Health Impact Assessment as a Student Service Learning Experience

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Abstract

Health Impact Assessments (HIAs) incorporate a combination of tools, methods, and procedures to evaluate the potential health effects of a proposed program, project, or policy. The university public health department, in collaboration with the county health department and the local planning organization, developed a curriculum for a graduate-level HIA course. Students were instructed in the theoretical framework of HIA and then conducted a rapid assessment focusing on the health impact of expanded bus services.

The implementation of programs and policies, even in non-health areas, can be of great importance in determining population health (Kemm 2000). In fact, evidence suggests that health is shaped largely by factors outside the health sector such as poverty, employment, education, housing, and so on (Wismar et al. 2004). According to the frequently cited socio-ecological model, health is the result of the interaction between individual and environmental factors and is affected by the following five determinants: biological factors; individual lifestyle factors; social and community networks; living and working conditions; and general socioeconomic, cultural, and environmental conditions (Dahlgren and Whitehead 1991, 2006).

To maximize health benefits and minimize adverse outcomes, a systematic assessment of potential health impacts can be useful to inform decision-makers and guide policy development. Health impact assessment (HIA) is such a structured methodology that aids in the identification, prediction, and evaluation of negative and positive health outcomes in a target population (Kemm 2000; Kemm, Parry, and Palmer 2004; Wismar et al. 2004; Cole et al. 2005). Even though HIAs have been advocated by international organizations, such as the World Health Organization and World Bank, and have been conducted successfully in various countries, the United States has been somewhat slow in adopting these methodologies (Cole et al. 2005; Committee on Health Impact Assessment and National Research Council 2011). According to a study, only twenty-seven HIAs had been completed between 1999 and 2007 (Dannenberg et al. 2008). However, utilization of HIAs has been increasing in the United States in recent years, driven by a growing recognition that program, project, and policy decisions can impact greatly the public's health (Dannenberg et al. 2008).

The National Research Council (NRC) on Health Impact Assessment, which was funded by the Robert Wood Johnson Foundation, the National Institute of Environmental Health Sciences, the California Endowment, and the Centers for Disease Control and Prevention, recently issued a report that encourages the use of HIAs for non-healthcare federal, state, and local policy decision-makers and those in

private sectors. The report provides information on how to conduct an HIA and recommends that HIA methods be used when building a new transit system, when planning for agriculture expansion, when deciding where to build a new school, and when planning for a growing city. NRC was joined in promoting HIAs in the past year by the National Prevention, Health Promotion and Public Health Council; the Institute of Medicine committee on Public Health Strategies to Improve Health; the U.S. Department of Health and Human Services Action Plan on Disparities; and the White House Childhood Obesity Task Force Action Plan (Committee on Health Impact Assessment and National Research Council 2011).

Thus far, to our knowledge, no official HIA has been conducted in the state of Indiana. To address this gap, representatives from the Marion County Public Health Department (MCPHD) contacted the Center for Health Policy (CHP) at the Department of Public Health (DPH), Indiana University School of Medicine, for a potential HIA collaboration. Workforce development is an important aspect in building HIA capacity, and the development of training materials such as academic courses, workshops, and distance-learning modules has been identified as a high priority (Dannenberg et al. 2006). Hence, CHP together with faculty from DPH suggested developing a graduate-level HIA course with a service-learning component. In this course, students would learn the theoretical background of HIA and gain practical experience by conducting this type of assessment on Marion County's proposed IndyGo bus expansion plan.

What Is Health Impact Assessment?

HIA has been most commonly defined as "a combination of procedures, methods and tools by which a policy, program, 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" (Wismar et al. 2004; Cole et al. 2005). It is a multidisciplinary process that utilizes a variety of quantitative and qualitative methods to predict future consequences prior to implementation of a proposed program or policy (Lock 2000; Kemm, Parry, and Palmer 2004; Wismar et al. 2004). HIA incorporates a holistic approach, defining health not only by its biophysical effects, but in a broader social, economic, and environmental context. An important focus of HIA is health equity, that is, the distribution of health impacts within a population (Bhatia and Wernham 2009).

Implementation of any proposal can have unintended and unanticipated positive and negative health outcomes. The purpose of HIA is to influence decision-makers to make choices that lead to improved population health or, at the very least, minimize any potential harm (Kemm, Parry, and Palmer 2004). The timing of such assessments is crucial. Sometimes people distinguish between prospective (undertaken before implementation of the proposal), concurrent (undertaken during proposal implementation), and retrospective (undertaken after proposal implementation) HIA (Birley 2011). However, in order to predict future consequences and affect the decision-making process, which are the primary objectives of HIA, this type of assessment needs to be conducted prospectively (Kemm, Parry, and Palmer 2004).

HIA has been considered in many ways similar to environmental impact assessment (EIA) (Centers for Disease Control and Prevention 2011). In 1970, the U.S. Congress enacted the National Environmental Policy Act (NEPA) to ensure environmental protection in the plans and decisions made by the federal government. The act requires federal agencies to consider the potential impacts of a proposed plan or policy on the environment. The purposes of NEPA are "to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality" (National Environmental Policy Act 1969). Though NEPA recognizes the interdependence of environmental quality and human health, the consideration of health within EIA so far has been focused narrowly on toxic exposures (Bhatia and Wernham 2009). However, EIA potentially can serve as an effective tool in integrating health objectives into a wide range of policy decisions (Bhatia and Wernham 2009).

The applications of HIA are broad, and various methods can be used to assess impacts. The level or length of an HIA can vary depending on time constraints and available resources. Rapid and desktop HIAs are the quickest and may be completed in only a few days or weeks, while full or comprehensive HIAs require a substantially longer timeframe (Centers for Disease Control and Prevention 2011). Typically, an HIA, regardless of length, contains the following basic steps (Bhatia et al. 2011):

1. Screening

    - Determine feasibility of conducting HIA. (Is it timely? Are resources available? Would it be beneficial?)

2. Scoping

    - Develop a work plan. (Identify health determinants, priority issues, target population, key stakeholders, and community partners; create timeline; identify research questions and methodologies.)

3. Assessment

    - Assess existing (baseline) conditions within target population.

    - Evaluate potential health impacts of proposed project.

4. Recommendations

    - Develop recommendations, based on the assessment, to maximize positive and/or minimize negative health impacts.

5. Reporting

    - Compile findings into a report.

    - Disseminate results to decision-makers, stakeholders, and target population.

6. Monitoring/evaluation

    - Monitor impact of HIA on the decision-making process. (Did decision-makers consider/implement recommendations?)

    - Evaluate impact of implemented project on health determinants of target population.

During the screening step, stakeholders and key decision-makers ideally come together to decide whether an HIA is needed, the value of doing the HIA, and its feasibility. This includes questions such as, "are there sufficient resources, time, and expertise to do the project within the timeframe of the decision-making process?" The scoping step determines the health impacts that will be evaluated and the methods that will be used for the analysis, resulting in a work plan. The assessment step is used to collect data. Existing information helps establish a baseline of the health conditions before the program or policy is implemented. This step can include primary data collection; for example, conducting key informant interviews and focus groups, as well as collecting survey data. Ideally, projections are made to anticipate the magnitude of potential positive or negative effects. Recommendations, based on literature reviews and results from the assessment, are offered to show what can be done to prevent potential adverse effects and enhance potential positive health impacts. Reporting of findings includes providing oral or written reports on the assessment and recommendations to the stakeholders and decision-makers. Monitoring and evaluation involves assessing whether the HIA recommendations were utilized and how health was impacted (Bhatia et al. 2011).

Course Development and Implementation

Representatives from the Marion County Public Health Department (MCPHD) contacted the Center for Health Policy (CHP) at the Department of Public Health (DPH), Indiana University School of Medicine, for a potential HIA collaboration. MCPHD was interested in conducting an assessment on the potential health impacts of the IndyConnect initiative, that is, the proposed long-range transportation plan for Central Indiana. The plan includes several different types of transportation (from buses to rail to roadways, and bike and pedestrian walkways) to serve residents in Marion and surrounding counties (IndyConnect n.d.). In response to the request, CHP, together with faculty from DPH, suggested creating a graduate level HIA course, in which students not only would learn the theoretical components of the methodology, but also would have the opportunity to gain hands-on experience by conducting an assessment.

DPH/CHP faculty and staff met with community partners, MCPHD, and the Indianapolis Metropolitan Planning Organization (IMPO) to discuss the details. The collaborative workgroup narrowed down the HIA focus to address only the proposed bus expansion plan in Marion County, to make the project more manageable for the students. IMPO had completed a Household Transportation Survey and an On-board Passenger Survey to assess travel behavior (Indianapolis Metropolitan Planning Organization 2009). The Passenger Survey included demographics on household residents and a twenty-four-hour diary of activity and travel for all household members. IMPO staff members agreed to provide the survey information and findings to the students and meet with them to discuss and answer questions. The chronic disease manager from MCPHD and an agency epidemiologist were instrumental in bringing the collaborative workgroup together. They also provided contacts to various HIA speakers in the nation and assisted in securing guest speakers for the course. MCPHD had completed surveys on various health topics in the past few years. This included information about diabetes, obesity, and physical activity. Staff members at MCPHD also were willing to meet with students to review the data and discuss education and health promotion programs initiated in response to the data (Gibson et al. 2005).

The goal of the course was to introduce students to the theoretical and practical aspects of HIA as a methodological tool in public health. The curriculum was designed to contain a pedagogical and a service learning component. During the first half of the course, students were informed about HIA rationale, framework, and methods; exposed to a wide variety of guest speakers within the field of HIA and public transportation and planning; and introduced to international and national case studies. The second part of the course provided students the opportunity to conduct a rapid HIA on the proposed bus expansion project in Marion County.

Students' first assignment was to complete the *Planning for Healthy Places with Health Impact Assessment* online course from the American Planning Association and National Association of County and City Health Officials, funded by a grant from the Centers for Disease Control and Prevention. This online program introduces the concept of HIA, the various approaches to HIA, and the individual steps in the HIA process (American Planning Association and National Association of County & City Health Officials n.d.).

To give students a comprehensive perspective on potential HIA topics and utilization of the methodology and to make them more familiar with public transportation in general and the IndyConnect plan specifically, a variety of guest speakers presented during the semester. These included the following:

- APHA webinar series on "what healthy communities need from their transportation networks" (American Public Health Association n.d.)

- Review of HIA conducted on "the impact of light rail on physical activity and BMI: The case of the Charlotte South Line" by a guest speaker from Drexel University

- Presentation on the Humboldt County, California, HIA Project, by its Project Director from the Human Impact Organization

- Presentation on the built environment and its effects on health by the Executive Director of Health by Design, a local health promotion coalition

- Review of Central Indiana's Transportation Initiative (IndyConnect plan) by the President and CEO of IndyGo

- Introduction of MPO (its responsibilities, data collection efforts, and travel demand modeling) by the Assistant Director of the Indianapolis MPO

- Discussion on transit policy in Indiana by the Executive Director of the Central Indiana Regional Transportation Authority

- Introduction to the Social Assets and Vulnerabilities Indicators (SAVI) data system (SAVI is a dynamic GIS-based community information system that allowed students to geomap local data for Marion County and surrounding areas) by representatives from the Polis Center at Indiana University-Purdue University Indianapolis

- Presentation on cost-effectiveness analysis and its application in assessments by an Assistant Professor from the Department of Public Health, Indiana University School of Medicine

The curriculum's learning objectives stated that by the end of the semester, students would be able to demonstrate the following outcomes:

1. Describe the purpose, benefits, and challenges of an HIA;

2. Develop an in-depth understanding of the process and analytic methods used in the assessment;

3. Collaborate effectively with others in completing an HIA; and

4. Demonstrate the ability to think critically and analyze how the findings relate to policy decisions.

Student performance was graded based on class participation (15 percent), draft of an HIA mini proposal (20 percent), oral case study presentation (15 percent), final group paper (30 percent), final group presentation (15 percent), and a peer group evaluation (5 percent).

Service Learning Component: Students' Assessment of Health Impacts

Since conducting the HIA was part of the course requirement and the proposal under investigation (expansion of bus services in Marion County) was given to them, students did not need to determine feasibility of the assessment, and therefore, were able to omit the first step (screening). During the scoping phase, three health determinants were identified (physical activity, obesity, and diabetes) for which the impact of the proposed new bus routes was to be measured. Students divided into three groups; each group was responsible for assessing the proposal's impact on one of the identified health determinants for residents in Marion County. The students followed the same basic procedures for the assessment:

1. Literature review

   Each group conducted a comprehensive literature review on the association between their selected health determinant and public transportation. This was important to establish the connection between access to bus services and physical activity, obesity, and diabetes. Based on the review, students developed pathway diagrams to depict the underlying nature of the relationship.

2. Data collection

   Students collected primary and secondary data to establish the current status on physical activity, obesity, and diabetes in Marion County. Each group conducted at least three key informant interviews. The physical activity group talked to individuals from the MPO; individuals at Health by Design, a local coalition focusing on improving the community through the built environment; and three bus riders. The obesity group met with employees from the Marion County Public Health Department and MPO staff. The diabetes group interviewed a nurse, diabetes health educator, and other staff from the Marion County Public Health Department.

   Secondary data were available publically from our community partners and from state and federal agencies including sources such as the U.S. Census (U.S. Census Bureau n.d.), Behavioral Risk Factor and Surveillance System (BRFSS) (Centers for Disease Control and Prevention n.d.), Marion County adult obesity needs assessment (Gibson et al. 2005), and the on-board passenger survey (Indianapolis Metropolitan Planning Organization 2009).

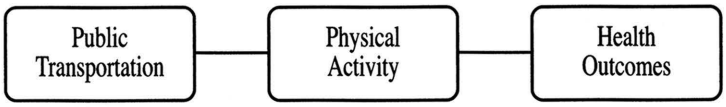
3. Recommendations

   Based on the literature review and data collection, each group presented their recommendations regarding the proposal to expand bus services in Marion County. Information from the key informants was especially helpful in writing the recommendations section of the report.

All processes of the assessments, including results and recommendations, were compiled into final written reports, and each group orally presented their findings. In addition to receiving copies of the reports, all community partners and guest speakers were invited to attend the students' presentations. The next section describes the students' key findings.

Students' Key Findings on Physical Activity

Literature Review



The literature suggests that use of public transportation increases the level of physical activity, which subsequently can lead to improved health outcomes including lower incidence of heart disease and diabetes, decreased risk of cancer and depression, and improved bone health (U.S. Department of Health and Human Services n.d.). Furthermore, those health benefits have not only been identified at the individual level but also at the communal level; that is, access to active transportation decreases health disparities in physical activity within the community (Sallis et al. 2004).

Data Collection

In 2009, nearly half (48.4 percent) of all adults in Marion County reported meeting the CDC's minimum recommended level of physical activity (Centers for Disease Control and Prevention 2008). Generally, adults with lower BMI were more physically active than those with a higher BMI. Also, the level of physical activity tended to decrease with age. More than 80 percent of Marion County residents reported having a safe, convenient, and affordable place to exercise in their community; however, this percentage declined as household income decreased. Between one-third and one-half of adults in Marion County reported walking at least weekly in their neighborhood for exercise (Gibson et al. 2005).

Recommendations

Students identified the following recommendations:

- Expand existing bus services, including connections/routes, frequency, capacity, and timeliness of services.
- Enhance the built environment to maximize physical activity of the community.
- Develop more complete streets in the region.

- Increase the number of bike lanes to transit stops to promote 'bike and ride' initiatives.
- Increase *Safe Routes to Schools* funding to encourage children walking to school.
- Promote public policies to improve safety around bus stops and routes.
- Accommodate mothers with children.
- Enforce no-smoking policies.

Students' Key Findings on Obesity

Literature Review

The use of public transportation has been linked to decreased levels of obesity, mediated by increasing physical activity (MacDonald et al. 2010) and providing access to healthy foods (Morland, Diez Roux, and Wing 2006). Obesity has significant public health implications, suggesting that higher incidence of obesity levels is associated with hypertension, dyslipidemia, type 2 diabetes, heart disease, osteoarthritis, some cancers, complications during pregnancy, and premature death (U.S. Department of Health and Human Services n.d.).

Data Collection

In 2005, over one-third (35 percent) of adults in Marion County were overweight and about one-fourth (26 percent) were obese. Obesity rates were highest for black adults (especially females), adults in lower income groups, and adults who did not graduate from college (Gibson et al. 2005). Obesity also had an economic impact on the community, contributing an estimated $1.6 billion to medical expenditures statewide (Finkelstein, Fiebelkorn, and Wang 2004).

Recommendations

Students identified the following recommendations:

- Expand existing bus services.

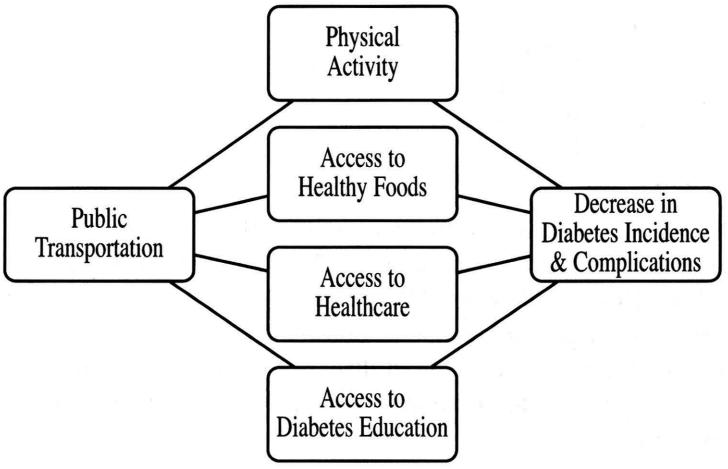
- Provide easy access to service information (e.g., toll-free phone numbers, web access, smart phone applications).

- Emphasize the healthy food connection by
  a) Providing maps and brochures that contain information on grocery stores and restaurants with healthy food options along the bus routes.
  b) Offering incentives for riders to buy healthy foods (e.g., discount on healthy foods with bus ticket or discount on bus ticket with purchase of healthy foods).

- Employ a marketing campaign to attract new/additional ridership.

Students' Key Findings on Diabetes

Literature Review



Use of public transportation may decrease diabetes incidence and negative consequences of the disease by increasing physical activity, improving access to healthy foods, and increasing access to healthcare services and diabetes education. Diabetes is a serious public health concern and has been associated with an increased risk of heart disease, kidney failure, lower limb amputations, adult-onset blindness, and lower life expectancy of up to fifteen years (U.S. Department of Health and Human Services n.d.). For many years, exercise, along with diet and medication, has been considered a cornerstone of diabetes management (Sigal et al. 2006). Studies show that increased physical activity can be effective in preventing diabetes, particularly in persons at the highest risk for the disease (Helmrich et al. 1991).

Data Collection

The prevalence rate of diabetes among adults in Marion County has increased substantially from 6.1 percent in 2000 to 10.0 percent in 2008 (Fleming-Moran 2010). The condition was responsible for 1,400 hospital admissions and thirty-six lower limb amputations, and the death rate due to diabetes was 15.1 per 100,000 residents (Fleming-Moran 2010). In 2006, the economic costs of diabetes (including medical costs and lost productivity) were an estimated $375 million in Marion County (American Diabetes Association n.d.).

Recommendations

Students identified the following recommendations:

- Expand existing bus services.
- Increase ridership with incentives such as free bus passes or reduced rates.
- Reduce stigma associated with public transportation.
- Improve access to healthy food options by
  a) Encouraging the development of full-service grocery stores, produce or farmers' markets, and restaurants with healthy food choices.
  b) Adding additional bus stops close to these venues.
- Increase awareness of diabetes and how it can be impacted by public transportation.

Student Evaluation of HIA Course

The course H515 was offered for the first time during the spring 2010 semester. Thirteen graduate students completed the class, of which 11 students were enrolled in the master of public health (MPH) program, one student in the master of health administration (MHA) program, and one student was obtaining her graduate public health certificate. Most students indicated that they had at least some statistics experiences and were familiar with basic statistical concepts.

Since this was a newly-developed course, we conducted two evaluations to get a better understanding of how students felt about the class. Students completed the first evaluation about eight weeks into the semester and the second evaluation at the end of the semester. The majority of students provided positive comments and rated the course highly (see Table 1). The most common comments we received included the following:

- Enjoyed interaction with community organizations
- Enjoyed application to real-life issues/real-life examples

- Hands-on approach
- Outstanding guest speakers
- New innovative course/introduction to a new field
- Variety of resources and instruction methods

Table 1. Midterm and Final Student Evaluations for H515

	Midterm Evaluation	Final Evaluation
I would rate this course outstanding.	66.7% agreed 33.3% undecided	92.0% agreed or strongly agreed 8.0% undecided
The course helped me gain useful knowledge and/or skills.	83.3% agreed or strongly agreed 16.7% undecided	100.0% agreed or strongly agreed
The course stimulated me to learn more about the subject matter.	91.7% agreed or strongly agreed 8.3% undecided	92.0% agreed or strongly agreed 8.0% undecided
I have benefited from taking this course.	91.7% agreed or strongly agreed 8.3% undecided	92.0% agreed or strongly agreed 8.0% undecided

Community Partner Evaluation of HIA Course

Community partners from the MCPHD, MPO, and Health by Design were surveyed to provide feedback and rate the course. We received a total of three out of four possible responses. The community partners strongly agreed or agreed that the course described the purpose, benefits, and challenges of an HIA. They also agreed that the students developed an in-depth understanding of the HIA process. They strongly agreed or agreed that the students collaborated effectively with them or their agency in completing the HIA. They strongly agreed or agreed that the students could demonstrate the ability to think critically and analyze the findings. They were neutral or strongly agreed that the students examined the potential health impact on policy proposals in Indiana. They strongly agreed or replied "not applicable" regarding whether the course met their agency's need to train workforce in HIA methodology (see Table 2).

Table 2. Community Partner Survey

Question n=3	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	NA
The HIA course describes the purpose, benefits, and challenges of an HIA.				1	2	
The students developed an in-depth understanding of the HIA process.				2		1
Students collaborated effectively with me/my agency in completing the HIA.				1	2	
Students were able to demonstrate the ability to think critically and analyze how the findings relate to policy decisions.				2	1	
Students examined the potential health impact on policy proposals in Indiana.			2		1	
The HIA course met my/my agency's need for workforce trained in the HIA process.					1	2

Specific comments from our community partners suggested reordering some of the content and speakers. They recommended that the next course should continue to build on information about the impact of transportation decisions on health. Another recommendation was to provide access to data sources sooner in the course and to walk the students through methodological exercises as a class activity. In addition, one community partner wrote, "We have a critical need for this type of training and skills development among our public health students/workforce, and you are truly advancing the discipline in Indiana."

Faculty Evaluation of HIA Course

Faculty also evaluated the course, integrating student and community partner feedback. Changes for the next course offering will include more specific content and evaluation of the service learning experience. This will incorporate a pre- and post-measure of civic engagement, using the new campus graduate-level competencies. The pre- and post-tests will measure language skills; quantitative skills; critical thinking; integration and application of knowledge; intellectual depth, breadth, and adaptiveness; and values and ethics. Each section has two to four questions. The format will use a Likert-type scale, ranging from "no growth" to "a great deal of growth." The pre- and post-assessment will provide baseline levels and reflect changes in the aforementioned skill levels by the end of the course.

A reflective activity also will be added to the course. The reflection will be written after students conduct the key informant interviews and/or focus groups. The activity will require students to describe their experiences in the class, what they learned, and if they had all their questions answered. Students will also write about how the service learning component related to the overall learning objectives of the course; that is, how the experience provided academic knowledge, knowledge about volunteering and the nonprofit sector, knowledge of social and communication skills, diversity skills, and self-efficacy. Additionally, there will be changes in the planned speakers and the SAVI computer training will be scheduled earlier in the course. We will continue to focus on transportation issues, but more on bicycling and pedestrian walking. More emphasis will be placed on predicting the impact of the proposed policy or program on the health of a more defined community.

Benefits to the Community and Next Steps

The community of public health professionals has benefited from this course in several ways. The Department of Public Health at Indiana University School of Medicine is one of very few universities in the United States currently offering an academic HIA course. By providing this service, we are not only increasing awareness of this tool within the community, but also training the next generation of public health professionals in HIA methodology.

The collaboration between the university and community partners has been proven valuable for both sides. Our students have benefitted from working with these agencies and organizations, gaining real-life experiences. In return, our community partners were able to have input in the HIA course design (during the development phase) and also profited from the students' assessments, since the findings were made available to our partners.

The Department of Public Health together with the Center for Health Policy is engaged actively in disseminating the gained knowledge. We presented information on HIA and this course at various venues including Indiana's celebration of National Public Health week in April 2011; Indiana State Department of Health's public health

nurse conference in May 2011; Coalition of Urban and Metropolitan Universities conference in October 2011; and American Public Health Association conference in October 2011. Furthermore, results of the students' assessment of health impacts from the proposed expansion of bus services in Marion County will be published electronically in an issue brief format on the center's website.

Next steps will include a revision of the course for the spring 2012 semester. A student learning graduate assistant was secured through a campus grant to assist with the additional service learning activities. The student assistant is helping with the development of a pre- and post-measure of the service learning and graduate competencies as well as the reflection activity. The faculty teaching the course also will have access to iPads for the class through a faculty learning community grant. At least four class sessions will include using the iPads to evaluate the advantages and disadvantages of using mobile technology in the classroom.

Conclusion

HIAs have the potential to enhance good data-driven decision-making and mitigate unintended negative effects on the health of communities. The use of HIA methodology is increasing in the United States, but more public health professionals and planners in general need to be made aware of this approach. The Robert Wood Johnson Foundation and the Human Impact Project (HIP) are working together to fund more communities and organizations conducting HIAs; they also provide a data repository of completed assessments (Human Impact Partners n.d.). As the results of HIAs conducted in the United States are reported in the literature, they can provide comparison data for other communities.

The first HIA course at the Department of Public Health, Indiana University School of Medicine was successful, based on student, community partner, and faculty evaluations. Students reported gaining new knowledge and skills in learning about the HIA methodology. They were able to apply the HIA methodology to a service learning project that evaluated the potential impact of expanding the bus service on the physical activity, obesity, and diabetes levels in Marion County. Data and recommendations from the service learning project were shared with the community partners and will be available for others through the web posting of the written report.

The students examined the potential impact of the expansion of the bus routes in Marion County, Indiana, on physical activity, obesity, and diabetes. There is some potential confounding of effect as these three health determinants are interrelated. The students developed pathways to illustrate the relationship between the proposed bus plan, the health determinant, and the outcome of better health in Marion County residents who would use the bus.

The concept of service learning will be expanded in the next HIA class. Students will participate in a pre- and post-measure of civic engagement for graduate students. They will have a reading assignment and a lecture specifically about service learning.

Students also will participate in a reflection about their experience working with the community by conducting the key informant interviews or convening a community focus group.

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