

Partnership for Preparedness: A Model of Academic Public Health

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The New York City Department of Health and Mental Hygiene and the Columbia University Mailman School of Public Health's National Center for Disaster Preparedness undertook a collaborative project to establish a model academic health department. The goals were to increase student participation at the health department, increase faculty participation in health department activities, and facilitate health department faculty appointments at the school. As a result, 17 students were placed in full-time summer research projects designed by health department staff specifically for the project, 154 health department staff attended a series of six lectures presented by faculty, and five health department professionals applied for academic appointments at the school. The benefits of the efforts toward establishing an academic health department extend to all areas of public health practice, including those of preparedness.

KEY WORDS: academic public health, collaboration, preparedness

While much progress^{1,2} has been made since the 1988 publication of *The Future of Public Health*,³ collaboration between public health agencies and schools of public health remains a work in progress. A lack of interaction between public health service and academia impedes progress toward the goal of evidence-based public health practice.⁴ The ongoing need for the development and dissemination of innovative partnership models,⁵ and the requirement for decision making and programs at the local level to be informed by current research and best practices, is made all the more compelling by the call for local agencies to be prepared to respond to both naturally occurring and intentional public health emergencies.

Because of job and time constraints, many in the public health workforce are unable to pursue advanced academic training. Public health academicians, meanwhile, tend to focus on theoretical aspects of practice or etiologic research, often in isolation from the service sector. Many new graduates of schools of public health, in fact, do not seek positions in the public health agency system. In recent years, for example, the Columbia University Mailman School of Public Health (MSPH) has documented that less than half of its graduates with degrees in public health, health education, and health-care administration find employment in public health agencies.⁶

The Columbia University MSPH and the New York City Department of Health and Mental Hygiene (NYC DOHMH) have a long history of collaboration dating back to the early 20th century when the dean of the

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school and the commissioner of health were the same individual and the institutions shared space for both classrooms and clinics.⁷ Courses in communicable disease epidemiology at MSPH are frequently cotaught by senior DOHMH professionals, although such efforts do not extend to MSPH faculty providing formal lectures on-site at the health department.

In 1992, MSPH created the Center for Applied Public Health to more formally strengthen the relationship between the MSPH and the NYC DOHMH.⁸ In 2000, through a cooperative agreement with the Association of Schools of Public Health, the Center for Public Health Preparedness was established at Columbia University MSPH to develop a public health workforce capacity for emergency preparedness.^{9,10} For its part, NYC DOHMH administers the Health Research Training Program (HRTTP),¹¹ which has provided more than 3,000 students from across the United States with public health research and practice experience since 1961. Four to six Mailman students participate in this program in an average summer.

Despite these efforts, there remained a need to increase the integration of NYC DOH practitioners and MSPH academicians and students across the multiple domains of research, education, and clinical practice. To take advantage of the rich diversity of experience available at NYC DOHMH and the reciprocal advanced academic work being conducted at MSPH, the health department and the school embarked on a program based on the well-recognized academic orientation of the NYC DOHMH and the strong preexisting collaborative relationship with Columbia University MSPH. The goal was to foster the links necessary to develop a model “academic health department,” which has been defined as “a formal affiliation between a health professions school and a local health department similar to the more familiar affiliations between academic institutions and teaching hospitals.”¹² Established in the wake of the events of September 11, 2001, The National Center for Disaster Preparedness at MSPH¹³ provided a new opportunity and additional motivation to create these links as well as the setting and the relationships to advance the goal of creating an academic health department.

A 1-year project was designed to enhance the academic programs of the NYC DOHMH and develop the following models of academic public health practice, which could be replicated at other health departments: (1) increase the number of MSPH students exposed to public health practice via participation in activities at the NYC DOHMH, (2) implement an academic public health continuing education lecture series at the NYC DOHMH, (3) facilitate a process for NYC DOHMH professional staff to obtain faculty appointments at the school, and (4) identify MSPH faculty to work at the

NYC DOHMH to enhance the academic aspect of public health research projects.

● Methods

The Centers for Disease Control and Prevention provided funding through a cooperative agreement administered by the Association of Schools of Public Health. Staff at the MSPH National Center for Disaster Preparedness and the NYC DOHMH Division of Epidemiology was recruited to lead the effort. A schedule of meetings, alternating between the offices of NYC DOHMH and the MSPH as well as regular phone and e-mail correspondence, was established to coordinate efforts.

Student exposure to clinical public health

A program was designed to competitively identify eight MSPH master’s and doctoral students to participate on a half-time basis through the summer of 2004 in projects explicitly designed for the effort. The assistance of the Mailman Office of Career Services and NYC DOHMH’s long-standing HRTTP was solicited to help publicize the program, coordinate applications, and place students with preceptors. Applications and project descriptions were posted by the Office of Career Services on its Web site and kept on file in its office. National Center for Disaster Preparedness and DOHMH staff jointly participated in an Office of Career Services job fair.

Public health continuing education lecture series

Arrangements were made to create a monthly seminar series for MSPH faculty to present six 2-hour lecture/interactive sessions on programmatic and methodological public health topics identified by DOHMH staff. Lecture topics and potential presenters were discussed; dates were established; and topic areas and subjects were matched to faculty interest, expertise, and willingness to participate.

Public health department professional staff faculty appointments

Applications from DOHMH staff interested in and qualified for faculty appointments at MSPH were solicited and screened by NYC DOHMH leadership. In an effort to facilitate what was often viewed as a complex process, documents outlining faculty privileges and duties, along with detailed instructions on the creation of curriculum vitae in the required MSPH Committee on Academic Promotions format, were created

and forwarded to DOHMH deputy and assistant commissioners for dissemination to qualified staff. The assistance of the associate dean was enlisted to present completed applications to MSPH department chairpersons, who alone have responsibility for making recommendations for faculty appointments to their respective department committees on academic promotions.

MSPH Faculty involvement at the NYC DOHMH

The NYC DOHMH identified a need for the efforts of a faculty member with expertise in biostatistics to help enhance the academic aspects of its clinical public health programs. Meetings and consultations with department chairpersons to identify such a faculty member to devote 20 percent effort, funded by the grant, to a DOHMH-defined research project were undertaken.

● Results

Student exposure to clinical public health

Supervisory staff at the DOHMH designed and described 17 potential projects in which Mailman students were invited to participate (Figure 1). Thirty-three applications were received, matched to projects, and forwarded to DOHMH H RTP for review and selection. DOHMH staff was sufficiently pleased with the applications to add funding beyond that provided by the project to increase the eight half-time project positions to full-time status and also fund the remaining nine projects so that 17 students were placed in full-time positions for the summer (Figure 2). This represented a significant increase over the usual number of four to six Mailman students receiving part-time practical experience with H RTP during an average summer.

Public health continuing education lecture series

Six faculty members were contacted to participate in the lecture series. All agreed to participate, including two faculty members specifically identified by DOHMH staff as being of particular interest. The faculty lecture series was successfully established on-site at the health department and was attended by 154 DOHMH staff over the course of 6 months (Figure 3). This was to our knowledge the first, formal on-site lecture series offered by MSPH faculty to NYC DOHMH professional staff.

Public health department professional staff faculty appointment

Five members of the NYC DOHMH with advanced professional credentials expressed interest in pursuing

faculty appointments at the MSPH and submitted their curricula vitae. Grant staff created application materials and, in consultation with the applicants, matched their applications to the most appropriate department in the school of public health. Materials were forwarded with appropriate cover letters from the associate dean to the chairpersons of the departments of epidemiology, population and family health, sociomedical sciences, and health policy and management. Decisions on faculty status are currently under review.

MSPH Faculty involvement at the NYC DOHMH

Health department supervisory staff identified and spoke to potential faculty members to provide a 20 percent effort at the DOHMH as part of the grant program. Discussions on this aspect of the program continued for several months. Eventually, the resources earmarked for this aspect of the project were redirected to the student placement program for the matching and placement of eight additional MSPH students at the DOHMH.

● Discussion

Fostering the development of academic public health is an achievable goal, and many such efforts have been documented.¹⁴ Our project was facilitated by the long history of collaboration between NYC DOHMH and MSPH, but our experience was not so unique that other schools and departments might not benefit from replication of this effort and our specific activities.

Communication, as always, was crucial. This was facilitated by first establishing a single point of contact between the school's office of the associate dean and the department's deputy commissioner of health. Reaching out to the department's assistant commissioners and division directors to describe projects for students and matching them to student background and interests, designing lectures on the basis of health department requests rather than faculty availability and interest, and enlisting the cooperation of the school's chairpersons all flowed from this initial formal line of communication.

Establishing these links had additional benefits for preparedness activities at the school and the department. Partly because of their increased familiarity with the health department, faculty members working on the academic health department project were more easily identified and recruited by the Center for Public Health Preparedness to work on projects such as training student volunteers to assist DOHMH with outbreak investigations. Also, senior health department professionals and faculty from the academic health program

1. New York City Injuries in Perspective

Compare and contrast intentional and unintentional injuries in New York City with New York State and the United States, as well as other large US cities.

2. Community Food and Fitness Research Project

Ascertain how residents interact with food and fitness in their daily lives; learn about the structure and organization of the local food retail environment.

3. Improving the Health of Women and Infants in New York City

Preliminary statistical analysis of Infant Feeding Survey; Pregnancy Risk Assessment Monitoring System Maternal Mortality Surveillance and Case Review.

4. Data Analysis for Health Promotion

Collect quantitative and qualitative data from 50 participating worksites, conduct data analysis, support staff in conducting literature review.

5. Food Service Establishment Evaluations

Conduct an extensive literature review on the effectiveness of fines as an enforcement tool and report on findings. Set up analyses to begin determining a correlation between monetary fines and compliance.

6. Management Information Services Emergency Preparedness

Develop information technology needs assessment survey; develop a checklist of tasks for management information services emergency operation center representative; create checklist to assess network status; identify mission-critical data/programs; maintain daily backups; update inventory lists.

8. Policy Planning and Research for Disease Control

Review best practices, current literature, and research to support programs within the Division, for example, emerging crystal meth problem in the gay community, model interventions for human immunodeficiency virus, and sexually transmitted disease prevention in sex clubs.

9. 2004 West Nile Viral Human Surveillance

Work with communicable disease program staff on all aspects of surveillance for West Nile virus disease in humans: data entry, data cleaning, follow-up on cases, answer questions from public/physicians, compile weekly descriptive data summaries, compile weekly geo-code/mapping of reported encephalitis, meningitis, and positive West Nile virus cases.

10. Surveying Health Topics

Work under the direction of a study director and other senior epidemiologists within the bureau to conduct a large, population-based health survey in New York City among adults.

11. Investigation of Pneumonia and Influenza Deaths in New York City Long-Term Care Facilities 2001–2004

Visit nursing homes, assist with abstraction of medical records, prepare a summary report to be shared with the New York State Department of Health Bureau of Communicable Disease Control, as well as presented to all New York City long-term care facilities

12. Improving Pediatric Immunizations

Determine immunization rates among a discrete group of providers of childhood vaccinations, and improve rates among those found to be low.

13. Evaluation of a Faith-based Diabetes Self-management Education Program

Evaluate the effectiveness of Project Power, a faith-based diabetes self-management education program that focuses on African American women with type 2 diabetes.

14. Tobacco Control—Health Disease and Health Promotion

Working with the education, cessation, and evaluation units assist with the writing of grant proposals; start-up of a city-wide tobacco coalition; tracking trends in tobacco use among New Yorkers, conducting literature.

15. Restructuring the Standard Operating Procedures and Standard Operating Procedure Manuals

Develop a unified, customizable format for standard operating procedures and standard operating procedures manual that can be applied to all units of the Environmental Microbiology Laboratory.

16. Eliminate Disparities In Prenatal and Reproductive Health

Literature reviews, developing a community-based sudden infant death syndrome peer education program for grandparents, establishing a framework to train and disseminate the peer education program, designing a program evaluation component.

17. Market Research and Project Management

Assist in the assessment of public health-related media campaigns. Literature searches, data-entry, simple analysis, preliminary research, “guerilla” marketing and some focus group and/or survey coordination.

FIGURE 1. New York City Department of Health and Mental Hygiene (NYC DOHMH)/Columbia University Mailman School of Public Health Academic Partnership Student Project Descriptions.

collaborated to write a successful CDC Health Protection Research grant to address the effects of September 11, 2001, on New Yorkers.¹⁵ The experiences and relationships established in one program fostered a sense of shared purpose that extended to others.

Student placement was among the more successful aspects of the program. Including the directors of the

MSPH Office of Career Services and NYC DOHMH H RTP early in the planning process, responding to their concerns in a timely manner to ensure their active support, and sharing in their expertise was essential. To replicate this program there should, ideally, be a clearly identified individual with programmatic responsibility at both the school and the department. MSPH

2004 ASPH/CDC Academic Health Department Student Placement Project

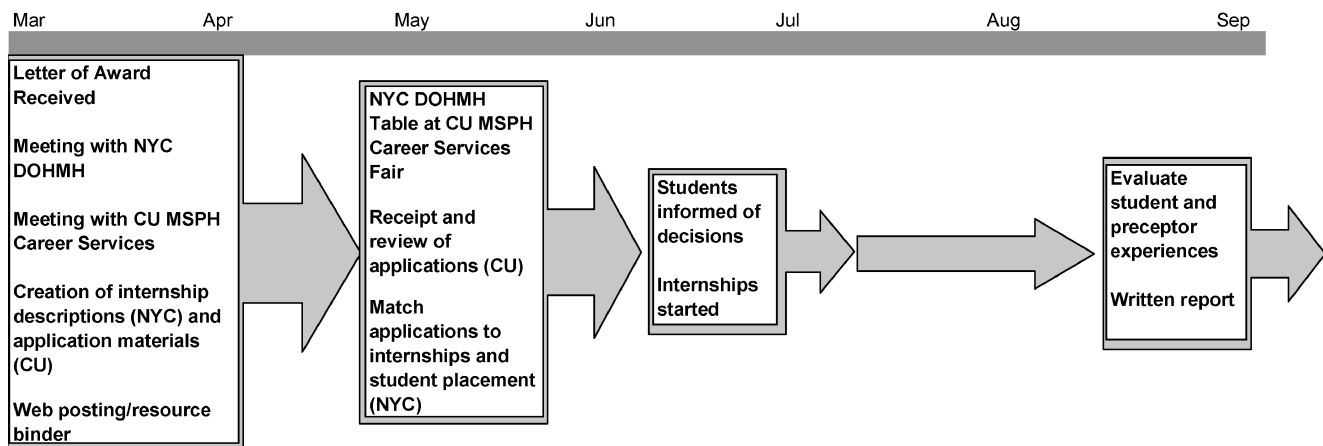


FIGURE 2. New York City Department of Health and Mental Hygiene (NYC DOHMH)/Columbia University Mailman School of Public Health (CU MSPH) Academic Partnership. Schematic Representation of Graduate Student Placement in Health Research Training Program.

students placed under this project were fully funded by the grant, off-setting the usual costs borne by the health department, enhancing the participation and interest of individual DOHMH programs and staff, and attracting students to a paid internship experience. Yet, not all such efforts require significant levels of funding. Accredited schools of public health require a practicum¹⁶ that at a minimum provides a potential supply of motivated interns.

The lecture series was characterized by the uniform willingness of MSPH faculty members to devote their time and talents to collaborating with their public health practice colleagues. While the 154 attendees represented only a small portion of the department's more than 6,000 employees, the talks were directed toward the interests of the smaller number of analytic and research professional staff. The sessions themselves were among the most visible and practical examples of interaction between the school and the department. Future activities might include a reciprocal series of lectures by health department staff at the school.

The effort was not without difficulty and limitations. The DOHMH was particularly interested in recruiting a biostatistician for assistance with a number of analytical issues related to population-based community surveys and multilevel modeling. However, while welcoming the potential for collaborative research, faculty members were fully committed to other projects during the timeframe of the grant. The 20 percent participation level may have been insufficient to forgo existing funding opportunities, but too large to easily add to already full schedules. We believe that future efforts should require that at least 50 percent of a faculty member's time be devoted to health department projects and that this time be fully funded. Future iterations of the project

might also address this issue through a more broad-based promotion of the position to the entire faculty, perhaps involving a competitive process.

A less than expected number of DOHMH professional staff sought faculty appointments at the school. The five applications received represented a small portion of the professional staff of the NYC DOHMH. We believe that because of the already strong relationship between the school and the department, motivated staff already held academic appointments at MSPH. There was also some question on the part of health department staff on what commitments an appointment carried with it, and if that work would count toward their duties and responsibilities at the department. Future efforts should be informed by surveying health department professional staff to help determine their interests and concerns as well as by documenting baseline rates of participation to help assess results.

Documenting and establishing a reference against which to measure effectiveness was a challenge across the entire program. Some aspects, such as the department-based lecture series, were to our knowledge the first attempts at the activity, while other aspects, such as the student placements, were longstanding, with fairly well-documented but sometimes difficult to locate benchmarks. Efforts involving faculty and staff were among the more difficult to document. There had clearly been previous successful collaborative activity between MSPH and DOHMH. Defining and enumerating this activity was hampered by the ad hoc nature of these previous efforts set amid the sprawling, decentralized environment of both the school and the department. Those contemplating reproducing these efforts would do well to map out data

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FIGURE 3. New York City Department of Health and Mental Hygiene/Columbia University Mailman School of Public Health Academic Partnership. Health Department Lecture Series.

needs and tap into the institutional memories early in their efforts.

There is clearly an interest in, and benefits to, establishing collaborative relationships between schools of public health and local health departments. These benefits extend to all areas of public health practice, including those of preparedness. The experiences presented represent one model for these efforts. The challenge re-

mains to sustain and expand on these efforts through continued funding and commitment.

REFERENCES

1. Bialek R. A decade of progress in academic/practice linkages. *J Public Health Manag Pract.* 2000;6(1):25-31.
2. Schieve LA, Handler A, Gordon AK, Ippoliti P, Turnock BJ. Public health practice linkages between schools of public health and state health agencies: results from a three-year survey. *J Public Health Manag Pract.* 1997;3(3):29-36.
3. Walker B Jr. The future of public health: the Institute of Medicine's 1988 report. *J Public Health Policy.* 1989;10(1):19-31.
4. Quill BE, Aday LA. Toward a new paradigm for public health practice and academic partnerships. *J Public Health Manag Pract.* 2000;6(1):1-3.
5. Milne TL. Strengthening local public health practice: a view to the millennium. *J Public Health Manag Pract.* 2000;6(1):61-66.
6. Gebbie K, Merrill J, Tilson HH. The public health workforce. *Health Aff (Millwood).* 2002;21(6):57-67.
7. Greene D, Heaton C, Hamburg M, et al. Creating training opportunities for public health practitioners. *Am J Prev Med.* 1999;16(3S):80-86.
8. Center for Applied Public Health. Available at: <http://www.mailman.hs.columbia.edu/caph/index.html>. Accessed February 25, 2005.
9. Center for Public Health Preparedness. Available at: <http://www.mailman.hs.columbia.edu/CPHP/index.html>. Accessed February 25, 2005.
10. Morse SS. Building academic-practice partnerships: the Center for Public Health Preparedness at the Columbia University Mailman School of Public Health, before and after 9/11. *J Public Health Manag Pract.* 2003;9(5):427-432.
11. Health Research Training Program. Available at: <http://www.nyc.gov/html/doh/html/hrtp/hrtp.html>. Accessed February 25, 2005.
12. Keck CW. The Academic Health Department. Available at: <http://www.phf.org/Link/ahd.htm>. Accessed February 25, 2005.
13. National Center for Disaster Preparedness. Available at: <http://www.ncdp.mailman.columbia.edu/>. Accessed February 25, 2005.
14. Public Health Foundation Database of Academic/Practice Linkages. Available at: <http://www.phf.org/Link/database-of-linkages.htm>. Accessed August 27, 2005.
15. National Center for Injury Prevention and Control. Health Research Initiative Grants. Available at: <http://www.cdc.gov/ncipc/res-opps/HealthResearchInitGrt.htm>. Accessed August 27, 2005.
16. CEPH Public Health Program Criteria. Available at: http://www.ceph.org/Files/PHP_Criteria_2005.SO5.pdf. Accessed August 27, 2005.