Public health practice is critical to the nation's well-being, but it is on the brink of catastrophe due to decreased capacity to provide the services demanded of it—from routine turbidity testing of drinking water to mass prophylaxis dispensing during a public health emergency. This column will (1) highlight the significance of enhanced partnering and mutual learning agreements between local academic centers and local health departments, (2) describe three model practice-academia partnerships, and (3) discuss implications of these partnerships on the public health workforce.

Five years have passed since this journal focused on public health practice and academic partnerships. The public health emergencies of the past 5 years (anthrax outbreaks, severe acute respiratory syndrome, monkeypox, and annual influenza vaccine supply disruptions) highlight the need to prepare a workforce to meet a future of diverse and complex public health challenges. Routine public health practices—vaccinating people, conducting inspections, or staffing school-based clinics—are still necessary but are clearly insufficient to meet these challenges. Unfortunately, many long-time public health practitioners are unfamiliar with research tools such as queuing theory,\textsuperscript{a} grounded theory,\textsuperscript{b} and participatory action research methodologies\textsuperscript{c}—tools that will be needed to answer questions and to shape interventions to issues that frustrate and perplex us, from persistent racial and ethnic health inequities to anticipating and preparing for newly emerging infections.

To prepare public health practitioners to use these tools, practical steps may include (1) encouraging local health departments to partner with their local academic centers and providing models of how this can be done;
(2) diversifying teaching methods used to train public health practitioners and using local academic centers to help improve access to various modes of training and continuous learning; and (3) restructuring the way students of public health, medicine, nursing, dentistry, and allied health fields are educated about public health practice and the access students have to public health apprenticeships. Such partnerships will have ripple effects of service-based learning processes for students enrolled in these tracks of study, imbedding a public health perspective throughout their academic careers.

*Models of Practice-Academic Partnerships*

**City of Milwaukee Health Department**

In the early 1990s, the City of Milwaukee Health Department (MHD) was left with only one salaried public health physician after two decades of budget cuts. Faced with this harsh reality, the health commissioner began discussions with the medical school in Milwaukee—the private, freestanding Medical College of Wisconsin (MCW)—about using some consultation dollars to contract for faculty time in support of MHD services. By 1994, two MCW faculty physicians were spending most of their professional time at MHD.

These physicians provided academic public health leadership to MHD, including medical supervision and oversight for what was still a substantial number of public health nurses who provided direct service (eg, immunizations, sexually transmitted disease management) to persons without access to regular healthcare.

In addition to overseeing day-to-day public health practice, these physicians also brought a teaching and research focus to their roles. Under their supervision, preventive medicine residents used MHD as their learning laboratory, resulting not only in additional service to MHD but also in an outstanding learning environment for the residents. Medical students and primary care residents also took advantage of rotational experiences, such as tuberculosis or sexually transmitted disease management and lead poisoning prevention, that MHD could provide better than any other entity. The MCW-MHD physicians also analyzed both quality and outcome data that MHD had accumulated. As an example, an MHD initiative to reduce the risk of congenital syphilis in Milwaukee produced statistically significant results.3 In addition, MCW medical students interested in public health research took advantage of the data available at MHD.

When MCW’s interest in placing its faculty physicians at MHD appeared to wane after about a decade of this partnership, the other medical school in the state, the public University of Wisconsin Medical School (UW-MS), stepped in. This relationship—with benefits not only for UW-MS but also for the people of the state—is consistent with the UW’s over 150-year-old “Wisconsin Idea,” which has “fostered a long partnership between the University and government.”4

In addition to its academic physicians, MHD has several other partnerships with academe that are having substantial positive impacts on public health in Wisconsin. For example, through funds from a recent for-profit conversion of Blue Cross Blue Shield, both UW-MS and MCW are supporting a number of public health initiatives, including some focused on workforce development. For example, the schools have jointly funded a new leadership institute for public health. Local health departments, including MHD, have substantially influenced its format and purpose.

The UW-MS Department of Population Health Sciences has funded several additional initiatives to improve the public health workforce, which have included strong collaborations between UW-MS and MHD both in their planning and in their implementation. The new UW Population Health Fellowship Program has already resulted in two MPH-prepared fellows placed at MHD, each for 2 years. One of MHD’s academic public health physicians is also contributing to UW’s brand-new MPH program. This staff member is involved in program planning, course teaching, and supervision of MPH students who choose MHD (from among other sites) for their 3-month, nine-credit summer capstone experience. Like other initiatives previously mentioned, these partnerships support MHD’s capacity, provide outstanding clinical public health experiences for the academic institution’s learners, and support overall workforce development for public health.

MHD has also partnered with the Center for Urban Population Health, an academic research center jointly sponsored by UW-MS, the University of Wisconsin – Milwaukee School of Nursing, and a large local healthcare delivery system. The Center for Urban Population Health benefits from this partnership by having access to large amounts of public health data, which supports its grant-funded research program, and MHD benefits by having experienced researchers to help analyze its data.

The UW-MS is so convinced of the importance of its public health initiatives that it has recently been renamed the University of Wisconsin School of Medicine and Public Health. This bodes well for the future of similar partnerships between UW-MS and other local public health agencies in Wisconsin.

**Nashua, New Hampshire**

Essential Public Health Service No. 8 speaks to ensuring a competent public health and personal healthcare...
workforce. One avenue toward meeting this standard is to provide practice-based educational experiences for the future public health workforce and to provide expertise in developing curricula and teaching within academia. The Massachusetts Department of Public Health and the Division of Public Health and Community Services of the City of Nashua (New Hampshire) have offered internships to undergraduate students, master’s and doctoral-level public health students, as well as to nursing and medical students over the years. These schools have included the University of Massachusetts Medical School, the University of Massachusetts School of Public Health, Boston University’s School of Public Health, Yale University’s School of Epidemiology and Public Health, Boston College’s School of Nursing, and the nursing students of Rivier College.

Members of the staff of the Nashua division routinely teach nurses at Rivier College about different aspects of public health. The division also has a long history of sponsoring internships in community health for the student nurses. The division will expand on this partnership with Rivier to replicate the model with the state health departments of Connecticut and North Carolina, and others who have partnered with schools of public health (Yale and UNC, respectively) to teach epidemiology and involve those students in case and outbreak investigations as part of their coursework. This will also provide a surge capacity reservoir of additional medical professionals who may be available during emergencies to help with case investigations and for monitoring isolation and quarantine situations.

In addition, the division has partnered with the Health Careers Track at Nashua South High School. During the 2004–2005 influenza season, its staff trained the students in that program to help them conduct public flu vaccination clinics. Division staff provided lectures to the students as well as an orientation to Incident Command System and the organizational structure of running public clinics. The students were a great help in conducting clinics, registering people and directing them through the clinic process, and the students and their faculty were very enthusiastic and positive about their experience.

Monroe County, New York

The Center for Rochester’s Health (CRH) is a partnership between an academic medical center and a county public health department dedicated to improving health in the City of Rochester and the surrounding nine-county region. Created in 1997, the CRH was established through a memorandum of understanding between the Monroe County Department of Public Health and the University of Rochester Schools of Medicine and Dentistry and Nursing. The Monroe County Department of Public Health deputy director leads the CRH, which performs public health activities, thus expanding the public health workforce. All 22 employees have been recruited, retained, paid, and provided benefits by the University of Rochester Schools of Medicine and Dentistry and Nursing, and most employees are housed at the Monroe County Department of Public Health, collaborating closely with public health workers. A steering committee, composed of leadership from both the university and the county government, oversees the CRH. This collaboration significantly contributes to community health improvement and public health worker recruitment and retention.

Among the diverse research and intervention activities of the CRH, the following three demonstrate how the CRH improves worker recruitment and retention and contributes to public health.

1. Education. The CRH developed and implemented health professional education activities that encourage multidisciplinary students to consider careers in public health and contribute to a more culturally competent public health workforce. The CRH sponsors community-based initiatives, which provide health professions students with the opportunity to collaborate with community-based agencies to improve the health of the community. These initiatives also help students to develop competencies for evidence-based public health practice. Through the CRH’s internships, fellowships, and population health course, which includes a service-learning component, future health professionals are gaining a better understanding of the need for prevention at the population level and are developing skills to design, plan, implement, and evaluate health-promotion programs.

2. The Racial and Ethnic Adult Disparities in Immunization Initiative, is a Centers for Disease Control and Prevention–funded program, led by a community advisory board, created to address disparities in adult immunizations. The Racial and Ethnic Adult Disparities in Immunization Initiative project recruits and trains outreach workers to deliver public health interventions throughout the community. These full-time University of Rochester Schools of Medicine and Dentistry and Nursing employees are assigned to urban clinics where they track and remind patients and providers about the preventive health services needed. The Racial and Ethnic Adult Disparities in Immunization Initiative project also trains staff from community-based organizations to educate their own constituents on adult vaccines.
The Finger Lakes Office of Surveillance and Epidemiology, funded by the New York State Association of County Health Officers and the Finger Lakes Public Health Alliance, provides assistance, consultation, and training to public health workers from nine public health departments in the Finger Lakes region. The focus of the training is to heighten knowledge and awareness related to detection of communicable diseases, the development and implementation of surveillance systems, and epidemiologic analysis. Through these efforts, the Finger Lakes Office of Surveillance and Epidemiology contributes to the retention and training of public health workers and strengthens the public health workforce in the Finger Lakes region.

Benefits of Practice-Academic Partnerships

Blending academic and public health cultures—whose values, priorities, and methods often differ—is a challenge. However, to be successful, effective and ongoing communication among the partners is imperative, and compromise is sometimes necessary to reach consensus. The unexpected public health crises of recent years have provided challenges that contribute to competing agendas, but, at the same time, create learning opportunities for both those in academia and public health.

Key benefits of these partnerships include (1) connecting academic faculty and staff to populations beyond the usual academic reach and promoting community-based participatory research; (2) academic institutions become more involved in public and community health, resulting in the addition of community health to the academic centers' traditional missions of research, clinical care, and public health, nursing, allied health, and medical education; (3) the number of individuals working in public health may increase by having academic faculty, staff, and students involved in local public health agencies' activities; (4) academic centers bring expertise to local public health agencies in areas such as epidemiology, biostatistics, qualitative and quantitative evaluation methodologies, and research design; and (5) the use of tuition reimbursement benefits for employees result in higher numbers of individuals with advanced degrees working in public health. Among the most important benefits of the collaboration are those that affect the community, since these partnerships facilitate the acquisition of grant funding that can be funneled through a variety of community organizations to improve the health of the community. In addition, the community has been integrally involved in the process of community health improvement, resulting in highly effective community-academic partnerships based on trust and mutual respect.

Expanding the Number and Scope of Practice-Academic Partnerships

How do we get investments from all levels of governmental public health to develop and sustain more of these partnerships? There has to be momentum to encourage young people to consider public health careers and to provide additional public health training to those in the healthcare fields of medicine, nursing, and dentistry. Existing knowledge of our current workforce must be expanded by improving access to training in diverse settings to an increasingly diverse workforce. In addition, there must be better general marketing of public health practice to the public, reminding people of all that governmental public health does to keep our communities healthy.

Long-term, sustainable efforts to strengthen practice-academic collaborations may be critical to developing and growing a public health workforce and cultivating public health leadership. Practice-academic partnerships can be leveraged to inform the public and policymakers of the crises of public health infrastructure and workforce. Bolstering our governmental public health workforce is a critical national issue. Local health departments and their academic partners should assume a leadership role to ensure that more persons are brought into the fold of public health practice and that health department (with help from their academic partners) are in fact prepared and able to meet any exigency.

REFERENCES
