

Insights from the classroom: Student fieldwork contributions to NYC public health

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Summary: A novel approach to expanding student training in graduate masters of public health is to incorporate ethnographic methodological training, both observation and fieldwork, into courses teaching students about structural and environmental factors impacting on health outcomes. One such course is offered at the Mailman School of Public Health, Columbia University, where a course entitled 'Structural Approaches in Global Health' has both extended students' prior methodological training, while also harnessing students' insightful observations from their fieldwork and analysis of the New York City public health landscape.

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Introduction

An essential overlooked potential of qualitative methodological training is the engagement of students in sustained observational fieldwork projects focusing on the structural and environmental factors contributing to priority public health challenges within an urban setting. There is a growing appreciation within public health research, practice and policy for exploring aspects of the environment (broadly defined) that enable unhealthy or healthy behaviors among a given population, and ultimately impact on morbidity and mortality (Blankenship et al, 2006; Farley and Cohen, 2005; Sweat and Denison, 1995). In New York City, public health leadership has provided an exemplary model for addressing such structural and environmental factors, combining research with the conduct of intervention trials and public health policy to address existing health challenges. Examples include the successful ban on tobacco smoking in bar establishments, combined with increasing the tax on cigarettes and a public media campaign (Frieden et al, 2005; Farley, 2009); and the more recent effort to tackle the obesity epidemic, requiring calorie postings in restaurants, and media campaigns showing the sizeable amounts of sugar included in soda and daily caloric intakes (Farley, 2009). As New York City and other like-minded cities move forward in their structural approaches to improving urban population health, engaging public health graduate students in extended fieldwork that will enrich our understanding of key aspects of the social and physical environment that may be impacting on healthy (or unhealthy) lifestyles is an important and underused methodology. This article will describe one such effort, the conduct of ethnographic observation by graduate students within selected New York City neighborhoods, triangulated with New York City Department of Health and other relevant data, in order to produce end of semester presentations on key aspects of the environment that may be enabling unhealthy (or healthy) behaviors and that should be prioritized for further research and intervention.

Background to class project

The course 'Structural Approaches in Global Health,' taught as an elective within the Department of Sociomedical Sciences at the Mailman School of Public Health, has been the context for engaging with graduate students intent on applying their methodological training to better understanding the priority health risks within New York City. The course provides the students with an overarching background and history of the application of structural approaches in public health, and the ways in which the public health field has been moving away from a sole focus on individual behavior change. The course subsequently requires students to engage in a semester long fieldwork project within a particular New York City neighborhood, triangulating their fieldwork observations with the existing social, health and other demographic data sources on various health priorities for the city. The students then synthesize their observations and analysis of the existing and observed data through the development of a final end of semester presentation. The most effective presentations are forwarded to the Commissioner of Health for New York City, in an effort to share students' fieldwork-grounded insights into the on-going public health challenges facing the Department of Health and Mental Hygiene (DOHMH) across the city.

The Department of Sociomedical Sciences has a rich history of applying social theory to public health challenges both domestically and globally, and provides an important home to this methodological approach. The course was initiated in the spring semester of 2010, and was offered a second time in 2011. While the majority of the enrolled Masters students are pursuing a Masters of Public Health (MPH) degree at the Mailman School, each year there have been a small number of students from elsewhere in the Columbia University system, including dual degree students from the School of International Studies (SIPA), the School of Social Work, and Teacher's College. The inclusion of non-MPH students has added to the quality and breadth of the fieldwork projects and presentations, given the importance of interdisciplinary approaches when addressing structural and environmental factors within an urban setting. The context for the fieldwork is all of New York City, including the boroughs, and even the countries of origins of selected populations within the city when particular immigrant communities have been selected as the focus of the students' field sites.

Methodology of fieldwork projects

The methodology and approach for the fieldwork project includes training in ethnographic observation methods, field entry and reflection, in-depth fieldwork, and analysis and presentation. Although the course is not designed as a methods course per se, the students are provided background and training in research methods derived from well-known qualitative and ethnographic research textbooks and experts in the field (Denzin and Lincoln 2011; Emerson, Fretz and Shaw 1995; Bernard 2005). First, the students spend the first three weeks of class learning about the methodology of ethnographic observation, including the ethics of engaging in fieldwork practice, particularly among potentially vulnerable populations. Understanding the importance of ethical behavior within the field research is a critical component of the training, along with the students' appropriate conduct within the research settings, and their safety as they engage in the fieldwork. The students spend additional time discussing their positionality, and the importance of reflexivity while engaging in field observation, fieldnote writing, and interpretation of observations. Additional training focuses on how and when to engage in informal conversations within the selected sites, including how to honestly explain their student project prior to engaging in conversations. Given how important it is that students feel comfortable prior to commencing the actual fieldwork and while conducting it, additional time is built into classes throughout the semester, to reflect on the field entry and on-going fieldwork experiences, and to discuss as a group challenges that have been encountered during the observation, and brainstorming on different approaches to handling more difficult fieldwork situations.

Second, the students are asked to partner up (or assigned partners) and together, analyze the existing DOHM data and other relevant sources to assist them in selecting a priority public health challenge within a given neighborhood in New York City and its boroughs (a 10x10 block area is selected for a field site). The professor is available for consultation about the proposed topic and site, with assistance sometimes needed to focus down the topic and brainstorm on additional potential sources of data on the public health challenge and/or community and area to be observed.

Third, the students embark on their fieldwork, with the first visit conducted together (with their partners), to clarify where the

observation will occur, and to assure the students feel safe engaging in the remaining weeks of observation on their own. The assignment guidance recommends the students conduct 3-4 additional visits alone (over different times of the day, and different days of the week) in the field sites, given the improved observation that can occur when not distracted by a partner. Students practice conducting observations without taking notes in public, and finding ways to assist themselves in recalling key observations for the subsequent writing of fieldnotes. Each student is encouraged to spend twice the amount of time typing up fieldnotes (Emerson, Fretz and Shaw, 1995) as they spend observing in the sites. As the students are not all training in anthropological ethnographic methods, conveying the importance of fieldnotes takes significant effort and convincing. Once during the semester the students turn in their fieldnotes for feedback from the professor, and once during the semester they share their fieldnotes in class with a partner (not their site partner), spending class time reading and commenting on each others' notes, and providing ideas and suggestions for future site visits.

Finally, the students work together with their partners to triangulate the literature search and data sources on their priority health challenge in the New York City context, combined with their analysis of their fieldwork observations, and put together a presentation summarizing their findings and making recommendations for structural and environmental interventions and/or additional research that is needed on the health challenge in the particular neighborhood or context. Each group is given a strict fifteen minutes to present, with guidance provided on what to include (background, findings, and recommendations) in the final presentation. The presentations are all delivered on the final day of class for the semester, with five minutes allotted for question and answer from their class colleagues after each presentation. The top presentations (graded on quality of observations and content, inclusion of existing data, and creativity of recommendations) are forwarded on to the Commissioner of Health of the New York DOHM.

Examples of selected topics and neighborhoods

Over the two years that the course has been taught, the students have selected a range of priority health problems, populations, and

neighborhoods as the focus of their fieldwork and final presentations. Illustratively, these have included an exploration of the high rates of heart disease among the Chinese population of New York City, with an initial field site exploring the potential chronic disease risk factors in Chinatown; an exploration of high pollution and unhealthy air quality levels in midtown Manhattan, with a field site close to Times Square; an exploration of LGBT and sexuality rights with a focus on the population utilizing the West Village LGBT Center; an exploration of the food availability and its impact on nutritional intake (obesity and chronic disease) from the population living between 110th to 120th Streets from Broadway across to Fifth Avenue; an exploration of low birthweight infants in little Senegal in Harlem; and an exploration of hookah use (and smoking rates and behaviors) in Bay Ridge, Queens. Although many other excellent health priorities and neighborhoods were selected, the mentioned examples provide a sense of the breadth of the students' interests and the scope of the New York City health challenges that have been explored to date.

Key findings from student presentations

The student fieldwork efforts, in tandem with their review of the existing health priority data, and any evidence that is available on the social, cultural, economic, historical and political contexts in which the selected populations reside within New York City, have proved to be very effective in identifying critical insights that might shape future intervention and/or guide research approaches. The results include not only the important neighborhood structural factors that may be shaping health-related behavior, but also the reach of existing DOHM interventions. Selected illustrative results will be described here.

Cardiovascular disease and Chinatown

A pair of students delved into cardiovascular disease (CVD) among the foreign born Chinese population of New York City given the data suggesting CVD is a priority health challenge for this population. They

learned that 72% of the Chinese living in NYC are foreign born, and that Chinese New Yorkers overall have lower education rates, lower English skills, and lower income rates. Given the dense population of Chinese residing and working in Chinatown, the fieldwork site was focused on this area rather than other locales in New York City. The students also took into consideration the prevalence of smoking in China, which produces 42% of the world's smokers, and has 320 million smokers (primarily men). Some key structural observations from their fieldwork observations in Chinatown that are relevant to the population's CVD risk included higher prevalence of smoking, inexpensive and unhealthy food options, and lack of green space and/or gyms. The team highlighted the range of NYC DOHM responses to this health challenge, including a media campaign targeting the Chinese population 'Don't let your loved ones fade away'; the building of bike lanes in Chinatown; and city-wide efforts to lower trans fats and salt intake. Given the already existing approaches from the DOHM, some additional recommendations from the team included: more ethnic specific research on this population; media messages that take into consideration cultural factors, such as the giving of tobacco as gifts; and ensuring that the DOHM nutrition-related regulations are adhered to within Chinatown.

Air pollution in midtown Manhattan

The students who explored air quality in midtown Manhattan looked into the prevalence of high levels of PM_{2.5} that have been recorded in the selected site area. PM_{2.5} is a fine particulate matter composed of many solid chemical components, and is emitted directly from combustion activities (e.g. cars, trucks, buses, oil burners, food vendors). The students presented a map that highlighted the concentrations of this particulate matter, overlaid with data on the traffic density in the same areas. They identified priority health challenges related to poor air quality, ranging from acute respiratory symptoms, all the way to premature death. Their expectation prior to the fieldwork was that they would observe high pollution and smog, but their actual fieldwork highlighted for them the non-residential nature of the selected site area, and the high intensity work environment that was located there. This

led to their recommendation that the city consider identifying a new way to report on the data, one that captures the health effects on people who work (but do not live) in an area with lower air quality. They also commended the city for already attempting to reduce the traffic in the form of the pedestrian way that has been constructed where motor vehicle traffic previously existed.

Tobacco smoking in Queens

One team of students explored the use of tobacco in Bay Ridge, Queens, a community where there is a high prevalence of hookah (water pipe) bars. They were curious to observe the social and cultural factors promoting hookah use, and to analyze the existing literature on health risks related to the intake of tobacco from hookahs. The team reported that the literature does identify health risks from hookah smoking, risks that the team observed may not be perceived by much of the hookah smoking population. Given the city's commitment to reducing tobacco smoking, the team proposed a series of recommendations that would address both the low perception of hookah smoking as unhealthy, and the important role that hookah bars appear to play in creating a social network and community for the Bay Ridge population. They recommended increasing the community's knowledge about the dangers of hookah smoking, aiming to change the local social norms endorsing hookah smoking, while simultaneously creating alternative social venues and opportunities for the community's male population. They targeted men in their recommendations due to the observation that in this population, primarily men were smoking in hookah bars. Recognizing that women may be smoking within the confines of their homes, the team recommended a broader culturally appropriate information campaign to change perceptions around hookah smoking. Lastly they recommended that a proposed ban on hookah smoking be implemented gradually, given the important social connectivity represented by the hookah bars, with specific research conducted on the social behavioral aspects of hookah smoking within this population.

Nutrition in Upper Manhattan

The students exploring the availability and affordability of nutrition from a swath of neighborhood crossing from a high income community around Columbia University's Morningside Campus (upper west side) across to a low income community in central and east Harlem (upper east side), visited and explored all the grocery stores (supermarkets, bodegas) that were in business. Their observations included the difference in food displays, food pricing, cultural food preferences, and food quality, as they transverse from one side of Manhattan to the other side. The quantity and quality of fresh food diminished as they walked from west to east, with the prevalence of unhealthy low cost fast food options increasing as they reached the eastern fieldwork site. This correlated with their analysis of city health data, which showed growing obesity and chronic disease rates moving from west to east. Within the grocery stores and bodegas on the east side, the team found larger sized packaging of unhealthy items for sale (e.g. package of cheddar and cheese nibblers feeding 13 cost \$6.99), less shelf spaced dedicated to fresh fruits and vegetables, and increased marketing for high-calorie, high-fat foods. The students' recommendations including incentivizing food marketers in the lower income area to sell higher quality food; to incentivize the communities to eat the healthier food; and to regulate the quantity of unhealthy foods for sale.

Methodological insights for public health

The in-depth reviews of the literature and extended time the students spent in the field sites provided a richer understanding of the health priorities in the local New York City context than other methodologies (such as summarizing the literature and writing a paper) might have provided. While a great benefit to the course is the students' reported enjoyment of the topical content and the fieldwork aspect with its related methodological training, there are additional insights gained from the experience of this course that are worth discussing and highlighting. First, given the current funding climate (the recession and its aftermath) and the subsequent potential cutting of city and state funds to health departments across the country, the selected use of hardworking and

insightful students into assisting with some of a city's data collection and/or understanding of local health challenges is a potential win-win. Both the city and the students gain from such collaboration, with the city gathering additional information and the students' gaining valuable experience and mentoring. The city could take advantage of such a course, requesting the instructor to build in specific neighborhoods or health priorities, based on the gaps in their perceived understandings of such environments.

Second, given the increasing recognition of the importance of structural and environmental factors that influence the health and well-being of populations, and given the critical role of ethnography in identifying and understanding such factors, strengthening students' skills in the use of such research methods is an essential component of both domestic and global public health research, practice and policy.

Third, and relevant to Columbia University as well as other Universities, the interdisciplinary nature of the topics covered in the course, including the roles that varying city agents and organizations need to play in identifying solutions (such as New York City's effort with bars and restaurants to reduce smoking, or any effort to reduce poor air quality across the city), highlights the great importance of courses that both integrate the disciplines in content being taught, but also have an interdisciplinary student cohort (as this structural course does). Ideally such a course would go further, with students enrolled from architecture, urban design, and other relevant disciplines across the university, and interdisciplinary faculty involvement as well. The most effective public health solutions in the future, particularly those focused on addressing structural and environmental factors, will entail strong relationships and collaborations between varying disciplines. The history of public health has always included such collaborations, but encouraging MPH students to think across disciplines would provide them with important early insights. Lastly, an idea that emerged from an MPH student in the 2010 spring course was to find a way for the broader university to capitalize on student ingenuity, creativity, and entrepreneurship, setting up a university-wide, interdisciplinary competition for proposals on how to solve some of the city's (or world's) remaining public health challenges.

Conclusion

The structural course taught in the last two years at the Mailman School has indicated both the benefits of training students in ethnographic observational methods, along with incorporating fieldwork experiences into their learning. The great benefits to be achieved from getting students out into the world, while simultaneously grounding their observations in public health data and related contextual evidence, cannot be overstated in its usefulness as a pedagogical approach.

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