Teaching Prevention: An Interdisciplinary Approach to Improving Population Health through Law and Policy

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Introduction
Recent reports by the Institute of Medicine promote two principles important to the future of public health law education: the need for better integration of clinical medicine and public health and the need to “revitalize” law and policy to meet new challenges in public health. The two reports, taken together, demonstrate the need for better integration of all three disciplines — law, medicine, and public health — to improve population health. Medical, legal, and public health professionals, therefore, need to understand where these disciplines intersect as well as how to work effectively with interdisciplinary partners.

With a greater focus on teaching population health, many medical schools are undertaking curricular innovations that expose medical students to public health principles as well as community-based prevention strategies. Most notably, many medical schools are developing opportunities for interprofessional education — providing students with opportunities early in their education to collaborate and problem-solve with students from other professions to improve patient and population health. At the same time, schools of public health are increasingly including curricula focused on the health care delivery system, including health care reform, as well as clinical care models that promote public health goals.

While public health law is still not routinely taught in schools of public health or law schools, it is growing in popularity. In recent years, discussion of the role of law in public health has expanded beyond more traditional topics, such as the State’s authority to require immunizations or quarantine to prevent the spread of infectious disease, to the role of law in preventing chronic disease through intersectoral “health in all policies” approaches.

With this expansion and integration of public health curricula into medical education and of legal and policy curricula into public health education, I was interested in effective ways to expose medical, public health, law, and public policy students to the important intersections among the different disciplines and to help them to develop interdisciplinary problem-solving skills that are required for intersectoral prevention strategies and policies. For my project in The Future of Public Health Law Education faculty fellowship program, I proposed an interdisciplinary course for medical, public health, public policy, and law students focused on the role of law in either promoting or obstructing prevention in clinical medicine and public health.

Overview of the Course
Framing the course around the concept of prevention, I explored how different disciplines define prevention; what types of strategies each discipline can use to promote prevention and better health outcomes; what each discipline can learn from one another about promotion of population health; and what joint prevention strategies they can employ to improve health.

Learning Objectives for Students
The primary objectives for the course were to challenge students from these different disciplines to: (1)
define “prevention” through an interdisciplinary lens that includes perspectives from clinical medicine, public health, law, and policy; (2) explore the role of law, not just as a foundation of the health care and public health systems, but also as a critical social determinant of health; (3) expand understanding of the skills, methods, and values of the other professions, particularly as they relate to promoting prevention; and (4) practice interprofessional problem-solving that incorporates law and policy as tools for population health goals.9

I proposed to achieve these objectives by: (1) designing interdisciplinary curriculum to include readings, speakers, and other resources (media) that would expose students to the four disciplines as well as illustrate the importance of interdisciplinary and interprofessional collaboration to achieve public health goals; (2) providing a foundation for students to understand the importance of law in public health, including the constitutional framework for governmental public health authority as well as the inherent tensions between individual rights and protection of public health, while also challenging them to think about the role that law plays in preventing disease and injury; (3) giving students different types of “hands-on” opportunities to explore interdisciplinary problem-solving through in-class projects, case studies, and interdisciplin ary group projects with community agencies; and (4) incorporating multiple opportunities for reflection about individual learning, team process, and skill-building.

Content of Course
The course, which I titled “Prevention: Medicine, Public Health, Law and Policy,” (hereinafter, “Prevention”) was divided into four sections. First, the introductory section described the definitions of “prevention” in the four disciplines of medicine, public health, law, and public policy; offered an overview of the values, goals, and methods of each of the professions/disciplines; and explored interdisciplinary and interprofessional collaboration in public health. The second section on public health law and prevention provided a foundational understanding of the role of law in public health authority and regulation, health care delivery, and the social determinants of health. The third section, which was on evidence-based policymaking, explored the role of different types of evidence for informing law and policy, including clinical, epidemiological, and legal evidence. The final section explored trans-disciplinary models of public health law and policy and included discussions of the public health policymaking process and a forum for students to present their interdisciplinary team projects.

Interdisciplinary Content and Foundational Knowledge
I intentionally designed the syllabus to emphasize and expose students to core content in the different disciplines at distinct points in the semester. This design allowed different students to be “the expert” in at least some of the class discussions while also learning from others. I began by dividing the students by discipline (the only time they were divided into groups of the same discipline) and asked them to create a ten-slide ten-minute overview of their disciplines’ goals, values, methods, and role in prevention of disease or injury. They also created a glossary of terms from their discipline for their classmates, which was posted along with their slides on the course website. This exercise helped to ground students in the key goals and methods of the other disciplines as well as provided them
with some comfort that if an unfamiliar term was used in class discussion or a reading, they could draw on these resources, or their classmates, for help.

While the beginning of the course content focused heavily on legal concepts and doctrine, the third section of the course on evidence-based policymaking allowed the medical, public health, and policy students to bring important discussion to the table. It helped the law students to think differently about “evidence,” as it relates to public health law and policy, and provided a forum for the medical and public health students to explore how to effectively articulate and translate complex or scientific evidence to policymakers.

The case studies were also designed to incorporate the different disciplinary perspectives in problem-solving. For example, a healthy housing case study required students to understand issues related to enforcement of housing codes, as well as how to bring medical and epidemiological evidence to bear in changing policy and practice.

Community Partnerships: Interdisciplinary Team Projects
Students were divided into interdisciplinary teams and partnered with four community-based organizations and agencies to work on previously designed public health law and policy projects. My primary goals for the community-based team projects were for the students to: (1) explore and analyze, through a real public health problem or issue, the intersection of public health, law, and policy; (2) practice interdisciplinary and interprofessional problem solving, working with students from different disciplines; (3) build skills in working on a team; and (4) contribute a valuable product, in the form of a final report and presentation to the organization or agency in fulfillment of its needs and goals.

In designing the projects, I wanted to ensure that each project contained a clear public health focus while at the same time requiring legal or policy analysis. Once I had initial conversations with the agency representatives in person, I asked them to fill out a project template to spell out in more detail their expectations for the project. This proved to be very helpful in identifying early in the process any mismatched expectations about the role the students would play.

Team Process
To facilitate individual and team reflection, students completed an initial self-assessment at the beginning of the semester, which included reflection questions about their own strengths and weaknesses as team members and what they would contribute to their team. The teams drafted a team charter, laying out their joint expectations for how they would function as a group. Students then completed a mid-semester team review, which they discussed in class.

Assessment
Writing Assignments
In addition to the final report for the team project, there were two short writing assignments in which students: (1) analyzed a particular public health law or policy problem; (2) identified and articulated clinical, public health, or legal evidence to support a particular position; and (3) explored the administrative, legal, and political context in which public health law and policies are made. The first assignment was to draft and orally deliver legislative testimony on whether a state should require the HPV vaccine. The second was to write a policy issue brief analyzing clinical and public health evidence and different state laws on vaccination exemptions and offering policy recommendations to the state legislature.

These assignments met my objective of introducing students to practical analytical and writing skills in policy advocacy. One student commented in her final course evaluation: I had never written either legislative testimony or a policy brief before this course, so those assignments were extremely beneficial for my learning experience. I have written longer papers with a policy or legal perspective, but there is a skill to being able to write concisely and directly in order to appeal to the audience (whether as a testifying witness or to a politician).

Team Projects
For their final projects, the teams presented their findings to the class and invited community guests, including their supervising agency representatives, and submitted a final report to their supervisor and to me. I used several methods to assess student learning through the team projects. These included both individual and group assessments. Individual students were assessed for their contribution to the final report and presentation through team member and self-assessments. The final reports and presentations were assessed as final products for the full group.

Learning Assessments
In addition to the formal assessments, students completed an initial self-assessment at the beginning of the semester. They then completed a final learning assessment at the end of the semester. These were designed to both encourage reflection by the students
Logistical challenges can be overcome and can be transforming the future of public health law education. A student expressed this value in her final learning assessment: teams can achieve more than single-discipline teams.

Assessment of the Course by Students
I asked students to complete a final course evaluation (in addition to the ones required by their respective programs), which was intended to assess how well I met my course objectives, as well as individual components of the course. Overall, these evaluations of the course were very positive. However, some of the critiques included: (1) too much reading, (2) not enough time for discussion of the case studies, and (3) lack of clarity from some project supervisors. This feedback will help me with future planning and revisions of the course.

Benefits of the Project

To Students
The interdisciplinary content and team projects were beneficial to student learning in several ways. First, the projects gave the students a real-world opportunity to apply their classroom learning (both in terms of content and interprofessional team skills). As a public policy student noted in her final learning assessment:

"While it was helpful to learn from peers in other disciplines, the course really improved my comfort level in working with “other professionals” more generally. Group projects have always been a struggle for me, and the course’s semester-long project with two peers and an external “client” was extremely helpful in improving my ability (and willingness) to collaborate, divide up work, be held accountable, trust others and their work, communicate effectively, and to challenge (be challenged by) teammates.

Second, students were able to experience the complexities of public health law and policymaking by struggling with the realities of how difficult policy change is to achieve. The students working on a project related to enforcement of the Rhode Island Lead Hazard Mitigation Act repeatedly expressed how their project brought home the challenges of improving enforcement and protection of families due to entrenched bureaucracies.

Third, students discovered that interdisciplinary teams can achieve more than single-discipline teams. A student expressed this value in her final learning assessment:

It was helpful to see how students from other disciplines approached problem solving and critical thinking about the topics we discussed throughout the course. For the group project, it was really helpful to have input from people with expertise in different areas that I had no idea how to approach.

To the Academic Institutions
Since becoming established as a school in 2013, the Brown University School of Public Health has undergone rapid growth. While I was teaching this new course, the school was undergoing accreditation. The course not only helped to expand the school’s course offerings in public health law and policy, it served as a “selective course” for the health services, policy and practice program demonstrating that it met many of the program’s health services research learning objectives and course competencies. The course also met core competencies for accreditation for the MPH program, which was also undergoing accreditation review.

Additionally, the experiential learning component of the course fit squarely within the school’s goals and mission. The school created a community advisory board in 2014 with the explicit goal of connecting students and faculty to community organizations and agencies working to improve public health in Rhode Island. The students’ team project provided an excellent example of this type of academic-community partnership.

Lessons Learned

- Logistical challenges can be overcome and can be important learning experiences.

As I predicted, some students expressed in their course evaluations that attempting to work on team projects with students from different programs and institutions proved very challenging. For example, the medical student had very little time to meet with her group because of her clinical rotation schedule. The law students spend most of their time on the campus in Bristol, Rhode Island, which is 20 miles from Brown University in Providence. Finally, all of the students have extremely busy schedules; the added burden of coordinating with students who have very different schedules was challenging. Nonetheless, with troubleshooting and creativity, the students were able to complete their projects quite successfully, often using technology, rather than face-to-face meetings, to facilitate regular communication. This is, in fact, a valuable lesson in itself; teamwork in the workplace is becoming more common. Developing skills in coordi-
nation and communication among team members is critical to effective and efficient productivity.

- **Teaching and providing practice in teamwork is important to student learning and they value it.** Team projects are challenging and time consuming for the professor, at times frustrating for students, and not always successful, but they are extremely valuable to student learning. In designing the interdisciplinary team projects, I had some trepidation, particularly whether the students would view them as overly burdensome. While there were certainly challenges and frustrations along the way — including unevenness in student contribution, communication difficulties with supervisors, and challenges in completion within a semester timeframe — the final reports and presentations evidenced sophisticated analysis and learning by the students.

An additional lesson learned was that teamwork must be taught and discussed proactively; it cannot be assumed that students will figure it out. Teamwork exercises were woven throughout the semester through case studies, exercises, and reflection (individual and about group process). I told students at the beginning of the semester that working in a team is like being married; it takes open and active communication to make it work. Time for content needs to be balanced with time for team process and problem-solving.

**Advice to Faculty Considering This Type of Course**

First, allow time for course approvals and registration/credit issues. When creating an interdisciplinary course that spans several programs (or even more than one institution), it is critical to leave time for the course approval process. Each program and institution likely has its own process and structure.

Second, take a risk and branch out in curriculum development. While the initial work of designing a new course out of “whole cloth” can be daunting and time consuming, breaking out of the box in the approach to teaching a topic like public health law is very gratifying for you and for your students. Students appreciate it when faculty design courses that break away from courses designed around established textbooks or topics. This type of course design also allows the professor to populate the course with timely examples and issues, which students appreciate.

Third, spend time upfront determining your learning objectives and continue to revisit them during the course. With a course that has so many different parts — interdisciplinary content and students, team projects, and community partners — I spent a great deal of time revising and revisiting my learning objectives to ensure I was meeting them. The following comment from a student in her course evaluation made all the initial work worth it:

Part of the reason that I was so intrigued by the course was the organization of the syllabus, which is one of the most comprehensive I have ever been given in a class. We covered a lot of ground throughout the semester, from different professions, to data, to balancing individual interests and behavior against the public good/health. But throughout the entire time I always understood how these different themes connected back to our major objectives.

Finally, build in ample time and opportunities for reflection and problem solving around team projects. As noted above, for courses that include community-based project work, incorporate multiple opportunities for individual and team reflection and “check-ins” during class. This may mean reducing and refining substantive content to allow in-class time for team project discussion.

**Impact**

The experiential learning component with community partners and interdisciplinary team projects were beneficial to both student learning and community impact. One project in particular had an especially compelling impact both on students and on the community agency. In late 2014, the City of Providence Healthy Communities Office (HCO) signed on to participate in the U.S. Department of Housing and Urban Development (HUD) Healthy Communities Transformation Initiative. The HCO Director and I worked together to assess the components of the project to determine if this would be an appropriate project for my students starting the class in January 2015. We agreed that it was.

Three students were selected to work on the project: an undergraduate public health student, a fourth-year medical student, and a master’s in public policy student. Because the project required a range of skills and expertise, the team divided the work according to their disciplinary skills and knowledge.

The public policy student had experience in GIS mapping so she contributed this skill to the project; the medical student and public health student worked to gather and analyze the data. The team worked together and in collaboration with the Healthy Communities Advisory Council to assess the value and usefulness of the Healthy Communities Assessment Tool indicators for the city in designing policies and programs aimed at addressing the social determinants
of health and reducing health disparities across neighborhoods. The students’ final report and presentation included a very sophisticated assessment of the usefulness and limitations of the web-based data tool developed by HUD. They also presented very thoughtful legal and policy recommendations to the city based on the goals of the initiative.

This team project met the objectives I had for student learning and for community partnerships. The students helped to collect, organize, and analyze data on the social determinants of health that drive many of the health disparities seen across neighborhoods. They utilized the skills and knowledge base of their interdisciplinary team to collaborate around shared project goals, while developing important skills in working as a team. Finally, they provided a service and product to the City of Providence that will be instrumental in helping the city to assess policies and programs that are required to improve health and reduce health disparities.

Conclusion
This fellowship program provided a critical professional development opportunity to expand my understanding and knowledge, not just of public health law, but also of effective teaching strategies, particularly for interdisciplinary content and students. In addition to designing this new “Prevention” course, my work for the fellowship has inspired me to assess (and reassess) my objectives for all of the courses I teach, as well as to integrate new teaching techniques and materials, such as interdisciplinary case studies and online modules.

The fellowship program reinforced the importance of assessment of student learning against stated objectives. One key area of interest for me is effective ways to assess student learning in interdisciplinary or interprofessional learning environments. Much of the literature on this topic has focused on interprofessional education of health professions students, but not law, policy, or public health students. This is a common interest among some of the fellows; we hope to continue to work together to explore effective assessment tools for interprofessional learning.

The “Prevention” course will continue to serve as a biannual offering at the School of Public Health. Given the developing national conversation about the need to break down silos between the disciplines and professions to improve population health, this course will continue to offer students a unique opportunity to expand their understanding of the intersection of medicine, public health, law, and policy and to practice new approaches to complex problems.

References


4. See, for example, Institute of Medicine, Interprofessional Education for Collaboration: Learning How to Improve Health from Interprofessional Models Across the Continuum of Education to Practice (2013), available at <https://iom.nationalacademies.org/Activities/PublicHealth/PrimaryCarePublicHealth.aspx> (last visited January 19, 2016).


8. The final course enrollment consisted of: three Brown University master’s in public health students; three Brown University upper-level public health law undergraduate students (at Brown upper-level undergraduate students may receive permission to take graduate level courses); three Brown University master’s in public policy students; one Brown University fourth-year medical student; and two Roger Williams University law students.

9. For the syllabus for this course, see Network for Public Health Law, “Public Health Law Faculty Teaching Resources,” available at <https://www.networkforphl.org/faculty_teaching_resources/> (last visited January 20, 2016) (this site is password protected; faculty may request a password from the Network on the site) (see “Prevention: Medicine, Public Health, Law and Policy” in the Syllabi section of this website).

10. For examples of case studies, see Network for Public Health Law, supra note 9, in the Case Studies section of this website at “SNAP Benefits: Policy Options for Improving Nutrition and Reducing Obesity”; “Healthy Housing Case Study”; and “Gun Violence, Public Health, and Mental Illness.”

11. The agencies and organizations were: (1) the Division of Community and Family Health and Equity at the Rhode Island Department of Health; (2) the Rhode Island Alliance for Healthy Homes; (3) the Center for Prisoner Health and Human Rights; and (4) the City of Providence Healthy Communities Office.

12. For the “Project Template,” see Network for Public Health Law, supra note 9, at “Initial and Final Assessments, Team Charter, Mid-Semester Review, Project Template, and Final Course Examination” in the Other section of this website.

13. Id. (see “Initial Assessment”).

14. Id. (see “Team Charter” and “Mid-semester Team Review”). I am indebted to Professor Linda Morton from California West-
ern School of Law for sharing resources she has developed for interdisciplinary teaching and team projects. I relied heavily on these resources in designing materials for this course.

15. Students were assigned a particular role to play in drafting and presenting their testimony to a state legislative committee. These included a range of roles such as a pharmaceutical company representative, a parent, a women’s health physician, and a civil liberties organization representative, among others.

16. See the course syllabus, supra note 9.

17. The student evaluations from which the quotes in this essay are excerpted are on file with the author. Permission has been granted to reproduce them in this essay.


20. These questions were designed in collaboration with other fellows: Heather McCabe, Jennifer Herbst, and Sarah Davis.


22. The Healthy Communities Transformation Initiative (HCTI) is a project, funded by HUD’s Office of Healthy Homes and Lead Hazard Control, to improve the health systems and the physical, social, and economic service structures that support healthy living and healthy behaviors in our communities. Healthy Housing Solutions, Inc. is leading a team of partners in developing this initiative. Two key elements of the HCTI are the development of a Healthy Communities Index (HCI) and a Healthy Communities Assessment Tool (HCAT). See HUD Healthy Communities Transformation Initiative, available at <http://healthyhousingsolutions.com/service/applied-field-research/hud-healthy-communities-transformation-initiative/> (last visited January 20, 2016).

23. See id. (“Applied Field Research”). The Healthy Communities Assessment Tool (HCAT) will help communities evaluate neighborhood level health factors, build partnerships, and engage diverse stakeholders in efforts to improve community health. The HCAT is an electronic web-based tool being pilot tested by three cities: Minneapolis, Minnesota; San Diego, California; and Providence, Rhode Island.


25. See Institute of Medicine, supra note 4.