of 2017 after local council consents to Urban Growth's future Development Application. This suggests the HIA will continue to exist as an ongoing referencing tool for Stage 3 of the Airds Bradbury redevelopment. That is, the CRG making sure the outcomes of the HIA are included and fulfilled where necessary during the formation of the draft plan by Urban Growth, and then later via the Development Application by Urban Growth to Local Government.

Table 2 displays a summary of the key findings and table 3 gives a brief summary of the key recommendations arising from the HIA.

Discussion

HIAs of social housing regeneration projects are relatively common (Harris, Haigh, Thornell, Molloy, & Sainsbury, 2014; Kearney, 2004; McCormick, 2007). Regeneration projects have significant health impacts on the communities living in these areas. However, communities often have limited involvement in HIA processes. For example Kearney (Kearney, 2004) in an evaluation of community participation in a regeneration HIA found that "The results suggest that there may be a large gap between professional rhetoric and the reality of community participation, and that barriers to community participation in HIA may be substantial and institutionalised"

Community participation is often considered as a central practice for effective HIAs (den Broeder, Uiter, ten Have, Wagemakers, & Schuit, 2017; Mahoney, Potter, & Marsh, 2007). The presence of local residential involvement and contribution in HIAs has been shown to have a positive impact on the success of projects from development through to implementation (Chadderton, Elliott, Hacking, Shepherd, & Williams,

2012; Chilaka, 2015; den Broeder et al., 2017; Elliott & Williams, 2008; Haigh et al., 2015; Wright, Parry, & Mathers, 2005). However, community participation is often hard to establish, and also for it to be best managed within the timeframes and expectations of policy making, which can make a truly collaborative HIA process a challenge to attain (Chadderton et al., 2012; Parry & Wright, 2003).

This HIA provides a case study of taking a community grounded approach in the context of an urban redevelopment project taking place in a locationally disadvantaged community. In the early planning stages of the HIA a decision was made to ground the HIA in the experiences and knowledge of the local community. The HIA was conducted in collaboration with a variety of local stakeholders, particularly those associated with the Airds Bradbury Community Reference Group (CRG). The CRG consists of the NSW Land And Housing Corporation (LAHC), Campbelltown City Council, Urban Growth, Family And Community Services (FACS) Housing Services, local schools, residents, and local churches. In addition, a representative from Tharawal Aboriginal community provided input into the HIA scoping and assessment steps. The HIA team consisted of representatives of NSW Land and Housing Corporation, (responsible for the management of the NSW Government's social housing portfolio), residents from the Airds and Bradbury suburbs, the Centre for Health Equity, Training Research and Evaluation (an academic research unit that is also a unit of the Local Health District) in collaboration with South West Sydney Local Health District Population Health Unit.

Although engaging community members in HIAs is standard good practice, evaluations of HIAs have found variation in levels of community engagement and community perspectives are often missing or limited to providing evidence in the identification stage (Haigh et al., 2015; Schuchter, Bhatia, Corburn, & Seto, 2014). This is similar to the consideration of equity in HIA, where equity is a core value and expected

to be considered all HIAs however in reality is often missed or superficially considered (Povall, Haigh, Abrahams, & Scott-Samuel, 2013). Similar to the Equity Focussed HIA approach developed in Australia (Simpson, Mahoney, Harris, Aldrich, & Stewart-Williams, 2005) we felt that it would be useful to adopt an HIA approach that was explicitly grounded in the community. In the community grounded approach, community members had ownership and power in the HIA process. In practical terms the HIA team explicitly considered at each step of the HIA how community perspectives were incorporated into the HIA. This had two main implications for how decisions were made during the HIA:

- The views of community members were prioritised when deciding on the areas of focus; and
- The views and experience of community members was given a high priority in the assessment stage of the HIA.

This grounded approach also influenced the process of the HIA:

- Community members were part of the HIA working group and therefore had power to influence the HIA processes and decision making throughout the HIA.
- Throughout the process opportunities were sought to engage community members.

Table 4 demonstrates how the community grounded approach influenced each step of the HIA process.

Despite having community members in the HIA working group, engaging the community actively in the HIA was still challenging. A key issue in the screening and scoping stage of the HIA was how the broader Airs Bradbury community would be engaged in the HIA. At the time that the HIA project group was

Table 4: Implications of community grounded approach for each step of the HIA

<i>Screening</i>	A key driver for deciding to carry out the HIA was the interest from community members in both an HIA being carried out and also being directly involved in the HIA
<i>Scoping</i>	The views of community members were prioritised when deciding on the areas of focus. Community members were part of the HIA working group and therefore had power to influence the HIA processes and decision making throughout the HIA.
<i>Identification</i>	As well as data from the community being included in the identification stage community members were also involved in deciding what data should be collected and were involved in collecting data from other community members (e.g. local school)
<i>Assessment</i>	Community members were involved in carrying out the assessment step. The views and experience of community members was given a high priority when identifying and describing priority impacts.
<i>Recommendations and decision making</i>	Community members as part of the working group identified an initial set of recommendations that were then validated and elaborated on by a wider community reference group.
<i>Evaluation and monitoring</i>	It is expected that community representatives will be involved in the ongoing monitoring of the recommendations.

formed, the estate redevelopment that the HIA would cover (Stage 3) was only in draft phase by redevelopment agencies, and had yet to be approved by Local Government and still to be tendered by the key developer Urban Growth. Further, as this estate redevelopment stage was only in a draft phase, this also effectively rendered the HIA itself a hypothetical exercise at the time of the HIA's undertaking.

However, there was substantial good faith within the CRG that redevelopment of the town centre area would eventually be made part of the overall redevelopment program for the Airds Bradbury estate. The CRG (which included community representatives) decided to limit consultation so as not to raise suggestions and confusion within the broader community that redevelopment of these key town centre areas had officially commenced.

The HIA process played a part in a collaborative exercise in identifying and addressing the needs of residents, Government agencies, community organisations, and Urban Growth as the key agency responsible for estate redevelopment. Through intensive dialogue with residents, the presence of a steering committee consisting of a variety of stakeholders attached to the Airds-Bradbury estate, and a redevelopment agency with commitment to participating within community groups such as the Airds Bradbury CRG, the HIA has proved to be a useful reference tool for each of these stakeholders. UG involvement in the HIA was a way to further demonstrate their commitment to community and potentially enhancing trust with all stakeholders to the estate.

As a document informing the decision making of the CRG during this current stage of redevelopment on the Airds-Bradbury estate, the HIA itself demonstrated the existence of locational disadvantage within the context of urban renewal. This was demonstrated through the HIA highlighting the importance of neighbourhood life to public housing residents, especially those residents that continue to live on the estate, or will return

to the estate after stages of redevelopment are completed.

Also of consideration was the influx of private residents to the estate through the social mix of privately and publicly-owned housing stock established within the redevelopment. This created a challenge for the HIA project team, in which the team needed to identify how overall health of public housing residents would be managed within this social mix component. This required the HIA project team to identify to what extent the redevelopment stage would identify local need, and from this propose a series of recommendations addressing the specific needs of public housing residents in the face of the pending redevelopment.

In the interest of ongoing community vitality within the Airds-Bradbury estate before and after redevelopment, planning for this redevelopment site would particularly need to consider the maintenance, and even improvement, of the community infrastructure found within this location. This was demonstrated in the HIA report through recommending the construction of outdoor exercising apparatus, creation of footpaths and walking tracks, the creation of a multipurpose centre allowing local infrastructure and facilities. Therefore an ongoing addressing of needs of both old and new residents, and the restoration of playing fields to reinvigorate organised sport within the suburb. Maintaining community vitality through redesigning the local landscape is within the scope of Urban Growth to manage.

There were a range of contextual factors that influenced the success of taking a community grounded approach. The CRG ensured the autonomy of the HIA project team and due to the sensitivity of the HIA project to the local community, the CRG maintained confidentiality of the project group during the formation and drafting of the HIA report. This provided a space for open discussions with key community stakeholders that would have been otherwise difficult given the sensitivity of the project. This did however place the

CRG in a position where it needed to be sensitive with how it would mention the activity of the HIA project group to residents, as the redevelopment of the part of the Airds Bradbury estate that the HIA would cover was yet to be made official by Urban Growth.

In this HIA, taking a community grounded approach was facilitated by the existence of collaborative bodies already attached to a redevelopment project. In the instance of the Airds-Bradbury estate, this was reflected through the existence of the CRG, a steering committee existing within the estate for several years and had a firm presence on the estate prior to estate redevelopment commencing.

Further to this was the implementation of the HIA being based upon draft plans of the redevelopment stage, rather than final plans, thus limiting the scope of the project team. This restricted the amount of engagement that the project team could have with the local community. As they were draft plans, the project team also needed to take into consideration that the plans may be subject to change, and so the team had concerns about the HIA raising false expectations for residents, and causing possible concern for activities that may or may not go ahead.

This was especially important when the team was required to make comment on the stage of the Airds-Bradbury redevelopment that the HIA was implemented toward, this stage being a substantial one as it incorporates the central area of Airds-Bradbury, where there will continue to be an ongoing traffic of cars and people before and after redevelopment is completed.

This is also a redevelopment stage where much of the central community infrastructure in Airds-Bradbury is located, which includes a substantial man-made water feature, a multipurpose centre currently owned by the NSW FACS, and commercial establishments such as a hotel pub and local shopping centre. It is an important stage of estate redevelopment in terms of maintaining

community harmony and identity, and so information relating to the draft plans needed to be handled sensitively by the project team when communicating to estate residents.

While urban redevelopment of social housing estates in NSW are no longer a new advent, the challenge toward addressing how redevelopment impacts current and future estate residents, and the incoming cohort of private residents, remains. As a community project, the creation of a HIA is especially beneficial towards identifying areas of locational disadvantage within urban renewal projects, and to document the views and needs of a community already having substantial engagement with the agencies responsible for urban renewal. The methodology applied by the HIA when creating this final report may have value for future HIAs within estates undergoing urban redevelopment. This HIA has undertaken a 'community grounded HIA', a report relying upon extensive consultation and documentation of residents, especially long-term residents, and respecting the pre-existing CRG as a central body for all stakeholders connected to the Airds Bradbury estate. The formation of a HIA project group was essentially a collaborative effort between Government agencies and residents, with the group also able to maintain regular contact with the CRG. Members of the project group also demonstrated a commitment to documenting the views of residents while remaining linked to the CRG.

The value that the HIA placed upon the stakeholders attached to the Airds Bradbury estate, and respect towards the collaborative local community bodies also in existence at the time of the HIA, primarily served to inform this 'community grounded' approach. Rather than prescribe or attempt to introduce alternative models toward improving community vitality in lieu of estate redevelopment, the HIA instead resolved to identify and respect previously established stakeholders of the Airds-Bradbury estate. Further, the HIA actively recognised the strengths and commitment that these stakeholders offered to the collaborative effort.

This ‘grounded HIA’ model can be applied within other contexts, and other social housing redevelopment programs in NSW, Australia and internationally. It serves as a methodology ensuring a documentation of not only how pending redevelopment can affect long term residents of an estate, but also suggesting recommendations for redevelopment that is informed through identifying the views, opinions and efforts of residents and other relevant stakeholders attached to the redevelopment.

Conclusion

The redevelopment of Airs Bradbury will impact current and future residents of these suburbs. Moreover, with specific reference to the areas of focus of this HIA, research has shown that a focused introduction of upgrades to existing greenspace has the potential to positively impact local communities. These types of facilities have the potential to considerably influence community members’ participation in sporting and recreational activities and in turn overall physical activity levels (Council, 2010; Health, 2009; Sport, 2016).

In this sense, while the HIA has formed recommendations on this current redevelopment stage of the

Airds-Bradbury estate, there will still be reliance upon the CRG to adhere to these recommendations, and ultimately Urban Growth to respect these recommendations as ones that have been previously sourced from estate residents. To this end it is unknown how effective these recommendations are until redevelopment on the estate is actually completed.

The HIA of this latest stage of the Airs-Bradbury estate redevelopment was a useful project to encourage further collaboration, dialogue and planning between redevelopment agencies, Local Government, and residents of the Airs Bradbury social housing estate. However, there remains uncertainty over whether the lessons of this project can be automatically applied to similar redevelopment programs on other estates in Australia. While the HIA was a useful tool in this instance toward consolidating previously-existing collaboration between residents and redevelopment agencies during estate urban renewal, the local context within other redevelopment programs would need to be identified and then integrated toward the overall ‘grounded approach’.

This collaboration extended to the writing of this paper which was a joint effort by all members of the HIA working group.

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BOOK REVIEW: RESOURCES KIT FOR HIA PRACTITIONERS: HIA FOR INDUSTRIAL PROJECTS

E. Westwood and M. Orenstein

The guidebook was published in October 2016 by Habitat Health Impact Consulting Corp with support from the Health Impact Project a collaboration with the Robert Wood Johnson Foundation and the Pew Charitable Trusts. The report is available from: <https://static1.squarespace.com/static/56c532fe4b079eaf38b7ed0/t/581100b15016e1a017835aff/1477509340274/Resource+Kit+HIA+Industrial+Projects.pdf>

Context of resource guide:

The need for the resources guide was identified by having 19 million US workers employed on industrial projects and the work generating 20% of the US gross output in 2014. Only 19 HIAs with a focus on industrial projects have been published by 2016, indicating an area for potential expansion of HIA work.

Summary of content:

The resource guide begins by defining the terms of industrial projects and industrial facilities. For the guidebook an industrial project must have a contained facility in a physical location, experiences or will experience a life cycle of building, operation and decommissioning; and product generation.

A Project Information Checklist is discussed in the third section that provides the HIA practitioner with information they may want to gather during the various phases of the industrial project. This includes a complete project description, labor force information, traffic and transportation, noise, environmental interactions, community interaction and engagement of municipal services and reviewing other technical studies.

In section four, links to industrial project activities and nine potential effects on human health are presented. This includes land acquisition, air emissions, water quantity and quality, traffic and transportation, noise, workers and employment, taxes and royalties, community investment and accidents and malfunctions. The text does note that additional factors may link health to a specific industrial project, such as waste management or project security.

Section five in the guide provides background information

on Human Health Risk Assessment (HHRA) which identifies human exposure to chemical substances and how this concept compliments the purpose of HIAs. HHRA specifically looks at risk from three factors which are from a hazard, a receptor and a pathway perspectives.

Section six reviews the Environmental Impact Assessment practice in the United States since the passage of the National Environmental Policy Act in 1969 and its relationship to HIAs.

The last section provides a framework for organizing the health effects. The section diagrams the health links tied to the project components, determinants of health and health outcomes.

The Appendices list additional resources for industrial HIAs and provides information on previous industries focused HIAs.

Analysis and evaluation of the resource guide:

The Project Information Checklist and potential health factors noted in section three were especially useful. Questions to consider for the nine key health impacts are also well defined in section four.

Conclusion:

The Resource Kit for HIA Practitioners: HIA for Industrial Projects from Habitat Impact Consulting is a very useful tool for HIA practitioners that are new to working in this sector. The resource guidebook has specific checklists and suggested content to use, as well as links to additional resources and previous industries focused HIAs. I would recommend it for new and experienced HIA practitioners.

Reviewed by: Cynthia Stone, DrPH, RN, CHIA Editor-in-Chief



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