



Infusing Public Health Education into the Undergraduate Curriculum: The Experience of a Comprehensive University

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The Institute of Medicine's 2003 call to introduce all undergraduate students to public health education has stimulated the imaginations of faculty across the curriculum and across the country (Gebbie, Rosenstock, and Hernandez 2003; Riegelman, Albertine, and Persily 2007). The subsequent Association of American Colleges and Universities (AAC&U) initiative, the Educated Citizen and Public Health, brought forward the potential contributions of a public health perspective to liberal arts programs, particularly in smaller institutions with strong commitment to integrative learning and transdisciplinary inquiry (Albertine, Persily, and Riegelman 2007).

My colleagues and I, faculty at a large comprehensive university, watched these developments with both delight and revelation. Our delight was that of any academic specialists when the intellectual area about which they have been passionate for a lifetime is suddenly discovered by others. The revelation was a bit more complicated. "How are they able to do it?" we asked in wonder and a little envy, as we learned of new public health minors and complex courses initiated without being overly concerned about headcounts or resources. Compared to these nimble actors, we felt locked in bureaucracy and unable to contribute to the increasingly interesting discourse on the value of the "public health imagination" to the future of our world. So imagine our surprise when, participating in the 2008 AAC&U Undergraduate Public Health Faculty Development Institute, we realized that many of the challenges the liberal arts faculty were now encountering were areas in which we had been nimble and creative, both in and in spite of our very different institutional context.

Three of those challenges are addressed below: (1) engaging health-related academic units in public health general education, (2) working collaboratively across units to create public health learning opportunities, and (3) establishing undergraduate public health education in institutions with and without graduate public health programs. Examples and reflections are drawn from our experience in the Health Science Department at San José State University (SJSU), a large, urban, diverse, and complex comprehensive university. Our department has had a graduate public health program since 1970 and, since 2000, a stealth strategy to infuse public health values and perspectives throughout the university.

ENGAGING ALLIED HEALTH UNITS IN PUBLIC HEALTH AND GENERAL EDUCATION

We realized long ago that general education was an effective pathway for introducing public health inquiry to undergraduates across the curriculum. Over the years, we have also found it to be a strategic way to interest students in the range of majors that can both utilize and inform the population health perspective. In addition to the humanities and arts, general education through the public health lens can intrigue students with the community-based aspects of nursing, medicine, dentistry, and health science; quantitative fields such as statistics and demography; applied disciplines such as environmental studies and communications, and the biological and social sciences (Albertine 2008). This broad-based appeal helps champions of undergraduate public health education engage diverse academic partners in teaching or supporting general education. Ironically, some of the hardest units



to engage can be those that offer health professions degree programs.

Academic units offering health-related programs must often address rigorous professional accreditation requirements, frequently leaving few resources or incentives for being involved in general education. Powerful incentives for our department included a university mandate to increase enrollments and the national visibility of the AAC&U public health and liberal education initiative. As an under-enrolled “discovery” major, community-based health science could certainly grow and thus meet the mandate. This possibility fueled our interest in accelerating the moment of public health “discovery.” Around the same time, the AAC&U initiative sparked new intellectual interest in general education among some of our graduate public health faculty. The initiative also helped legiti-

mate our subsequent move into general education (GE) areas traditionally “off limits” to an applied health unit (“What qualifies public health to teach core math?” was one of the first questions from the university committee that governs the quantitative reasoning area of SJSU’s general education). Early success provided a third incentive for our department’s venture into public health-oriented general education. Indeed, the positive response to our public health-infused courses contributed to a 300 percent increase in our GE enrollments and the health science major in just four years.

Despite our departmental success, the timing was not right for a larger university-wide public health curricular

initiative. However, our newly invested faculty developed a twofold strategy for expanding the public health presence in the university’s general education offerings. In some cases, we worked from the inside, introducing public health examples and principles throughout existing curricula. For example, we more explicitly centered the social ecological model as the conceptual foundation of our popular lower-division general education course, *Understanding Your Health*. This expanded the personal health focus to include social determinants of health and broader level actions, such as policy advocacy and organizational change. We also infused public health examples into our sections of the university’s required junior-level writing course. Anecdotal and course evaluation data consistently demonstrate that students from a broad range of

lower-level quantitative reasoning area through student work with population health data sets. This strategy also builds in faculty flexibility, since the course instructor need not be a public health expert. We are using this approach to a new upper-level course in the earth and environment area, designing the course to meet the required transdisciplinary and integrative student learning outcomes using exploration of environmental health through the public health lens. As recommended by the *Consensus Report on Public Health and Undergraduate Education* (Riegelman, Albertine, and Persily 2007), other public health areas particularly well suited to general education include epidemiology, global health, and critical issues in public health (Public Health 101).

WORKING COLLABORATIVELY ACROSS UNITS FOR COMMUNITY- BASED PUBLIC HEALTH EXPERIENCES

Graduate public health curricula draw heavily on practical experience (Council on Education for Public Health 2005); the initiatives for undergraduate public health education make the same commitment, most often through internships and integrative service learning (Cashman and Seifer 2008). However, this ideal can present a challenge when new public health curricula are developed in institutions without public health units and the attendant cadre of faculty, field sites, and community contacts. Such settings call for creative collaboration, itself a hallmark of the public health way of knowing, being, and acting. Two examples from our experience may stimulate ideas about creative collaboration across diverse academic units for a public health experience.

Collaboration for Neighborhood Change. A technology grant from a local computer company facilitated a unique collaboration between engineering, health science, and urban planning students. The engineering students developed software

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backgrounds enjoy the learning activities that introduce, within the required course template, the 1918 flu pandemic and its community-level impact, social determinants of contemporary health and health disparities, and the scholarly public health literature. Other departments, including nutrition, anthropology, and business, have used these learning activities in their own sections with excellent results, even when the instructor has no public health background.

Our second general education strategy was to design new general education courses that were explicitly framed by the public health perspective. A new course, *Health Statistics*, was designed to meet all of the institutional requirements of the

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for handheld computers that allowed GPS mapping, real-time notes, audio recording, and data entry for community observations. Students in our introductory major course, Community Health Promotion, then worked in teams to use the software and handheld computers to document the risk and protective factors in a low-income neighborhood near the university. The next semester, the health science students' data were used by urban planning students to advocate for neighborhood safety improvements. Each "hand off" from one discipline to another was integrated into the curriculum, making the process of interdisciplinary collaboration for public health a part of the learning experience. The resulting environmental changes—speed bumps, lights, and neighborhood clean-up—were convincing evidence of the power of collaboration for students and faculty alike.

THE FAMILY SCIENCE FAIR— LA FERIA DE CIENCIAS FAMILIAR

A Health Disparities Service Learning Collaborative grant and support from Community-Campus Partnerships for Health facilitated another public health collaboration across diverse academic units. Working as an interdisciplinary team, undergraduate students from health science, Mexican American studies, education, and biology work together with a local elementary school to plan, host, and evaluate annual Family Science Fair Workshops. The immediate goals of the project are to demystify the districtwide fifth-grade science fair assignment for parents, most of whom are recent immigrants from Mexico or Central America, and to provide technical assistance to parents who then help their children with experiments and poster presentations. The project's broader public health goal is to address disparities in access to information, participation, and civic engagement that are associated with well-documented

health and health care disparities in that neighborhood. Framing the activity as a public health intervention directs student reflection to the relationships among information, confidence, behavior, and community health, particularly for new immigrants, and the ways in which people are included or marginalized from the organizations and institutions of their communities. Working side by side and in the community, students experience the interface and reciprocity of their own disciplines and the public health.



Opportunities for smaller-scale collaboration on public health issues abound in any university or community setting, particularly through fieldwork, internships, or service learning. For example, English or graphic arts majors might work on communications material for the local diabetes coalition; Spanish or Chinese majors might help translate outreach or education messages for the county environmental health program. Kinesiology students might lead physical activity classes at after-school programs designed to address the obesity epidemic; anthropology students might develop oral histories of people living with HIV; political science students

might intern with a local politician working on public health issues. Business students might assist community-based organizations with business plans or marketing materials. The possibilities are endless and exciting.

ESTABLISHING UNDERGRADUATE PUBLIC HEALTH CURRICULA WITH OR WITHOUT A GRADUATE PROGRAM

It may seem easier to introduce opportunities for undergraduate public health education in institutions with graduate public health schools or programs. Certainly, such settings have faculty with professional expertise, library resources that support public health inquiry, and the required network of community partners and field sites. They also have local alumni who work in the field and graduate students who can support both faculty and students. However, these units may struggle with faculty bias against undergraduate instruction, lack of experience with undergraduate students, low tolerance for the administrative bureaucracy of undergraduate education, and resources restricted to activities that support their accredited graduate programs.

Entering the world of undergraduate instruction can be daunting, enlivening, and everything in between. In our experience, we needed an intellectual hook (the AAC&U initiative), professional legitimacy (the Association for Prevention Teaching and Research's leadership), an administrative nudge (the mandate to increase enrollments), and resource support (small grants to facilitate collaboration). What we gained were new colleagues across the campus, new opportunities for collaborative research, greater visibility within our institution, and the energy, talents, and twenty-first-century sensibilities of undergraduate students.

Institutions without graduate public health programs have a different set



of challenges and opportunities when seeking to introduce undergraduate public health curricula. However, national, professional, and local resources can support the work of campus visionaries who see the possibilities and simply need partners.

The material developed from the consensus conference, particularly the curriculum guides, offer rationale, intellectual structure, and practical tools for establishing general education courses, minors, and certificate programs that center the values and intellectual rigor of public health inquiry. The resources available at www.teachpublichealth.org and the Community-Campus Partnership for Health (www.ccph.org) provide additional tools and resources that seamlessly interface between professional practice and undergraduate education.

Local public health departments, community-based organizations, and foundations similarly provide opportunities to focus student learning on real-world application while offering possibilities for guest speakers, advisory board members, and

internship preceptors. It will be important for universities without public health programs to make sure that their libraries have the key public health journals, that faculty are members of the key public health professional organizations, and that students have opportunities to participate in the conferences, scholarships, mentoring, exchange, and networking that occur at regional and national meetings.

CLOSING THOUGHTS

Our efforts to introduce and then infuse the public health imagination beyond our masters in public health program have shown us that this perspective is rich with the dualities that enliven liberal education. The public health perspective also speaks to the concerns and sensibilities of today's undergraduate students. Private troubles and public issues (Mills 1959), urgency and patience, individual and social responsibility, risk and investment, local action and global impact, sustainability and innovation, outrage and hope—these are all recurring themes in the history of public

health and the very twenty-first-century concerns of our undergraduate students. Whether in a small college or comprehensive university, public health inquiry embedded in liberal education is rich with lively and important possibilities. ■

REFERENCES

- Albertine, S. 2008. Undergraduate public health: Preparing engaged citizens as future health professionals. *American Journal of Preventive Medicine* 35(3): 253–257.
- Albertine, S., N. A. Persily, and R. Riegelman. 2007. Back to the pump handle: Public health and the future of undergraduate education. *Liberal Education* 93 (4): 32–39.
- Cashman, S.B., and S. D. Seifer. 2008. Service-learning: An integral part of undergraduate public health. *American Journal of Preventive Medicine* 35(3): 273–278.
- Gebbie K, L. Rosenstock, and L. M. Hernandez. 2003. *Who will keep the public healthy? Educating public health professionals for the 21st century*. Washington, DC: National Academics Press, 144.
- Mills, C.W. 1959. *The sociological imagination*. New York: Oxford University Press.
- Riegelman, R.K., S. Albertine, and N. A. Persily. 2007. *The educated citizen and public health: A consensus report on public health and undergraduate education*. Council of Colleges of Arts and Sciences.
- Council on Education for Public Health. 2005. *Ac-*

AAC&U's 2010 Annual Meeting

The Wit, the Will... & the Wallet

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We are pleased the Annual Meeting will include:

A session on “The Educated Citizen and Public Health,” featuring Howard Koh, Assistant Secretary for Health in the Department of Health and Human Services, formerly the Harvey V. Fineberg Professor of the Practice of Public Health at the Harvard School of Public Health (invited)

Pre-Meeting Workshop on Wednesday, January 20, 2:00–5:00 pm

“Undergraduate Public Health Studies: Integrative Strategies, Curricular Frameworks, and Ongoing Networks”



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