Integrating Behavioral and Social Science Into a Public Health Agency: A Case Study of New York City

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ABSTRACT *In the last century, both the health and life expectancy of Americans improved dramatically. These gains were primarily the result of advances in public health. But the approaches used may not be adequate to achieve the next level of improvements in health. Because health exists in the context of social, environmental, community, religious, political, and other spheres, ecological approaches that incorporate behavioral and social science theory and methodologies may provide the best avenue for advancing health in the 21st century. In 1999, the New York City Department of Health (NYCDOH) undertook the task of integrating behavioral and social science into its public health practice. The experience serves as a case study on the integration process at a public health agency.*

INTRODUCTION

In the last century, both the health and life expectancy of Americans have improved dramatically.¹ In 1900, the average American lived to be 47 years old; in 2000, that same person could expect to live to be 77.² Approximately 25 years of this 30-year gain have been attributed to advances in public health.³ From improvements in vaccination to safer food practices to the fluoridation of water, public health intervention strategies have proved highly successful in reducing major causes of death and illness and improving quality of life.⁴

While these accomplishments are significant, there are gains still to be realized. Moreover, the approaches used to achieve the successes in the last century may not be adequate to achieve similar gains in this century. In the past 20 years, much attention has been paid to the risk factors that underlie the major causes of death and disease. In their 1993 seminal article, McGinnis and Foege demonstrate that about half of all causes of mortality in the United States are linked to behavioral risk factors such as smoking, diet, alcohol use, sedentary lifestyle, and accidents.⁵ Similarly, noncommunicable diseases are increasingly replacing infectious diseases and malnutrition worldwide as the leading causes of disability and premature death. In fact, by the year 2020 it is estimated that more than half of diseases that contribute to global disability will be a consequence of behavioral factors.⁶ But while McGinnis and Foege moved the dialogue on appropriate interventions from the realm of disease entities to that of risk factors, their analysis focused predominantly on factors related to individual behaviors.⁷ An approach that focuses primarily on individual behavior change may also be limited in its ability to achieve and sustain the next level of improvements in health and life expectancy.

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Health and individual health-seeking behavior do not exist independently of social, environmental, familial, community, religious, political, economic, and other spheres that exert an influence on health.⁸⁻¹⁰ Ecological approaches to health promotion and disease prevention—approaches that incorporate what is known about behavioral and social science theory and methodologies—may provide the best avenues for achieving the next level of gains in public health. Today, multilevel intervention strategies that focus on multiple risk factors “offer great promise to reduce morbidity and mortality [because] their potential to improve the public’s health has been relatively poorly tapped.”^{11(p1)}

WHY INTEGRATE?

A clarion call to integrate behavioral and social science into public health was issued in a June 1999 editorial in the *American Journal of Public Health*. In “Prevention of Sexually Transmitted Diseases: The Need for Social and Behavioral Science Expertise in Public Health Departments,” Nancy VanDevanter advocated for “collaborative, multifaceted, interdisciplinary approaches that involved community stakeholders.” Such approaches require professionals with training in the behavioral and social sciences, which VanDevanter found to be “almost nonexistent at the state and local level.”^{12(p816)}

It was that perspective that led the New York City Department of Health (NYCDOH) to undertake the task of integrating behavioral and social sciences theory and methods into its public health practice at all levels of the agency. Movement toward a more integrative public health model has been slow nationally, in part because research and funding have been directed largely toward biomedical approaches.¹¹ But support is mounting for studies and for resources to focus more on the efficacy of multiple-level interventions targeting multiple risk factors.¹³

Behavioral and social science approaches can be defined as theories or methods of individual and organizational changes that seek to address the complex interactions among behavior, context, and health. Some examples include a focus on self-efficacy,¹⁴ the health belief model,¹⁵ or stages of change.¹⁶

Within NYCDOH, there was wide variation in the extent to which programs were informed by behavioral and social science approaches. Some programs had already embraced a behavioral and social science perspective, such as the HIV/AIDS prevention program. The larger HIV/AIDS prevention community had been working for almost two decades with individual behavior change approaches. But the absence of biomedical solutions to HIV/AIDS prevention and cure, coupled with the knowledge that individual risk behaviors take place within the context of cultural norms, peer influences, and environmental constraints, provided the impetus for public health professionals addressing HIV/AIDS to make use of behavioral science approaches.¹⁷ This early adoption of a behavioral and social science approach is reflected broadly in the professional literature on HIV/AIDS. The literature has provided information on evidence-based practice, which in turn has allowed further refinement and testing of models reported in new literature, creating a cycle of knowledge and experience that can be tapped into by practitioners. In addition, both the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) encouraged the use of such approaches in HIV/AIDS research and intervention planning. But not all areas of public health pursuit have experienced such a groundswell of support for behavioral and social science integration.

ASSESSING AN INTEGRATION APPROACH

The challenge within NYCDOH was to determine how behavioral and social science approaches could be integrated into public health practice, regardless of the degree to which a particular unit or office had adopted these theories and strategies. To do this, NYCDOH worked through its planning council, a body comprising midlevel managers from the majority of the agency's program units. The planning council had been established in July 1999 to develop and guide the implementation of crosscutting approaches that addressed specific public health issues. The planning council represented an institutional commitment to reach across programmatic and divisional lines to implement three NYCDOH strategies: (1) expand the scope of activities, (2) develop new ways of working, and (3) build presence in communities.

In June 2000, NYCDOH convened a 25-member task force to explore integrating behavioral science and social science into public health practice agencywide. This Behavioral and Social Science Integration (BSSI) Task Force was composed of NYCDOH personnel as well as colleagues from Columbia University Mailman School of Public Health, the New York Academy of Medicine, New York University, and the New York City Department of Mental Health, Mental Retardation and Alcoholism Services (NYCDMH). The charge to the task force was to develop recommendations, a model, and an implementation plan for the strategic integration of behavioral and social science into public health research, practice, and evaluation at the NYCDOH.

The BSSI Task Force determined that in order to make recommendations, it needed: (1) to assess the current state of social and behavioral science integration at NYCDOH and its readiness to adopt this innovation; and (2) to understand the successes and failures of integrating behavioral and social science at other public health-related institutions. The BSSI Task Force was divided into two subcommittees to pursue each of these activities: the Internal Assessment Committee (IAC) and the External Assessment Committee (EAC).

The goals of the IAC were: (1) to determine the degree to which behavioral and social science were being used within programs at NYCDOH and NYCDMH; and (2) to identify unmet needs and gaps where behavioral and social theories and models could improve NYCDOH function. To meet these goals, IAC conducted semistructured, open-ended interviews with deputy, associate, and assistant commissioners, as well as office directors and program directors at NYCDOH. In addition, the subcommittee interviewed key staff at NYCDMH. The interview included 25 questions concerning staffing, program goals, clients served, community input into program design and evaluation, existing behavioral/social science expertise, and responsiveness to behavioral and social science integration. Results of the interviews were tabulated and analyzed.

The goals of EAC were: (1) to gather information on the degree to which other, relevant health institutions had integrated behavioral and social science; and (2) to examine various models of behavioral and social science integration. To meet these goals, EAC conducted semistructured, open-ended interviews with directors or commissioners of health departments in cities with populations greater than 500,000, and with the heads of four types of organizations known for addressing, using, or supporting behavioral and social science: federal agencies, schools of public health, health and medical institutions and societies, and private foundations. Results of these interviews were also tabulated and analyzed.

RESULTS OF THE ASSESSMENTS

Results of the internal assessment suggested that few individuals with behavioral and social science training and expertise were on staff at NYCDOH. There were several areas—including HIV prevention and research, sexually transmitted diseases, community health, and chronic disease prevention—where behavioral and social science theory was routinely used. NYCDOH staff mostly used behavioral and social techniques in an ad hoc way. Despite the lack of expertise and use, most respondents were positive about the prospect of increasing staff knowledge and skills in behavioral and social science, and anticipated a wide array of benefits, including better designed programs and greater ability to evaluate the effectiveness of intervention components. Almost two thirds of respondents indicated an unqualified willingness to be involved in an integrative initiative. A full account of the findings of IAC can be found in “The Role of Social and Behavioral Science in Public Health Practice” by VanDevanter et al., in this issue.

Results of the external assessment suggested that nationally, social and behavioral science was becoming more integrated into public health institutions. All 22 health departments interviewed used behavioral and social science; four had department-wide integration. Among the four, each had taken a unique approach to integration; none of the models were ideally suited to NYCDOH.

Federal agencies also took different approaches to integration; some used a centralized model, others a decentralized model, and still others a “mixed” model. In a centralized model, one central office is created to provide behavioral and social science expertise to an entire organization. The Federal Bureau of Investigation established such an office in 1972. In a decentralized model, behavioral and social science expertise and capacity are developed in individual units of a larger organization, as is the case at the CDC. A decentralized approach, however, can lead to varying levels of capacity within a single institution, as was the case at NIH in the 1970s and 1980s. Efforts to address such imbalances may lead to mixed models in which there is a central office as well as capacity in individual offices, as at NIH since 1995, when it created its centralized Office of Behavioral and Social Science Research.

There was no consensus on a best integration model. A full account of the findings of EAC regarding city departments of health can be found in “Use of Social and Behavioral Sciences by Public Health Departments in Major Cities” by Shinn et al., in this issue.

RECOMMENDATIONS

The BSSI Task Force made a series of recommendations on integrating behavioral and social science into public health practice at NYCDOH. The primary recommendation was the creation of the Office of Behavioral and Social Science, which would be centrally located but have centralized and decentralized functions.

The office would provide behavioral and social science services and expertise to programs through a consultancy model. Behavioral and social science theory and methods would be integrated into training; clinical services delivery; research; program assessment, design, and evaluation; epidemiology; and policy development. Other recommendations concerned budgetary needs, reporting lines, staffing patterns, and the potential to secure funding for the office from external sources.

Finally, the task force recommended that a series of pilot projects be developed

and launched to demonstrate the advantages of integrating behavioral and social science into public health practice, and to provide a vehicle for testing different integration approaches. To advance the demonstration of efficacy with this new model, the units selected for pilot projects would be those that were at an advanced stage of organizational readiness for integration and had identified or expressed a need for behavioral and social science expertise. The units chosen for pilots were AIDS Research, Chronic Disease Prevention, and STD Control. Of course, HIV/AIDS and STD Control have often shared similar prevention approaches that rely upon behavioral and social science integration strategies.

OUTCOMES

Following the adoption of the recommendations of the task force, NYCDOH began to disseminate behavioral and social science approaches within the agency and with its community and academic partners by cohosting a day-long conference with the New York Academy of Medicine, the Role of Social and Behavioral Science in Public Health Practice. On January 8, 2001, more than 600 people gathered for a day of workshops, case studies, and group discussions led by local and national experts from organizations and institutions such as Columbia University, Harvard University, Hunter College, the New York City Departments of Health and Mental Health, New York University, Gay Men's Health Crisis, the CDC, and West Harlem Environmental Action (WE ACT). The conference was one of the most well-attended events ever held at the New York Academy of Medicine.

In March 2001, NYCDOH began to formally develop its Office of Behavioral and Social Science (OBSS). The office would focus on both centralized and decentralized activities. Examples of centralized functions would include: (1) offering general education on behavioral and social sciences agencywide, (2) enhancing NYCDOH's research library to include primary sources of behavioral and social science theory, (3) incorporating behavioral and social science variables into the regular collections of surveillance data, and (4) identifying and adopting evidence-based approaches. Examples of decentralized functions would include: (1) providing consultancy services to individual programs planning or evaluating specific interventions, (2) conducting literature reviews on behavioral or social science topics as needed by specific programs or projects, and (3) incorporating behavioral and social science approaches into specific counseling and intake protocols.

Initially staffed and managed by an implementation committee, a project manager, and a part-time PhD-level researcher, in summer 2001 OBSS began recruiting for a director and several other positions. The activities of the office included the expansion of NYCDOH's research library, the diffusion of behavioral and social science education throughout the agency, and three pilot projects whose goals were to: (1) decrease HIV among young black and Latino men who have sex with men (through the provision of staff training at community-based organizations that engaged clients around risk reduction); (2) reduce chronic disease among elderly residents of public housing projects (through the provision of exercise classes and self-efficacy training); and (3) better address a recent resurgence in syphilis (through the provision of cultural competency training to NYCDOH staff to sensitize them to varying cultural norms of sexual conduct and behavior).

As of this writing, the staff member hired as the director had been detailed to support the agency's efforts to mount a full-scale agencywide focus on the public health epidemic of tobacco. The pilot project to reduce chronic illness in elderly

residents of New York City public housing projects had undergone considerable expansion. The project used its initial \$2,500 in seed money from the BSSI Task Force to hire a consultant to design a research protocol to test the hypothesis that the provision of self-efficacy training would enhance health and participation outcomes of participants in a 12-week exercise class, compared to outcomes of participants who received only the exercise component. Results of a 12-week follow-up evaluation showed statistically significant improvements in outcome expectations, mental health, and total mobility for the intervention group. Since its inception in September 2001, the exercise pilot project has expanded from 8 to 20 public housing sites, and has received funding from the Robert Wood Johnson Foundation to replicate the original study.

The BSSI Task Force, in thinking creatively about how to effectuate a paradigm shift at the agency, was able to raise awareness among its members about the potential utility of behavioral and social science in the public health enterprise. With task force members representing a broad array of programs within the agency, this new perspective was then disseminated throughout NYCDOH as members returned to their home offices to share experiences and new expertise derived from task force participation.

Additionally, the task force further highlighted the value of academic–health department collaborations. The academic partners—Columbia and New York Universities—brought significant resources to the health department in the form of expertise in social and behavioral science and in the use of qualitative methods, graduate students to assist in data collection and analysis, and access to academically based social and behavioral science training and training-related skills. In turn, NYCDOH provided a laboratory for its academic partners to apply their expertise and skills to community needs.

Within NYCDOH, the task force also began the organization change process that is at the heart of integrating behavioral and social science theories and methods into public health practice. Organizational change is recognized as one of the most difficult and also most effective intervention strategies. Organizations, however, tend to resist change and to support whatever dominant paradigm guides their activities.¹⁸

Integrating behavioral and social science into public health practice translates into moving an organization from one paradigm (the clinical or biomedical model, which looks at disease entities)—to another paradigm (the public health model, which looks at multiple intervention strategies operating simultaneously on multiple levels of influence, including individual, interpersonal, community, environmental, and policy). Such a shift cannot be accomplished without challenging public health professionals to switch from thinking categorically to thinking integratively. The BSSI Task Force enabled health department staff to participate in this process and find opportunities to apply the paradigm to program activity.

Conclusion

With the global burden of disease moving increasingly toward behaviorally based noncommunicable diseases, public health science and practice will benefit from integrated, multilevel research between social, behavioral, and biomedical scientists. Different models for creating the expertise and integration of behavioral and social science currently exists at public health agencies. The experience of the NYCDOH initiative underscores that the integration of behavioral and social science into pub-

lic health research and practice at a public health agency requires a process of infusion and exchange of information. Staff buy-in is enhanced when some program units at the agency serve as models of integration for other units. Resistance to the integration process may be inevitable if staff perceive it as criticism of the way their work is currently being done. Consequently, in order for an integration to proceed, it needs to be marketed as a value-added activity.

As behavioral and social science approaches achieve mainstream acceptance as models of public health practice, more funding will need to be devoted to research that evaluates their evidence-based contributions. As these research efforts produce publication-worthy results, practitioners will have wider access to such intervention strategies. Thus, new cycles of knowledge and experience will be created, making available all that behavioral and social science can contribute to addressing the public health challenges of the 21st century.

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