



Measuring policy and related effects of a health impact assessment related to connectivity



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ABSTRACT

Health Impact Assessments are an important tool to help policymakers perceive the potential positive and negative contributions of decisions to public health. While they have been increasingly used in the United States, studies have not examined intermediate effects. Using key stakeholder interviews, this manuscript examines policy outcomes and other related effects of the HIA 21 months after completing a Health Impact Assessment Report around connectivity policy. Further, it reflects on the measurement of these effects as part of the monitoring and evaluation stage of the Health Impact Assessment process.

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1. Introduction

Consensus has grown in public health of the importance of practical research to inform public policy and change within communities (Brownson et al., 2006). Sufficient evidence has been catalogued that public health interventions can directly influence policymaker opinion through messaging and increasing awareness of an issue, helping create strong priorities around public health issues (Leyden et al., 2008; Stamatakis et al., 2010). Overtly integrating public health into the policy decision process through the use of Health Impact Assessments (HIAs) has also been influential in connecting public health issues with policymaker decision making (Cole and Fielding, 2007; Collins and Koplan, 2009).

Specifically defined, an HIA is “a combination of procedures, methods, and tools by which a policy, programme, or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population (Lehto and Ritsatakis, 1999). This process is designed to demonstrate to stakeholders and policymakers the potential health impact of policy decisions, even those which do not directly target health outcomes. HIAs may be conducted on environmental, transportation and built environment, energy, nutrition, or any other types of policy. The HIA process is designed to allow public health practitioners and researchers to work directly with decision makers at the earliest stages of the policy process. This allows a scientific consensus to be built around the potential project impacts on public health. A classic example would be studying the

potential impacts of locating a power plant near a residential area. HIA is designed to make these potential impacts one part of the formula which policymakers use in making their final decision (Cole and Fielding, 2007).

HIAs have shown traction around the United States, but it is difficult to find studies that present follow-up evaluation in the intermediate (one to two years) stage after an HIA to determine what policies actually were produced from the work. Scholars have drawn attention to the need to increase focus on the evaluation stage of HIAs (Kemmer, 2005; McCallum et al., 2015). The lack of evaluation exists for several reasons, one of which is that funding for HIAs generally lasts long enough to complete the assessment process but not necessarily long enough to evaluate intermediate outcomes. It should also be noted that evaluation is a formal stage of the HIA process, but still is rarely accomplished over a substantial longitudinal period (Rhodus et al., 2013)]. It is imperative, in order to best understand the HIA process and its potential for policy value, to examine policy outcomes in a more formal way. This study evaluates policy outcomes and other effects related to HIA and serve as a stepping stone for studies in other HIA settings.

1.1. Project background

The city of Fairmont, West Virginia has approximately 18,700 residents (United States Bureau of the Census, 2015). Fairmont was awarded a grant from the West Virginia Development Office, in collaboration with the West Virginia Bureau for Public Health and the Claude Worthington Benedum Foundation, to create a comprehensive bicycle and pedestrian connectivity plan (“Connectivity Plan”) as part of their “Growing Healthy Communities” grant mechanism (a mechanism intended to bridge health and economic development projects). A

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separate grant, from the Association of State and Territorial Health Officials (ASTHO) funded a rapid HIA to be conducted in parallel. The HIA investigated specific connectivity-related areas related to policy decisions including sidewalks, trail connections, perceptions of crime, etc. in order to give detailed information about the potential for each specific engineering recommendation's impact on public health. Each recommendation was neighborhood specific. The complete HIA report is available online at http://publichealth.hsc.wvu.edu/media/1456/fairmontconnectivityplanrapidhia_final.pdf. The HIA process including interaction with policymakers has been described in detail elsewhere (Bias et al., 2015), and summarized here.

The HIA was conducted in a collaborative fashion in conjunction with the Main Street Fairmont organization, public health officials, and the city planner's office. Main Street Fairmont convened a weekly citizens' stakeholder group that helped provide input into the HIA and facilitated dissemination of community surveys to solicit the bulk of public input into the HIA. As engineering recommendations were developed for the connectivity plan, they were ranked using community survey feedback, the citizens' stakeholder group, and existing public health literature to prioritize projects that would have a high impact on public health. The idea of connectivity is also related to reducing barriers that limit walking and cycling as a means of transportation. Connectivity can also include more than the physical environment. Studies have demonstrated concerns such as safety and crime, for example, can be a significant barrier to active transit in communities (Loukaitou-Sideris and Eck, 2007). The original HIA intended to capture broad feedback from the public around barriers to connectivity and more broadly, physical activity. These prioritizations were compiled into a separate HIA report and presented to the city planning commission and other policymakers and citizen groups. This paper examines short-term effects, including policy decisions related to a HIA conducted in Fairmont, WV. Based on discussion and interest of policymakers in Fairmont, the researchers expected the HIA report to have a direct impact on at least some projects in the years following its release. Because funding and other resources are common barriers to implementation of projects, even those supported by cities, it was not completely known what the potential impact of the report might be.

2. Method

In order to understand the impact of the HIA, the authors conducted in-person interviews with the Main Street Director and the City Planner 21 months subsequent to the adoption of the HIA and Connectivity Plan. The Main Street Director was directly involved in facilitating community input for the HIA during the process by hosting community meetings and disseminating a community survey instrument. The City Planner was the main contact between the researchers and the City of Fairmont. She provided technical details about the city planning process and facilitated meetings with the planning commission and city council.

The timeframe was selected by convenience and availability of policymakers. The interviews were open ended, but meant to probe the effects of HIA work on policies and other public work since the plans adoption. From these interviews, the authors compiled a list of community effects. Where gaps existed or further clarification was needed, email follow-up provided further information. The authors reviewed priorities from the original HIA report and then compared community effects (as described by the key informant interviews) since the adoption of the HIA and Connectivity Plan versus specific policy recommendations of the HIA.

3. Results

Table 1 presents high priority recommendations found in the HIA report and which have been addressed 21 months post-HIA adoption. Table 2 briefly describes each area of Fairmont for additional context.

In addition to the recommendations, interviewees felt two other future activities being considered by the city were directly influenced by the HIA:

- The city is considering the creation of a Pedestrian Safety Board to further investigate recommendations around safe active commuting.
- There are tentative plans to use the connectivity plan and HIA as the basis of an application for TIGER (Transportation Investment Generating Economic Recovery) funding.

There were also four recommendations in the HIA that the authors could not verify any tangible steps had been taken to address. These included:

- Enacting a Safe Routes to School program at Watson Elementary School
- Creating/developing a greenway in the Coal Run area
- West Side Neighborhood Connector
- Connecting Jayenne Elementary School to Country Club Road

4. Discussion

Seven of the eleven specific recommendations can be tracked to specific outcomes in just over a year and a half after adoption of the HIA report in Fairmont. These recommendations were directly written into the HIA report including street and intersection names that were addressed. Areas where implementation occurred were also identified as high priority areas with the most potential to impact health by the original assessment based on community input. Some activities, such as park improvements, may have been normal activities that would have taken place without the HIA. It is striking, however, that a relatively small city with a limited budget chose to expend its resources and

Table 1
HIA impact 21-months post-HIA adoption.

HIA priority recommendation	HIA impact
Address connectivity to the North Central Connector Trail	City park authority has partnered with the Northern WV Brownfields Assistance Center and River Town program and has begun work to establish new trail connections. Additionally, a "Friends of the Trail" collaboration was created between the city, non-profits and interested citizens to continue work on improving the trail.
Enact improvements to the Downtown Loop	A "walkable blocks" program has been developed. Through this program, the city has created art, painted crosswalks, sculpted bike racks, and "Share the Road Signage" to improve the downtown loop environment.
Locust Avenue sidewalks	The city included improvements to Locust Avenue infrastructure in a Tax Increment Financing (TIF) application. Additionally, Fairmont State University has developed improvements of the sidewalks along their property on Locust Avenue.
Connector to Country Club Road	Included in TIF application to improve connectivity around the intersection of Country Club Road and Locust Avenue
Address perceptions of crime	City police department has implemented community policing in certain neighborhoods.
Repair/improvements to local parks	The county park board (MCPARC) has put improvements into several local parks. Additionally a new playground was opened in June 2015 in East Marion Park.
Improving available activities and events downtown	Fairmont, WV has partnered with the <i>Try This WV</i> organization and held several events and activities related to physical activity and health promotion.

Conducted in March and April 2016 in Fairmont, WV.

Table 2
Descriptions of Fairmont areas.

Area	Brief description
North Central Connector Trail (NCCT)	The NCCT, currently under development, will connect the northern terminus of the 16 mile West Fork River Trail with neighborhoods on the West End of downtown Fairmont. This rail-trail gap through Fairmont, if completed, would connect at the north end of the city with the southern terminus of the 49 mile Monongahela River Trails system which extends to the PA/WV line to the north and to the east toward Maryland.
Downtown Loop	The Downtown Loop is the central business district of Fairmont, the county seat of Marion County.
Locust Avenue and Country Club Road	Locust Avenue (WV State Route 19) and Country Club Road (WV State Route 19 spur) are minor arterials within the City that carry roughly 17,000 vehicles per day traveling north/south. Fairmont State University is roughly one mile from the Downtown Loop via Locust Avenue.
East Marion Park	East Marion Park is a 32-acre park offering tennis, horseshoes, a basketball court, a softball field, hiking and jogging trails, pavilions, a playground, picnicking, mini golf, and a pool.
Watson Elementary School	Watson ES is a school that serves roughly 450 children PK-4th grade in the Watson neighborhood (most homes from 1970s–90s) south of the West Fork River that bisects the City of Fairmont that lacks pedestrian infrastructure.
Coal Run	A natural greenway connection linking Locust Ave and Fairmont State University to downtown Fairmont.
Jayenne Elementary School	Jayenne ES is a school that serves roughly 350 children PK-4th grade in the West Side neighborhood near Fairmont State University along the Locust Avenue corridor.

leverage outside resources to address specific streets, intersections, and recommendations of the HIA with many of its infrastructure building activities.

Only four of the eleven recommendations could not be traced to concrete changes at the local level. Additionally, future activities in the city are being planned and the HIA recommendations will influence the process. In addition to these concrete changes, there is evidence that new coalitions are being formed and developed around health and connectivity which may bear future policy successes. This evidence seems to indicate that a HIA had bearings not only on priorities of policymakers, but also played a factor in several tangible outcomes with potential to have a positive impact on community health. At the same time, it should be mentioned that the policy process, even at the local level but especially at higher levels, can be slow, incremental, and take place over a lengthy period of time. Additionally, resource limitations such as time and money can prevent quick changes, even when political willpower exists.

5. Conclusion

We find evidence of change based on the HIA report happened within the first 21 months post-report. At the same time, larger and more resource intensive infrastructure projects recommended by the report have been included within TIGER and TIF funding applications, indicating the political will to act on those as resources allow. The intermediate term results presented here demonstrate a need to look at outcomes across different types of HIAs one to two years after their completion. It is unknown from a single case study whether this type of impact is common across all HIAs or specific to this case. This stresses the importance of replicating impact studies in various geographic locations to understand the generalizability of results presented here. Even Fairmont's policy outcomes should be revisited in a longer-term follow-up (perhaps three years later) to see if even more recommendations from the HIA are adopted. Finally, this study does not address health outcomes as a result of HIA, as using secondary data to measure health requires data sources with significant lag and because many health outcomes may not be apparent for many years. While the public interventions presented here do have some grounding in public health

literature as beneficial (Renalds et al., 2010; Sallis et al., 2012), we do not measure health outcomes directly. Future studies around HIAs should measure changes in health from baseline to later stages. Additionally, future evaluation of HIA outcomes should examine if connectivity measures that were begun at this early stage continued to completion and potentially led to other projects.

Conflict of interest

None.

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